Concurrent treatment of mother-child relationship and mood disturbance within the context of postnatal depression.

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Abstract

**Aims.** The aim of this study was to investigate the effect of the addition of an attachment-focussed mother and baby component to a standard group interpersonal therapy (IPT) treatment of postnatal depression. Specifically, the research looked at whether an intervention was capable of addressing both the mood disturbance and the relationship between the mother and baby concurrently.

**Methods.** The research involved designing a new IPT protocol, which built on an existing model shown to address mood disturbance in new mothers. Elements of attachment theory and elaboration of the theoretical approach of IPT were used to guide the development of the new IPT-MC protocol. This therapy was then used with a group of mothers who were identified by a Maternal and Child Health Nurse (MCHN) as meeting criteria for major depressive disorder (post-natal onset) and requiring support. The group was compared with a group of mothers who received treatment-as-usual from their MCHN, including referral for GP, psychiatric, or psychological review and treatment as considered necessary. The mood disturbance and relationship changes were measured using a number of maternal self-report and observer-coded variables.

**Results.** The results indicated that the amendment of an evidence-based therapy for postnatal depression to include a mother-child focus did not affect the ability of the treatment to address mood disturbance. That is, there were no negative effects demonstrated that reduced its effectiveness, and it appeared to compare with the results of routine trials of IPT for postnatal depression. Due to the lack of exclusion criteria this study did not have the ability to determine whether the IPT-MC itself treated the mood disturbance. Results also indicated that IPT-MC has potential to address mother-child relational issues to a similar extent to existing treatments, and that these benefits can be shown at a moderate follow-up length (three months). IPT-MC improved the mother-child relationship significantly more than the treatment-as-usual condition.

**Conclusions.** Clinical implications and limitations of the study are addressed. Further research extending the numbers and demographic of women involved would be warranted to confirm the findings.
Declaration

The candidate was assisted in the conception, design and implementation of the therapeutic intervention (IPT-MC) by Professor Anne Buist and Dr Rebecca Reay.

Much of the recruitment, fieldwork, therapy, and cohort maintenance was completed by the candidate. However some was completed by Research Assistants supervised by the candidate.

In all published manuscripts, the candidate was first author and played a major role in study design, implementation, data analysis, and manuscript preparation.

All other work is the original work of the candidate.

The thesis does not exceed the maximum word limit of 100,000 words.
Acknowledgements

Figure i. The Interpersonal Circle (Stuart & Robertson, 2002) of Carolyn Deans’ PhD.
Table of Contents

Abstract.............................................................................................................................. ii
Declaration........................................................................................................................... iii
Acknowledgements........................................................................................................ iv
Table of Contents............................................................................................................. v
List of Figures (excluding those in published works) ...................................................... viii
List of Tables (excluding those in published works) ....................................................... ix
List of Abbreviations....................................................................................................... xi

Chapter 1: Introduction ................................................................................................. 1
Postnatal depression ........................................................................................................ 1
Definition ........................................................................................................................ 1
Relationship risk factors ................................................................................................. 2
Impact on the child .......................................................................................................... 2
Mother-child relationship disruption............................................................................. 3
Overview of the thesis .................................................................................................... 4
Aims and Hypotheses ...................................................................................................... 5

Chapter 2: Literature Review ......................................................................................... 7
Treatments for major depressive episode (post-partum onset) ........................................ 7
  Prevention ...................................................................................................................... 7
  Medication .................................................................................................................... 9
  Behavioural interventions and social support ............................................................... 9
  Cognitive Behavioural Therapy .................................................................................... 10
  Interpersonal Therapy .................................................................................................. 11
Addressing disrupted mother-child attachment ............................................................ 12
  Attachment style ......................................................................................................... 13
  Facilitators of attachment: Maternal sensitivity and reflective functioning ............... 17
Systematic literature review on maternal sensitivity ....................................................... 19
  Theory and Construct Development .......................................................................... 20
  Relationship with Attachment ...................................................................................... 22
  Measures ....................................................................................................................... 23
  Self-report measures .................................................................................................... 23
  Observational measures ............................................................................................... 23
  Neurobiology / Medical ................................................................................................. 25
  Axis 1 disorders in mother ............................................................................................ 27
  Impact on child .............................................................................................................. 29
  Mediator of child problems .......................................................................................... 33
  Interventions ................................................................................................................ 37
  Conclusion on maternal sensitivity .............................................................................. 44
Systematic literature review on reflective functioning ................................................... 44
  Theory ........................................................................................................................... 45
  Neurobiology ............................................................................................................... 46
  Ability to predict attachment ....................................................................................... 46
  Mental health disorders, personality disorders, and mental health problems ............ 48
Chapter 3: A protocol for concurrent mood/relationship treatment...60
Requirements for an ‘attachment-focussed’ treatment...60
A description of a number of maternal sensitivity interventions...61
Modifying IPT to form IPT-MC...64
Journal article: Interpersonal psychotherapy for groups...68
Method and techniques open to transition to a mother-child relationship focus...77
Modifications and additions...78
Journal article: Addressing the mother-baby relationship in interpersonal psychotherapy for depression...80

Chapter 4: Methodology...92
Aims and Hypotheses...92
Procedure...96
Trial registration and Ethics clearance...96
Recruitment Protocol...96
Inclusion and exclusion criteria...99
Allocation...100
Treatment Groups...100
Treatment as Usual (TAU)...100
Interpersonal Therapy (Mother-Child) (IPT-MC)...101
Data collection and storage...104
Sample size calculations...104
Approach to anticipated recruitment challenges...104
Measures...105
Hypotheses Group A: Mother’s Mental Health...105
Hypotheses Group B: Mother-Baby Relationship...107

Chapter 5: Results...110
Participants...110
Data screening...112
Assumptions of ANCOVA...113
Differences for women who withdrew from the study...121
Hypothesis 1: Effect on mood disturbance and anxiety symptoms (outcomes of IPT)...122
Hypothesis 2: Effect on social adjustment (mechanism of change of IPT)...125
Hypothesis 3: Effect on self-reported mother-child relationship...126
Hypothesis 4: Effect on observed mother variables in the relationship...128
Hypothesis 5: Effect of IPT-MC on child variables in the mother-child relationships...130
Hypothesis 6: Risk status change in mother-child relationship variables...132

Chapter 6: General Discussion and Conclusions...135
Summary, inferences, and conclusions of the thesis .................................................. 135
Key findings ................................................................................................................... 136
Discussion of study implications .................................................................................. 138
  Feasibility of the dual-target approach ...................................................................... 138
  Effect of the intervention as a mood treatment ......................................................... 141
  Effect of the intervention as a mother-child relationship treatment ....................... 144
Recruitment experiences .............................................................................................. 144
Limitations of the study ............................................................................................... 145
  Population limitations ............................................................................................... 145
  Lack of a video-feedback element .............................................................................. 146
  Recruitment limitations and sample size .................................................................. 147
  Inability to assess causation ....................................................................................... 148
  Unknown effect of development on relationship improvements ............................ 148
  Confounding effect of antidepressant use ................................................................. 149
  Confounding effect of the length of individual psychotherapy ............................... 150
  Limited follow-up period ........................................................................................... 150
  Unproven reliability of the intervention protocol .................................................... 151
Implications for clinical practice .................................................................................. 151
  Identification of women suitable for a combined therapy ......................................... 152
  Collaboration with Maternal and Child Health services ........................................... 153
  Training in interpersonal approaches for depressive episode .................................. 153
Future research ............................................................................................................ 154
General conclusions ..................................................................................................... 154
References ..................................................................................................................... 157
Appendix A: Presentations at meetings arising from this work ................................. 202
Appendix B: Publications arising from this work ......................................................... 203
Appendix C: IPT Manual ............................................................................................... 204
Appendix D: Recruitment Protocol .............................................................................. 216
Appendix E: Consent forms ......................................................................................... 225
Appendix F: Third Party Copyright material ............................................................... 224
List of Figures (excluding those in published works)

Figure 1. Structural design of the study hypotheses ........................................6
Figure 2. Brennan, Clark, & Shaver’s (1998) model of attachment .................15
Figure 3. Theorised intergenerational transmission process for attachment ...18
Figure 4. Systematic literature review on maternal sensitivity .....................20
Figure 5. Systematic literature review results for reflective functioning ....... 45
Figure 6. Structural design of the study hypotheses ......................................94
Figure 7. Study flow diagram ........................................................................99
Figure 8. CONSORT Flow Diagram for the study ...........................................111
Figure 9. MAI total for those in TAU and IPT-MC groups at Time 3 .......... 116
Figure 10. Change in maternal mood scores over time .......................... 123
Figure 11. Changes in BDI risk zone across time .......................................124
Figure 12. Change in social functioning scores over time ....................... 125
Figure 13. Effect of treatment on self-reported relational variables ........... 127
Figure 14. Effect of treatment on observed maternal variables .................129
Figure 15. Effect of treatment on observed child variables ....................... 131
Figure 16. Changes in maternal sensitivity risk categories across time ...... 133
Figure 17. Changes in child responsiveness risk categories across time .... 134
Figure 18. Structural design of the study hypotheses ............................ 136
Figure 19. Excerpt from a study group ‘transition to motherhood’ exercise ..139
Figure 20. Excerpt from a study group ‘role transition for baby’ exercise .... 140
List of Tables (excluding those in published works)

Table 1. Neurobiological factors associated with human maternal sensitivity. 26
Table 2. Child cognitive/physical factors influenced by maternal sensitivity. 30
Table 3. Child socio-emotional factors influenced by maternal sensitivity. 31
Table 4. Factors not directly predicted by maternal sensitivity levels. 32
Table 5. Research demonstrating a mediating role for maternal sensitivity. 34
Table 6. Research demonstrating no mediating role of maternal sensitivity. 36
Table 7. Impact on maternal sensitivity of mother-child interventions. 39
Table 8. Research on reflective functioning in mental health disorders. 49
Table 9. Research on reflective functioning in mental health problems. 51
Table 10. Research on reflective functioning in personality disorders. 52
Table 11. Outline of IPT-MC sessions used in the study. 103
Table 12. Demographics of all study participants. 112
Table 13. Internal consistency measures for questionnaire data. 113
Table 14. Descriptive statistics for maternal data. 114
Table 15. Descriptive statistics for self-reported relationship data. 115
Table 16. Test for independence of the ‘Time 1’ covariate in the GLM. 117
Table 17. Interaction effects for the self-report variables. 118
Table 18. ICC ratings for each of the measures used for analysis. 119
Table 19. Descriptive statistics for the observer-coded variables. 120
Table 20. Kendall’s tau nonparametric correlation for EAS subscales used. 121
Table 21. T1 scores for participants who completed/withdrew from study. 122
Table 22. Changes over time for groups on maternal self-report variables. 123
Table 23. Comparison of groups at T3 on maternal self-report variables. 124
Table 24. Changes over time for groups on maternal self-report variables. 125
Table 25. Comparison of groups at T3 on maternal self-report variables. 126
Table 26. Changes over time on mother self-report relationship variables. 128
Table 27. Comparison of T3 maternal self-report relationship variables. 128
Table 28. Changes over time for maternal variables in the relationship. 129
Table 29. Comparison of T3 scores on maternal relationship variables. 130
Table 30. Changes over time for mother-child observational data. 131
Table 31. Comparison of groups at T3: mother-child observational data. ....132
Table 32. Published risk zones for EAS subscales. ................................132
List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAI</td>
<td>Beck Anxiety Inventory</td>
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<tr>
<td>BDI-II</td>
<td>Beck Depression Inventory, 2nd Edition</td>
</tr>
<tr>
<td>CES-D</td>
<td>Centre for Epidemiological Studies – Depression Scale</td>
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<tr>
<td>EAS</td>
<td>Emotional Availability Scales</td>
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<tr>
<td>EPDS</td>
<td>Edinburgh Postnatal Depression Scale</td>
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<tr>
<td>GLM</td>
<td>Generalized Linear Model</td>
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<tr>
<td>ICQ</td>
<td>Infant Characteristics Questionnaire</td>
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<td>IPT</td>
<td>Interpersonal Therapy</td>
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<tr>
<td>IPT-G</td>
<td>Interpersonal Therapy (Group)</td>
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<tr>
<td>IPT-MC</td>
<td>Interpersonal Therapy (Mother-Child)</td>
</tr>
<tr>
<td>MAI</td>
<td>Maternal Attachment Inventory</td>
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<tr>
<td>MCHN</td>
<td>Maternal and Child Health Nurse</td>
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<td>MS</td>
<td>Maternal Sensitivity</td>
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<tr>
<td>PCERA</td>
<td>Parent-Child Early Relational Assessment</td>
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<tr>
<td>PDT</td>
<td>Psychodynamic Therapy</td>
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<tr>
<td>PND</td>
<td>Post-natal depression</td>
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<tr>
<td>PPD</td>
<td>Post-partum depression</td>
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<tr>
<td>PSI</td>
<td>Parenting Stress Index</td>
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<tr>
<td>RCT</td>
<td>Randomized Controlled Trial</td>
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<tr>
<td>RF</td>
<td>Reflective Functioning</td>
</tr>
<tr>
<td>SCID</td>
<td>Structured Clinical Interview for DSM-IV-TR</td>
</tr>
<tr>
<td>SSP</td>
<td>‘Strange Situation’ Procedure</td>
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<tr>
<td>TAU</td>
<td>Treatment-As-Usual</td>
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Chapter 1: Introduction

Postnatal depression

Motherhood is a time of transformation across the spectrum of social, occupational, psychological/emotional, and health functioning for women. For most women, motherhood is associated with greater psychological wellbeing and life satisfaction (Holton, Fisher, & Rowe, 2010). However, it can also be associated with challenges across all of the aforementioned domains. In the psychological domain, the biggest single interruption to functioning is that of postnatal, or post-partum, depression (PND). For some 7-16% of women giving birth (Buist et al., 2008; O’Hara & Swain, 1996), new motherhood is associated with the onset of PND. The rate of depression for women in the first month of motherhood is three times the rate of depression in women generally (Cox, Murray, & Chapman, 1993).

A swathe of research now implicates postnatal depression in a mother with negative outcomes for her young child. Women who suffer from depression within the first year can fail to bond well with their baby (O’Higgins, Roberts, Glover, & Taylor, 2013; Tietz, Zietlow, & Reck, 2014). This in turn can negatively impact on a range of behavioural, cognitive, and emotional outcomes for the child (Armitage et al., 2009; Burke, 2003; Dawson et al., 1999; Downey & Coyne, 1990; Fihrer, McMahon, & Taylor, 2009; Gracka-Tomaszewska, 2010; Pickens & Field, 1993).

Definition

Postnatal depression (PND) is a non-psychotic depression occurring during the first three months of motherhood (Craig & Howard, 2009). Depression is characterised by the occurrence of depressed mood or a loss of interest or pleasure in daily activities consistently for at least a two-week period. The DSM-5 and its predecessors use the same diagnostic criteria for PND as for major depressive episode, but allows for a perinatal onset. The DSM-IV-TR specification “with postpartum onset” required the depression to start within four weeks of giving birth. The new DSM-5 criteria as of May 2013 has a “with peripartum onset” and the depression can start during pregnancy or in the first four weeks postpartum (American Psychiatric Association, 2000). The DSM-5 working group considered extension of the criteria to six months postpartum; however, the available epidemiological evidence was not yet sufficient enough to support this. They noted that in clinical practice and research, it is most
common for women up to 12 months post-birth to be classified as having a postpartum onset of their MDE (O’Hara & McCabe, 2013).

The distinction between PND and other forms of depression, however, occurs clinically and in research. For some women, it is suggested that there is a specific childbirth-related hormonal issue which exacerbates or predisposes someone to PND (O’Hara, 2009b). Clinicians find that PND has a different response profile to treatments than other forms of major depressive episode, partly due to its aetiological factors and partly due to concurrent circumstances such as the demands of motherhood and higher refusal rates for antidepressant medication (Cooper, Murray, Wilson, & Romaniuk, 2003; Milgrom, Negri, Gemmill, McNeil, & Martin, 2005; O’Hara, 2009b).

**Relationship risk factors**

Whilst all depressive episodes are thought to have a psycho-social contribution, in PND a majority of the risk factors have been shown to be social factors (Andrews-Fike, 1999; Bilszta, Gu, Meyer, & Buist, 2008). This includes the high risk in women with poor marital relationships during the perinatal phase (Barnett, Lockhart, Bernard, Manicavasagar, & Dudley, 1993; Boyce et al., 1998; O’Hara, 2009b). Women who have poor marital relationships and develop PND report greater symptoms for a greater duration, and are more likely to have a recurrence of depression later in life, relative to postpartum women with supportive relationships (Campbell, Cohn, Flanagan, Popper, & Meyers, 1992). Women with poor relationships with their own mother have been shown to be at higher risk of PND (Murray, Cox, Chapman, & Jones, 1995). The social factors also extend to the relationship with the child, although the cause-effect relationship is difficult to define (Cutrona & Troutman, 1986; Hanington, Ramchandani, & Stein, 2010).

Affecting broader social relationships, there is a significant role adjustment to be made for all new mothers. For at least some number of weeks, women are required to provide constant care for another human being, affecting their ability to engage in paid (occupation) or unpaid (house duties) work, and severely limiting their ability to spend quality time with their friends, family, work colleagues, and other important social connections, is severely limited (O’Hara, 2000; O’Hara, Stuart, Gorman, & Wenzel, 2000).

**Impact on the child**

Another way in which PND differs from other forms of depression is in its direct impact on the psychological health of someone other than the sufferer. Research shows that maternal PND affects the cognitive, socioemotional, and behavioural development of the child. Children who, during their infancy, had mothers suffering from PND, have been shown to be at risk in a number of
areas. These include low birth weight (Gracka-Tomaszewska, 2010), primary-
school age behavioural problems (Emanuel, 2006; Filner et al., 2009), infant
sleep (Armitage et al., 2009), social, psychological, and cognitive problems
(Burke, 2003; Downey & Coyne, 1990). Children of depressed mothers show the
effects of this at an early stage; infants at three months show significantly more
sadness and anger expression than infants of healthy mothers (Pickens & Field,
1993); and by 13 months show reduced left-to-right relative frontal brain
electrical activity (Dawson et al., 1999). Cicchetti, Rogosch, and Toth (2000) have
shown that mothers with depression have children who suffer from slower
cognitive development than their peers.

There is also good evidence to suggest that children of depressed mothers
develop some risk of depression and other mental health problems themselves.
This risk factor has been shown in children as young as five years old (Murray,
Woolgar, Cooper, & Hipwell, 2001). Children being reared by depressed
mothers suffer an increase in risk for depression by a factor of at least two or
three (Weissman & Boyd, 1985). This conclusion was reached both by
investigators studying the incidence of depression in the mothers of clinically
depressed children (McKnew & Cytryn, 1973; Poznanski & Zrull, 1970) and by
investigators studying the incidence of depression in the offspring of clinically
depressed mothers (Billings & Moos, 1983; Klein, Depue, & Slater, 1985;

**Mother-child relationship disruption**

Negative outcomes for the child are theorised to be transmitted via a reduction
in parenting capability of the mother. Burt et al (2005) found equivocal results
for the direct effect of maternal depression on depression rates in children in
their study, suggesting that there is not a direct transmission simply due to the
psychopathology. This led to the hypothesis that maternal depression affects
the mother’s attachment style with the child, resulting in a more insecure
attachment - and therefore a greater risk of psychopathology - for the child
(Dodge, 1990; Goodman & Gotlib, 1999).

There is a good body of research which supports (although does not directly
prove) this hypothesis. Women with a pre-existing negative model of the self
and their relationship with others (preoccupied or avoidant attachment) have
been shown to be at higher risk of developing PND (Wilkinson & Mulcahy,
2010). While this is true for all depression, the combination of this attachment
style and PND leads to a higher risk that the mother’s ability to provide the
circumstances for a secure attachment style in her infant is impaired (von der
Lippe, Eilertsen, Hartmann, & Killen, 2010). One study found that even mild
maternal depressive symptoms when the baby is under four months were
associated with lower quality of self-reported maternal bonding (Moehler,
Brunner, Wiebel, Reck, & Resch, 2006).
There is strong evidence that children of depressed mothers are exposed to negative maternal affect and behaviours, including those that are postulated to be involved in the development of insecure attachments. These affects and behaviours include hostility, withdrawal, and inconsistent parenting (Goodman & Brumley, 1990; Goodman & Gotlib, 1999). Depressed mothers have consistently been found to be significantly less sensitive, to show greater negativity and less positive affect than nondepressed mothers, and to be poor disciplinarians (Downey & Coyne, 1990; Gelfand & Teti, 1990; Lovejoy, Graczyk, O'Hare, & Neuman, 2000).

**Overview of the thesis**

This thesis reviews the literature on the treatment of mood disturbance in new mothers, and the treatment of relational (attachment, maternal sensitivity, or reflecting functioning) disturbance for mothers who have depressive disorder. It presents a protocol for a mood disturbance therapy which uses an existing evidence-based therapy – interpersonal therapy – and addresses the attachment trajectory. It then presents a small-scale trial of the effects of that therapy, and draws some general conclusions about the treatments of these two interrelated difficulties.

Chapter 1 provides a description of the diagnosis of postnatal depression and its phenomenology, including effects on the mother and the child and the theorised mechanism of effect. It provides an overview of the structure of the thesis.

Chapter 2 explores the literature on treatment options for post-natal depression and mother-child attachment, bonding, or relationship. It provides a systematic literature review of the concepts of maternal sensitivity and reflective functioning as mechanisms for disturbance of the mother-child relationship.

Chapter 3 provides a theoretical argument for the treatment of both mood and attachment disturbance concurrently. It describes the development of the Mother-Child Interpersonal Therapy (IPT-MC) and the format of a group treatment manual.

Chapter 4 describes the methodology of the treatment study including the recruitment protocol and the self-report and observer-coded measures.

Chapter 5 describes the outcomes of the treatment study incorporating five hypotheses: 1) an effect of the treatment on mood disturbance; 2) an effect of the treatment on social functioning; 3) an effect of the treatment on maternal self-report of the mother-child relationship; 4) effect on observed maternal factors in the relationship; 5) effect on observed child factors in the relationship; and 6) effect of the treatment on functional outcomes.
Chapter 6 provides a summary of the findings and an overarching discussion of their implications for theory and practice, together with suggestions for future work with mothers suffering from post-natal depression.

**Aims and Hypotheses**

The overarching aim of this study is to investigate the adaptation of IPT with a mother-baby component. The resulting therapy is termed Mother-Child Interpersonal Therapy (IPT-MC). The general hypothesis is that this treatment can concurrently improve the relationship between mother and child, without disturbing the ability of the treatment to address mood disturbance. However, adapting a current evidence based treatment means that a number of hypotheses need to be assessed first, and given the complex nature of the mother-child relationship, a number of ways of assessing success of the treatment should also be explored.

Figure 1 shows the resulting structural design of the thesis. The aims and hypotheses are explored in greater detail in Chapter 3.
Figure 1. Structural design of the study hypotheses.
Chapter 2: Literature Review

Around 7-16% of women giving birth experience postnatal depression (PND), usually within the first three months after giving birth (Buist et al., 2008; O’Hara & Swain, 1996). As discussed briefly in Chapter 1, there are wide-ranging negative effects of PND for both a mother and her child. This chapter explores the literature on treatment options for PND and their approaches to that treatment. It also explores the treatments available which target the impact of disrupted mother-child relationships, specifically those that target mother-child attachment, maternal sensitivity, or reflective functioning. It provides a systematic literature review of the concepts of maternal sensitivity and reflective functioning, given these are the main theorised mechanisms of change in attachment-based treatment approaches. It makes some conclusions about the similarities involved in treatment of mother and child outcomes.

Treatments for major depressive episode (post-partum onset)

This section will discuss the concept of prevention of PND, and treatment options which have been explored to resolve PND and/or improve the attachment, in order to improve the quality of life for mother and child. Those treatment options include medication, cognitive-behavioural therapy (CBT), interpersonal therapy (IPT), and various styles of social support (beyondblue, 2011; Centre of Perinatal Excellence, 2017). The aim is not to discount the evidence-base for these treatments. However, a summary of their strengths and their limitations in the treatment of PND will be provided.

Care needs to be taken when looking at the evaluation of treatments that reduce distress, as different studies use different measures of distress. Mauri et al (2010) found that, in their sample of 1066 women, over 40% of those assessed as having PND from a cut-off of 13 on the Edinburgh Postnatal Depression Scale (EPDS), were false positives when a Structured Clinical Interview for DSM-IV-TR (SCID-IV) assessment of PND was completed. However, many women who do not meet criteria for Major Depressive Episode will meet criteria for Adjustment Disorder, an anxiety diagnosis, or have sub-clinical distress. There is also evidence that a low percentage of people who are at risk for PND actually receive follow-on support for that risk (Horowitz & Cousins, 2006).

Prevention

In PND the known, and potentially permanent, impact on the mother-child relationship and future attachment style of the child, in addition to other child outcomes, suggest that preventive measures are important. Unfortunately, there is little evidence to date that suggests that prevention is possible. There are
some studies suggesting that additional support, counselling or other intervention for at-risk mothers may contribute to the prevention effect, but there are also a number of studies pointing in the opposite direction.

Austin (2003) reviewed five randomised controlled trials (RCT) on prevention of PND and found that all suffered from substantial methodological limitations and some reported no effect. A review of the literature found 29 studies on treatments attempting to prevent PND, including IPT, CBT, relaxation, debriefing, antenatal classes and support, and quality of care improvement (Dennis, 2004a, 2004b). It found that:

- For IPT, some effects have been found in small sample studies with weak methodologies.
- For CBT, there are equivocal results.
- For relaxation there are results shown with weak methodology.
- For debriefing, as with debriefing for other disorders, some results have shown potential to increase the risk of subsequent depression.
- For antenatal classes and support there are equivocal results.
- For interventions aimed at improving quality of care, one study involving extended postpartum monitoring and support from a midwife in conjunction with early detection and intervention, has shown some promising results. Although this is commendable, it is a study relying on the results of early intervention and not just prevention per-se.

Zinga, Phillips, and Born (2005) reviewed the literature a year later and came to the same conclusions as that of Dennis. Subsequent to those reviews, Cho, Kwon, and Lee (2008) conducted a pilot study, selecting antenatal women who were diagnosed as depressed based on SCID-IV interviews and randomly assigned them to nine fortnightly sessions of CBT versus a waitlist control. At one month postpartum (still within the risk timeframe for PND), women in the treatment group had lower reported depressive symptoms. They suggested this pilot study be followed by a larger study.

O’Hara (2009b) updated that literature review and found no larger study, or any new findings in the intervening five years since the Zinga, Phillips, and Born (2005) study. O’Hara reported that again, the findings for the prevention of PND are at best equivocal. However, findings which target “high-risk” women and are more intense, such as ongoing IPT, show more promise. A later RCT of an antenatal attachment-based intervention involving 11 home visits (not psychotherapy) again showed no identifiable impact on postnatal maternal measures or depressive symptoms (Cooper, De Pascalis, Woolgar, Romaniuk, & Murray, 2015).
Medication

O’Hara (2009b) also reviewed the evidence on the use of antidepressant medication in PND. Several small-scale controlled trials provide evidence for the efficacy of antidepressant medication, especially SSRI, in PND (Warner, Appleby, Whitton, & Faragher, 1997; Wisner, Chambers, & Sit, 2006). However, there has been debate over the use of antidepressant medications with breastfeeding women because medication passes into breast milk. Often women are excluded from medication trials for depression or trials which include a medication treatment group (O’Hara, 2009b). The current expert guidance suggests that while there is no evidence of harm to the child from antidepressant usage, there is not currently evidence of “no harm” that is required for large-scale recommendation of this as a first-line treatment option (O’Hara, 2009b; Stowe, 2007). In addition, some research shows that given a choice, women will choose psychological therapies over medication for PND (Pearlstein et al., 2006).

Behavioural interventions and social support

There are some interventions which target behavioural causal factors involved in PND, to limited effect. One RCT assessed the efficacy of behavioural sleep interventions for mothers who reported severe sleep problems in their babies (Hiscock & Wake, 2002). This involved a three-session psychoeducation model advocating a controlled crying approach to reducing night waking. For mothers with high EPDS scores (over 10), there was some evidence of a reduction in EPDS scores after two and four months. However, after controlling for EPDS score at commencement of treatment, this reduction was not significant, and there was no control group. This reduction in depression scores has not been replicated in other studies.

Chen et al (2006) conducted a 5 week unstructured support group with the aim of bringing women with high Beck Depression Inventory (BDI-II) scores at three months postpartum into contact with other women having similar difficulties. Sessions were also psychoeducational and led by a registered nurse. This was a small study with only 30 out of 115 eligible women participating and no effect size calculated. It found a significant difference in BDI-II scores at end of treatment. Fleming, Klein, and Korter (1992) also conducted an unstructured social support group for mothers with high EPDS or MAACL (Multiple Affect Adjective Checklist – Revised) scores two weeks postpartum. They found no effect of this group.
Cognitive therapy was purposely developed as a treatment for mental disorders that is practical, evidence-based, and focused on the present as opposed to the client’s early childhood (Beck, 1974). Cognitive therapy theorises that depression and other disorders are precipitated and perpetuated by the client’s distorted or maladaptive interpretation of events in their life. Cognitive therapy, by itself or combined with behavioural elements such as activity scheduling, has been shown to be an efficacious treatment for many disorders, and is a treatment of choice for major depressive episode.

Briefer forms of CBT treatment, using short group formats, or delivered by non-psychologists (such as the mother-care nurses who are often funded to visit new mothers at home), have shown equivocal results with a lack of permanence (Honey, Bennett, & Morgan, 2002; Prendergast & Austin, 2001).

For full-course CBT for PND there are varied results. Appleby, Warner, Whitton and Faragher (1997) found a moderate effect of individual CBT on PND in a study with a small sample size. Higget and Drummond (2004) compared eight existing community treatments for women seeking help for postpartum distress, all of which contained cognitive or behavioural therapy, and found that all treatments resulted in a reduction in EPDS scores compared to waitlist controls. In a very small group (14 mothers in total), Ugarriza (2004) found that 10 weeks of cognitive restructuring, stress reduction, and social support interventions resulted in significant reductions in BDI-II scores in a group of women referred by their healthcare provider for postpartum distress.

A more rigorous controlled trial found that 12 weeks of group CBT was effective in decreasing BDI-II scores and increasing self-rated social support, at an equivalent level to problem-focused group or individual counselling (Meager & Milgrom, 1996; Milgrom et al., 2005). This result was achieved with a CBT group course designed specifically for PND, with a focus on practical issues. These results have led the depression organization beyondblue to rate CBT as a therapy in which the “body of evidence can be trusted to guide practice” in the treatment of PND (beyondblue, 2011). However, Cooper et al (2003) found that individual CBT for PND had short-term benefits for maternal mood but did not result in a reduction of PND (assessed via SCID-IV), and the treatment benefit was no longer apparent at nine months postpartum. In addition, the researchers found that neither CBT nor psychodynamic therapy had any impact on the mother-infant relationship (Murray, Cooper, Wilson, & Romaniuk, 2003). The differing results may be due to the fact that CBT does not focus on the overwhelming social or identity changes that precipitate PND, and that whilst CBT has some level of efficacy, it requires the addition of practical or social issues. It should be noted that the behavioural components such as activity
scheduling in CBT are difficult for a new mother to engage in given that her
time and behaviours are dictated by the care required by the newborn child.

*Interpersonal Therapy*

Interpersonal Therapy (IPT) is a focused, short-term therapy originally
developed for depression, which emphasises the interpersonal context of
depression, whilst not discounting the relevance of genetics, biochemistry,
development, and personality (Klerman & Weissman, 1993). It addresses one or
more of three general areas related to interpersonal functioning: *interpersonal
disputes; role transitions; or grief*. The original authors had a fourth category of
*interpersonal deficits*, focussed on a broader spectrum of interpersonal
difficulties, and potentially incorporating significant attachment difficulties
and/or personality disorders (Klerman & Weissman, 1993). However in recent
years this has been removed as a specific area of focus and moved into the wider
approach to the therapy.

IPT is unique in that it aims to simultaneously improve the depressive
symptoms and the interpersonal functioning of the client. IPT has been shown
in numerous studies to be effective for major depressive episode at any stage in
life (de Mello, de Jesus Mari, Bacaltchuk, Verdeli, & Neugebauer, 2003).
Published manuals now exist for traditional IPT for depression (Klerman &
Weissman, 1993; Stuart & Robertson, 2002), IPT for bipolar disorder (Frank,
2005), residential IPT for social phobia (Hoffart et al., 2007), for adolescents
(Mufson, Dorta, Moreau, & Weissman, 2004), and for group (IPT-G) treatments
(Willley, Mackenzie, Welch, Ayres, & Weissman, 2000).

In addition, IPT has been shown to be effective for perinatal mental health
disorders in controlled trials with large sample sizes and different comparison
groups (O’Hara, Stuart, Gorman, & Wenzel, 2000; Spinelli & Endicott, 2003a;
Swartz et al., 2008). In their *Clinical Practice Guidelines* for the treatment of
depressive disorders in the perinatal period, the depression organisation *beyondblue*
rated interpersonal therapy as a therapy in which the “body of
evidence can be trusted to guide practice in most situations” (beyondblue, 2011).
An open trial of IPT for depressed pregnant adolescents found a reduction in
depressive symptoms and participants meeting criteria for depression, both
immediately after treatment and at 20-week post-partum follow-up (Miller, Gur,
Shanok, & Weissman, 2008). In their review of the case for psychotherapy of
PND, Grigoriadis and Ravitz (2007) state that the best evidence for
psychotherapy as an effective treatment of PND comes from the IPT research.
Carter (2010) adapted IPT for women with PND and co-morbid relationship
distress by developing a conjoint IPT therapy process over 15 sessions. This
used the interpersonal dispute between the couple as the problem area for
treatment. There was no controlled trial of the therapy but the author reports a
case study in which a couple benefitted from the treatment.
In recent years a group IPT for PND has developed. A short version over 10 sessions was developed to focus on two problem areas: role transition and interpersonal disputes (Reay et al., 2010). The authors later trialled this in an RCT with a small number of women meeting criteria for PND. Compared to waitlist controls, the women reported a significant improvement in depression scores and higher ‘recovery’ rates from PND (Mulcahy, Reay, Wilkinson, & Owen, 2010). In this group, the authors included the (solely male) partners of the women in the group in two ‘partner’ sessions. These sessions were focussed on psychoeducation about depression and IPT treatment for depression, rather than any form of family therapy intervention.

A recent meta-analysis on studies of paternal depression found the most common correlate of men’s postnatal depressive symptoms is PND in their partner (Wee, Skouteris, Pier, Richardson, & Milgrom, 2011). Interestingly, they found that in many studies, poor relationship satisfaction was associated with male postnatal depressive symptoms. This seems to fit with other studies that find the parental relationship has an impact on the parent-child relationship. For example, in a 2009 study, conflicted mother-father relationships were found to be associated with low maternal sensitivity in a sample of women of low socioeconomic status (Finger, Hans, Bernstein, & Cox, 2009).

However, IPT so far has not been shown to make significant changes to the attachment relationship or the outcomes for the child. This has been demonstrated in the case of PND in an RCT with a large community sample of depressed women in the U.S. (Forman et al., 2007). The authors found that compared to a waitlist control, the IPT group had significant success in resolution of depressive symptoms. In addition, the group of IPT-treated women reported improvement in their marital relationships. The IPT-treated women reported some reduction in their parenting stress, but not to levels consistent with a control sample of non-depressed women. The intervention did not improve the mothers’ view of their child’s temperament, behavioural problems, and significantly, the mother-child relationship as rated through videotaped exercises.

**Addressing disrupted mother-child attachment**

Bowlby describes attachment as “the dimension of the infant-caregiver relationship involving protection and security regulation … an intense and enduring affectional bond that the infant develops with the mother figure, a bond that is biologically rooted in the function of protection from danger” (Bowlby, 1969; Bowlby, 1988).

Attachment theory stems from Bowlby’s modification of the psychoanalytic tradition of object relations, which is grounded in Freud’s instinct theory. The ‘object’ is the agent through which an instinctual aim is achieved. Usually, this
is another person, and usually in the infant, the mother. Freud described the mother’s breast as the first love object, but also even Freud extended the early relationship to maternal behaviours such as stroking, kissing, and rocking (Ainsworth, 1969). Writers before Bowlby would refer to this relationship as ‘dependence’ on the part of the infant. Occasionally, writers used the term ‘attachment’ when referring to love relations (Ainsworth, 1969). However, Bowlby postulated that all humans have a biologically-derived drive to form relationships with others – to attach to them. Thus he proposed the use of the term attachment to refer to this important relationship with the first object. However in developing his theory he set out to determine a term that was not associated with helplessness (dependency) and something that is not transient, but has lifelong effects (Bowlby, 1969).

Research on rodents has shown that different behaviours in mothers can have an impact on brain development in their offspring. Specifically, there are changes in the neurotransmitters that regulate affect, including dopamine levels, estrogen sensitivity, corticotrophin-releasing factor, and gaba receptors (Champagne et al., 2004; Champagne, Weaver, Diorio, Sharma, & Meaney, 2003; Jaworski, Francis, Brommer, Morgan, & Kuhar, 2005; Plotsky et al., 2005). This leads to the suggestion that attachment is a major organiser of brain development (Fonagy & Target, 2005). These structures allow the development of social cognition and consequently, social behaviours (Fonagy, 2003).

This fits in with Bowlby’s (1969) suggestion that the enduring nature of the mother-child bond influences the person’s approach to all future relationships. It also means that there are affect-based changes which are able to be transmitted behaviourally, and this forms the key hypothesis as to how maternal PND leads to disrupted functioning in the child.

Much has been written on attachment; a search for the term ‘attachment’ in the PsychINFO database yields over 16,000 peer-reviewed journal articles. Yet despite this, the concept of attachment, and its relationship to associated concepts such as bonding or temperament, still changes from researcher to researcher (Cassidy, Jones, & Shaver, 2013; Rutter, 1972). The specific behaviours or cognitions which define appropriate attachment are still debated, and empirical evidence linking attachment problems with later-life problems in the child is difficult to find (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003). Most importantly, the way in which the bond with the primary caregiver is transferred to the child’s relationship with others is still unknown (Fonagy & Target, 2005).

**Attachment style**

The original authority on attachment styles is Ainsworth, who postulated that there are specific behaviours a child shows which indicate that the attachment
is sufficient (Ainsworth, 1989). That is, sufficient to ensure the child will be able to relate in a healthy or functional way to others – again, a reference to the social learning nature of the attachment concept rather than just safety. This is commonly referred to as a *secure* attachment. Ainsworth proposed that it is both possible to measure the attachment bond in observed positive attachment behaviours in the *mother and child*, and to make hypotheses based on that attachment about how the *child* will operate within future relationships (Ainsworth, Blehar, Waters, & Wall, 1978).

Bowlby, Ainsworth and others went on to categorise two additional, non-functional, relationships. Ainsworth originally described an *anxious-ambivalent* and an *anxious-avoidant* attachment. Ambivalent attachment is thought to be demonstrated via inconsistent responding from the parent and characterised by preoccupation from the child with relationships, distress on separation, and anger on reunification. Avoidant attachment is thought to be demonstrated by a lack of response from the parent with respect to the child’s needs for comfort (which the parent is uncomfortable with) and characterised by a later avoidance by the child of intimacy in relationships (Ainsworth, 1989).

Researchers later added a fourth category of *disorganised* attachment (Bartholomew & Horowitz, 1991; Main & Solomon, 1986). This is thought to be the most dysfunctional attachment style, related to frightening or intrusive behaviour on the part of the parent. It is thought to predict a lack of coherent behaviours in the child’s future relationships. The concept of four categories of attachment fits with the commonly-used two-dimensional model of adult attachment patterns. This focuses on relative levels of attachment-related anxiety, and attachment-related avoidance in the adult (Brennan, Clark, & Shaver, 1998). These dimensions and the placement of the four attachment categories in relation to them are shown at Figure 2.
Ainsworth’s original research on classification of attachments was observation-based (Ainsworth, 1989). This was later followed by development of the ‘Strange Situation’ procedure (SSP). In the SSP, the researcher observes the mother-child dyad through a series of brief separations and reunions, coding mother and child behaviours and allocating the child to a category. Since this original work in the 1970s and across cultures, it appears that if coders are trained in the procedure, there is strong inter-rater reliability for this process. That is, dyads do appear to demonstrate some objective information that allows them to be consistently categorised in the same way (van Ijzendoorn & Kroonenberg, 1988).

Stable measures of attachment (those that show good inter-rater reliability and stability over time) are based on the descriptions by Bowlby (1988) and Ainsworth (1989) of attachment behaviours and cognitions, and on the Strange Situation coding. Van Ijzendoorn and Kroonenberg (1988) conducted a meta-analysis comparing 2,000 mother-infant dyads assessed with the SSP. This included cross-cultural comparisons. It found that intracultural differences were far more prevalent than cross-cultural differences, and that the rates of classification into categories were similar across countries, and in line with Ainsworth’s original proposition. Coding adult attachment is done not via
behavioural test but via interview. The Adult Attachment Interview involves the subject being interviewed regarding their childhood relationships (Main & Solomon, 1986). It is the measure most commonly used to assess attachment in adulthood (van Ijzendoorn, 1995).

Mother-child dyads do show change across time in their rated SSP categories, and those categories don’t always predict the child’s organising attachment style for relationships in adulthood. Up until around four years of age, children have been shown to have a different style of attachment to different parents or caregivers. Therefore the attachment in the SSP is coded for the child-caregiver dyad (Cassidy & Shaver, 1999). It is suggested that before this stage the child has not yet developed the internal working model proposed by Bowlby (1988).

There has been debate in the literature about the stability of attachment from infancy to adulthood – that is, the predictive ability of the construct. A comprehensive, 20-year longitudinal study found that a child’s assessed attachment category at infancy was consistent with their adult attachment category at 18 years old (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Yet a similar longitudinal study, using the SSP predicting the Adult Attachment Interview, found no continuity in attachment classification from one to 18 years of age, and no relation between infant attachment status and adolescent maladjustment (Lewis, Feiring, & Rosenthal, 2000). It may be that the strength of the environmental variables (e.g. relationship experiences) may have been powerful enough in one study and too similar between participants in the other. It may also have some relationship with the current most effective ways to assess attachment. For example, a key meta-analysis of longitudinal samples who were tested with the SSP at 12 months found a low test-retest stability of .39 (Fraley, 2002). However, this test-retest stability remained the same from 1 to 2 years old as from 1 to 18 years old – a stable pattern. This suggests that there is some personality attribute formed by the age of 12 months that lasts, to some extent, throughout the lifespan. The current body of research appears to agree that, although environmental variables across the lifespan can have an influence, there is some underlying stability in attachment style. There is also some suggestion that the current measurement of attachment is a valid and unique one. Fraley, Vicary, Brumbaugh, and Roisman (2011) conducted a complex 30-day analysis to try to see whether a personality based measure such as the five-factor model of personality (Digman, 1990) could explain the longitudinal stability in attachment findings, and concluded that personality traits cannot account for stability in attachment patterns.

When quantitatively analysed, attachment styles on Hazan & Shaver’s (1990) single item measure are related to subjects’ attachment history and their current beliefs about relationships as attachment theory would predict (Feeney & Noller, 1990). Twin-study research in human infants has shown that environmental factors account for the majority of difference in attachment styles (Bokhorst et al., 2003). That is, unlike other things such as IQ, there is
relatively little genetic heritability to attachment, lending weight to the supposition that attachment style is based on early experiences with the primary caregiver. However, studies in adults have shown this finding to be less robust: the influence of genetics on attachment style becomes more apparent in adulthood (Picardi, Fagnani, Nistico, & Stazi, 2011; Torgerson, Grova, & Sommerstad, 2007).

As well as predicting adult attachment, attachment in infancy appears to predict mental health problems. For example, Speltz, Deklyen, and Greenberg (1999) found that boys with Oppositional Defiance Disorder (ODD) had significantly higher rates of insecure attachment than a comparison group of boys without ODD, and all insecure patterns were over-represented in the ODD group. Attachment was measured via the Preschool Attachment Assessment System (PAAS) (Cassidy, Marvin, & Group, 1992), a conceptually similar measure to the Strange Situation Protocol. They found, however, that attachment style was unable to provide predictive validity for future problem severity or diagnosis without the other contextual factors. Other large scale studies on Borderline Personality Disorder (BPD) have found that attachment style, in combination with other mediators such as internalising/externalising personality factors, emotion regulation, and theory of mind, is able to predict future BPD symptoms (Ghiasi, Mohammadi, & Zarrinfar, 2016; Ramos, Canta, de Castro, & Leal, 2016).

The above evidence strongly suggests there is a psychological relationship between mother and child during the first few years of life which can be measured behaviourally. This relationship has a theorised psychological mechanism. That mechanism transmits a working model of relationships (attachment) from the mother to the child over time, impacting on the growing child’s mental health and social functioning.

*Facilitators of attachment: Maternal sensitivity and reflective functioning*

Consistent with the rodent studies described above, it was originally predicted that the attachment *behaviour* of the mother was the method of transmission of attachment style. That is, if the mother demonstrated secure attachment behaviours towards the infant, the infant would learn these as an appropriate way of being with another person. This attempt at operationalisation of the secure attachment behaviours has centred on the concept of *maternal sensitivity*. This is based on Ainsworth, Bell, and Stayton’s (1971) original description of the behaviours associated with their new concept of secure attachment.

However, Fonagy and Target (2005) postulate that if attachment is a process in which parents prepare their child for socialisation, then the process of forming a secure attachment intrinsically involves development of the child’s cognitive skills. This involves the ability to see others as motivated by thoughts, feelings, wishes, beliefs, and desires. The ability in adults to make guesses about these
things is called theory of mind (Premack & Woodruff, 1978). Fonagy postulates that the child’s cognitive development needs to also allow them an ability to make guesses about the internal affective state of others, and calls this affective ability mentalization (Allen & Fonagy, 2006). Reflective functioning is the operationalisation of the capacity for mentalization, and within the context of the mother-baby dyad, it is called parental reflecting functioning (Slade, 2005). This is the mother’s capacity to hold ‘in mind’ her baby’s mental state and to understand her baby in the light of that state. Figure 3 describes how the concepts of attachment, maternal sensitivity, and reflective functioning may possibly be associated, based on current knowledge.

![Diagram of attachment between mother and daughter](image)

Figure 3. Theorised intergenerational transmission process for attachment.

The literature on maternal sensitivity and reflective functioning as facilitators of attachment is complex. This is both in terms of the breadth of research foci, including in maternal and child mechanisms and outcomes, and in terms of how researchers define, measure, and treat both topics. For the purpose of intervention in the attachment cycle, however, an understanding of how these facilitators of mechanisms of attachment change work is essential. In order to gain an evidence-based understanding of the key facets of both, and to determine which mechanism may have a more solid base for use in the
development of a concurrent mood/relational therapy, a systematic literature review of both concepts was conducted. An SLR on maternal sensitivity is described first, followed by another SLR, on reflective functioning. General conclusions will be made at the end of both these reviews.

**Systematic literature review on maternal sensitivity**

Attempting to stop children of insecurely-attached mothers from themselves developing insecure attachment styles would be a treatment target when seeking improved outcomes for the child. Maternal sensitivity may be the behaviour which links mother and child attachment models and would therefore be a natural target for attachment-based interventions. However the field of work on attachment interventions appears to developed in different directions.

The measurement of maternal sensitivity involves viewing live or videotaping the mother-child dyad and counting positive and/or negative attachment behaviours. The coder looks for, among other things, examples of accurate reading of child signals, acceptance or warmth, and the mother following the child’s lead (Ainsworth et al., 1971). Variations on the coding system have been developed but all essentially fit with this original notion. For example, Kochanska (1998) described a system in which the infant’s signals of need are noted and mothers scored based on their response to each signal. Forman et al (2007) used Kochanska’s coding system with slight modifications based on their earlier infancy work (Forman et al., 2003). They observed infant emotions and the mother’s emotional responses to these, coding for atypical (or opposite) emotions in the mother as signs of reduced maternal sensitivity. Maternal sensitivity is therefore an intuitive link between the psychological concept of attachment and the behavioural measurement of it, and this has led to the use of interventions that aim solely to address maternal sensitivity (Kalinauskiene et al., 2009) in the hope that this brings about benefits for the mother-child dyad.

The purpose of this review is to determine the current body of knowledge with regard to maternal sensitivity. Of particular interest is the evidence for the construct and the ability to measure maternal sensitivity impacts and maternal sensitivity intervention outcomes. A search was made of the PsychINFO and Medline databases for the term ‘maternal sensitivity’ in the subject heading (SU), MeSH Terms (MH) or abstract (AB) fields. Search was limited to peer-reviewed periodicals only. There was no historical time constraint, and the search was completed for articles up to December 2016.

A total of 1,415 articles were retrieved via this method, which were then cleaned via removal of duplicates across databases and non-periodical articles. The author was the sole reviewer. Following cleaning, articles which were editorials,
comments, erratum, or book reviews were excluded. Articles which did not contain any discussion of the concept of maternal sensitivity were removed. This included, for example, articles solely related to attachment, or articles incorrectly classified by the database such as articles on sensitivity of medical treatments for mothers. The remaining articles were then categorised according to their main topic, as shown in Figure 4.

Figure 4. Systematic literature review on maternal sensitivity.

**Theory and Construct Development**

There were relatively few published journal articles on the theory of maternal sensitivity. Much of the maternal sensitivity literature is based on the early work
of Ainsworth and colleagues and this work was published in book form, rather than in the peer-reviewed format (Shin, Park, Ryu, & Seomun, 2008). This may partly relate to the age of the material, but it is surprising that there is relatively little current theoretical comment referencing this early work. A recent summary of research on families with children found that research concentrated on five major topics, one of these being the importance of maternal sensitivity for children’s attachment security and subsequent social/emotional adjustment (Demo & Cox, 2000). Many of the implementation articles appear to take the concept of maternal sensitivity as an established fact. Articles in this section were also concerned with other constructs of the mother-child relationship and the extent to which these compare with maternal sensitivity on reliability and validity.

Nicholls and Kirkland (1996), in a (non-comprehensive) review of the construct, describe the following various characteristics found in the literature about maternal sensitivity:

1. perception, accurate interpretation of, and response to, baby’s signals, and awareness of the infant’s state
2. behavioural response to distress or requests, and holding/positioning of child to improve child’s comfort
3. appropriateness, timing, and non-intrusiveness of mother’s response
4. ensuring a mutually rewarding interaction, combined with an attitude of primary concern for the child and an understanding of developmental appropriateness
5. the provision of emotional and instructional support, consistency, and emotional availability

The reviewers suggest that an "all-purpose" definition of sensitivity for all child ages and developmental levels is insufficient, as sensitivity differs depending on the age and disability of the child (Nicholls & Kirkland, 1996).

Shin, Park, Ryu, and Seomun (2008) completed a comprehensive review of all articles from 1978 to 2007 which described the “evolution, contemporary meaning, antecedents, attributes or consequences” of maternal sensitivity. They describe four attributes of the modern definition of maternal sensitivity, being that it:

1. is a process involving maternal abilities;
2. involves reciprocal give-and-take between mother and infant;
3. is dynamic according to the infant’s behaviour; and
4. includes many aspects of a mother’s behaviour including appropriateness, timing, situational awareness, emotional availability, and expressiveness.
The authors note three consistently reported consequences of maternal sensitivity: infant comfort, mother-infant attachment, and, potentially, infant development. They also found factors related to, but not essential for, the construct: social support, maternal-foetal attachment, and maternal self-esteem, depression, stress or anxiety (Shin et al., 2008).

Articles written following Shin et al’s (2003) review address similar themes. Importantly, some small number of articles have looked at (cross-)cultural factors in the construct. Scheidt and Waller (2007) discusses gender and Arace (2006) culture in relation to attachment, noting that while there are differences noted in both for maternal sensitivity interactions, these differences are not prominent in the spread of attachment styles. Alfaya and Schermann (2005) found that mothers of full-term healthy infants were more sensitive than mothers of full-term infants in need of intensive care, or pre-term infants needing intensive care – thus suggesting that there are infant and ecological factors associated with the development of maternal sensitivity.

Further articles continue to focus on the dyadic aspects of maternal sensitivity behaviours. Whipple, Bernier, and Mageau (2009) discuss the theory relating to an infant’s need for exploration. Bernard, Meade, and Dozier (2013) suggest that it is important to distinguish between maternal responsiveness to conditions of infant distress (‘nurturance’) and response to non-distress cues (‘synchrony’).

Kim, Mayes, Feldman, Leckman, and Swain (2013) found that maternal sensitivity was inversely related to maternal anxious thoughts, complementing Shin et al’s (2003) idea that maternal sensitivity is an ability and that reduced functioning in mothers can reduce her abilities in the area.

Relationship with Attachment

Much attempt has been made by researchers to determine whether maternal sensitivity as an objectively-coded variable is able to predict attachment style of the child. The findings here show variability but on the whole there appears to be a modest correlation and modest predictive ability of the construct. There are enough robust studies to suggest that there is a relationship between the two constructs. For a meta-analysis of 66 studies which finds in favour of maternal sensitivity as an important but not exclusive predictor of attachment security, see De Wolff and van IJzendoorn (1997). Studies completed in the decade following this meta-analysis come to a similar conclusion (Beckwith, Cohen, & Hamilton, 1999; Behrens, Parker, & Haltigan, 2011; Candelaria, Teti, & Black, 2011; Cantero & Cerezo, 2001; Fearon et al., 2006; Finger et al., 2009; Leerkes, 2011; McElwain, Cox, Burchinal, & Macfie, 2003; Meins, Fernyhough, Fradley, & Tuckey, 2001; Moran, Forbes, Evans, Tarabulsy, & Madigan, 2008; Park, 2001; Priddis & Howieson, 2009; Schoenmaker et al., 2015; Shin, Park, &
Kang, 2004; Vereijken, Riksen-Walraven, & Kondo-Ikemura, 1997; von der Lippe et al., 2010).

Not all studies find that this relationship exists (Bailey, Moran, Pederson, & Bento, 2007; Grossmann, 1985; Seifer, Schiller, Sameroff, Resnick, & Riordan, 1996). In addition, a number of the studies mentioned above found that the ability of maternal sensitivity to predict attachment reduced as the infants grew older. Aviezera, Sagi-Schwartz, and Koren-Karie (2003) found that the relationship between maternal sensitivity and attachment did not exist for infants in low quality non-maternal care. Leerkes and Wong (2012) found that infant distress varies as a function of attachment security, independent of concurrent maternal sensitivity. These differential findings are what have led other researchers to suggest there is a related variable in the progress from maternal sensitivity through to attachment outcome (Atkinson et al., 2000; Balleyguier, 1991; Braungart-Ricker, Courtney, & Garwood, 1999; Fonagy, 1999; Fuertes, Santos, Beeghly, & Tronick, 2006; Raval et al., 2001).

There are also longitudinal and correlational findings linking a mother’s attachment (to her mother) to her maternal sensitivity (Aisbett, Boyd, Francis, & Newnham, 2007; Bernier, Matte-Gagné, Bélanger, & Whipple, 2014; Coppola, Vaughn, Cassibba, & Costantini, 2006; Laranjo, Bernier, & Meins, 2008; Mills-Koonce et al., 2011; Tarabulsy et al., 2005; Whipple, Bernier, & Mageau, 2011).

Measures

There are limited reported measures of maternal sensitivity, and some suggestion that these measures may not be stable across cultures (Cheung & Elliott, 2016; Ziehm, Trommsdorff, Heikamp, & Park, 2013). There are also other studies showing contradictory evidence (Ekmecki et al., 2015; Mesman et al., 2016).

Self-report measures

Leerkes and Qu (2016) report on the construct validity of the maternal self-report scale, the Maternal Responsiveness Questionnaire (MRQ) in relation to maternal sensitivity and other areas. They found good convergent and predictive ability of only one of three subscales: non-response. This is the first example of a self-report scale that attempts to predict maternal sensitivity.

Observational measures

Wiefel et al. (2007) refer to a series of maternal-child interaction scales: the Coding Interactive Behaviour; the CARE-Index; and the Maternal Behavior
Rating Scale (Mahoney, 1992). At the moment, these are all unpublished instruments. One paper reports on the development of a basic scale for nurses to rate parental sensitivity in the neonatal ward (Zahr & Cole, 1991).

Gross (1983), Stiles (2004) and Tarabulsy et al. (2008) all report on the psychometrics of the Ainsworth Attachment Q Sort or the Maternal Sensitivity Q Sort, both observer-coded videotaped tasks. These are both based on Ainsworth’s original description of maternal sensitivity and require coded training and a process of gaining reliability. (Baker, Messinger, Ekas, Lindahl, & Brewster, 2010) compared expert and nonexpert ratings and found that nonexperts were not able to accurately rate maternal sensitivity based on observing and coding videotapes. (Behrens, Hart, & Parker, 2012) report good association between SSP category and the Maternal Behaviors Q-Set.

Hirschmann, Kastner-Koller, Deimann, Aigner, and Svecz (2011) report on a scale called INTAKT to measure the mother-child interaction. Based on their review of the literature regarding factors which influence the child’s development, their scale measures three concepts: maternal sensitivity, maternal feedback to the child, and the mother’s control of joint attention via her communication. The measure uses observer ratings based on videotapes of mother and child in free play and semi-free play tasks. The videotapes were not restricted to time, and in both studies were between 10 and 50 minutes long.

Emotional Availability Scales. The only research scale which has been widely reported in a peer-reviewed setting is the Emotional Availability Scales (EA Scales). Emotional availability describes the quality of mutual emotional expressions within a relationship between an individual and their primary caregiver (Biringen & Robinson, 1991). It includes maternal sensitivity (sensitivity to the child’s emotional expressions) but also addresses the parent’s management of the emotional interaction, and the child’s response. EA Scales (for 0-5 years or 6-14 years) were developed based on, but are not solely related to, Ainsworth’s theory of maternal sensitivity, with four parent and two child scales. The scales are observer-coded based on videotape material.

Biringen, Derscheid, Vliegen, Closson, and Easterbrooks (2014) claim that the empirical research conducted with the EA Scales provides evidence of validity and short-term (but not longer-term) reliability, construct validity, and cross-cultural applicability. For example, Biringen, Matheny, Bretherton, Renouf, and Sherman (2000) show that many of the EA Scales can be predicted by scores on the Adult Attachment Interview (AAI). The EA Scales have also been used to produce evidence consistent with attachment theory in at-risk mothers (Oyen, Landy, & Hillburn-Cobb, 2000), mothers who had undergone in-vitro fertilisation (Gibson, Ungerer, McMahon, Leslie, & Saunders, 2000), children commencing kindergarten (Biringen, Skillern, Mone, & Pianta, 2005) and cross-culturally (Aviezera et al., 2003; Howes & Hong, 2008).
Parent-Child Early Relational Assessment. The Parent-Child Early Relational Assessment (PCERA) (Clark, 1985) does not claim to be a pure measure of maternal sensitivity, but of the affective and emotional interaction between mother and child. It is a concept closely related to Ainsworth’s attachment concept, but incorporating other psychodynamic processes. The advantage of the PCERA is that it can be coded based on as little as 5 minutes of videotape recording time, and does not require multiple coders. Clark (1999) found convergent and discriminant validity and high levels of internal consistency for the PCERA. Kemppinen et al. (2005) found that coders had moderate to high agreement for mother-child dyads when watching either the PCERA or videotapes from across the infant’s first year of life. Two follow-up studies showed that maternal sensitivity ratings on the PCERA at infancy are related to infant temperament characteristics at three, six, and 12 months of age (Kivijärvi, Räihä, Kaljonen, Tamminen, & Piha, 2005; Kivijärvi et al., 2001). Bystrova et al. (2009) were able to show a positive relationship between early birth management (early suckling, skin-to-skin contact) and later PCERA sensitivity scores.

Neurobiology / Medical

Neurobiological research has implicated a number of factors in the development of maternal sensitivity in humans. Table 1 provides a summary of the findings from this literature review.
Table 1.

Neurobiological factors associated with human maternal sensitivity.

<table>
<thead>
<tr>
<th>Author</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tost et al. (2010); Elmadih et al. (2014)</td>
<td>Oxytocin levels</td>
</tr>
<tr>
<td>Bakermans-Kranenburg and van Ijzendoorn (2008); Mileva-Seitz et al. (2011)</td>
<td>Oxytocins/serotonin combination</td>
</tr>
<tr>
<td>Atkinson et al. (2013); Sethre-Hofstad, Stansbury, and Rice (2002); Thompson and Trevathan (2009); Thompson and Trevathan (2008); Murray, Halligan, Goodyer, and Herbert (2010); Blair, Granger, Willoughby, and Kivlighan (2006); Hibel, Granger, Blair, and Cox (2011)</td>
<td>Maternal-child match in adrenocortical response, or cortisol secretion in children (incl. in interparental violence)</td>
</tr>
<tr>
<td>Mills-Koonce et al. (2007)</td>
<td>Dopamine D₂ receptor gene</td>
</tr>
<tr>
<td>King et al. (2016); Fortuna et al. (2011); van Ijzendoorn, Bakermans-Kranenburg, and Mesman (2008); Bakermans-Kranenburg, van Ijzendoorn, Mesman, Alink, and Juffer (2008); Spangler, Johann, Ronal, and Zimmermann (2009)</td>
<td>Dopamine D₄ receptor gene</td>
</tr>
<tr>
<td>Bisceglia et al. (2012)</td>
<td>AVPR1A gene (mothers with two copies of the long RS3 alleles)</td>
</tr>
<tr>
<td>Feldman and Eidelman (2009); Graham, Ablow, and Measelle (2010)</td>
<td>Neonatal vagal tone (a measure of the control the vagus nerve has over the resting heart beat) (incl. in interparental conflict)</td>
</tr>
<tr>
<td>Conradt and Ablow (2010); Harrison (2011); Kaplan, Evans, and Monk (2008); Moore et al. (2009); Ham and Tronick (2009)</td>
<td>Respiratory-sinus arrhythmia (RSA, a correlate of vagal tone) and maternal-child RSA match</td>
</tr>
<tr>
<td>Murray-Kolb and Beard (2009)</td>
<td>Significant maternal iron deficiency</td>
</tr>
<tr>
<td>Lohaus, Keller, and Voelker (2001)</td>
<td>Early (before 3 months) eye contact from mother to child</td>
</tr>
<tr>
<td>Bernard, Simons, and Dozier (2015)</td>
<td>Maternal event-related potentials (ERPs) responses to emotional faces</td>
</tr>
</tbody>
</table>
Axis 1 disorders in mother

Depression. Having depression is a risk factor for reduced maternal sensitivity Kenpinnen, Kumpulainen, Moilanen, and Ebeling (2006) and for reduced attachment (Campbell et al., 2004); yet simply having postpartum depression does not automatically disrupt a mother’s ability to show sensitivity to her child. A number of studies have not found any difference in maternal sensitivity when comparing large samples of depressed and non-depressed mothers, either at birth or postpartum, or in longitudinal design (Alvarenga, Machado Dazzani, da Rocha Lordelo, dos Santos Alfaya, & Piccinni, 2013; Fonseca, Silva, & Otta, 2010; Mills-Koonce, Gariépy, Sutton, & Cox, 2008; Sidor, Kunz, Schwayer, Eickhorst, & Cierpka, 2011). Logsdon et al. (2014) used four coding measures of maternal sensitivity (Maternal Behavior Q-Sort, Dyadic Mini Code, Ainsworth Maternal Sensitivity Scale, Child-Caregiver Mutual Regulation Scale) and found that none of the scales were able to discriminate between mothers with and without depression.

However there are some impacts of depression. Donovan, Leavitt, and Walsh (1998) found that depressed mothers were less able to discriminate small differences in infant crying, which they considered a measure of maternal sensitivity. Easterbrooks, Biesecker, and Lyons-Ruth (2000), in a study of 45 mothers, found that maternal depression at birth was related to maternal sensitivity at seven years of age. Hwa-Froelich, Cook, Loveland, and Flick (2008) and Moszkowski et al. (2009) found that a combination of poverty and maternal depression can impact maternal sensitivity. Kaplan, Burgess, Sliter, and Moreno (2009) and Gunning et al. (2004) found maternal sensitivity to be a better predictor than depression of infant learning about facial cues. Crockenberg and Leerkes (2003) concluded that fathers’ attachment to their own parents can affect paternal sensitivity.

Mills-Koonce et al. (2008) looked at the complex relationship between child attachment style, maternal depression, and maternal sensitivity. Their study found that in children with secure or resistant attachments, maternal sensitivity increased longitudinally, even in mothers with depression. However, for children classified as avoidant or disorganised, maternal sensitivity either did not improve or reduced. The NICHD Early Child Care Research Network (1999), in their longitudinal study of children across 36 months, and Feldman et al. (2009) in a study of over 1000 women, found a moderating effect of maternal sensitivity on the impact of PND on childhood development (cognitively, linguistically, and behaviourally).

Klucznik et al. (2016) conducted a study with 188 mother-child dyads where the mother had PND and had recovered (“PND in remission”), assessing maternal sensitivity via the EAS. They found that mothers with PND in remission were less sensitive (and overall, less emotionally available) than those
who had never had depression, with the lowest scoring group being mothers with PND in remission with a history of childhood abuse.

Schizophrenia. Mothers with schizophrenia have been shown to use less infant-focussed speech than controls (Wan, Penketh, Salmon, & Abel, 2008), and to show reduced maternal sensitivity to their infants’ needs (McNeil, Naslund, Persson-Blennow, & Kaij, 1985).

Drug Dependence. Howard, Beckwith, Espinosa, and Tyler (1995) recruited mothers who were cocaine-abusing on delivery and followed them up at six months post-partum. For these mothers, maternal sensitivity was related to infant development on the Bayley Scales of Infant and Toddler Development (clinician-administered assessment). Mothers with personality disorder characteristics were less sensitive than those who showed depressive symptomatology. Other studies have similarly found that prenatal cocaine abuse or buprenorphine exposure negatively predicted maternal sensitivity (Eiden, Schuetze, & Coles, 2011; Espinosa, Beckwith, Howard, Tyler, & Swanson, 2001; Minnes, Singer, Arendt, & Satayathum, 2005; Salo et al., 2009). Research has shown that alcohol use can affect both paternal and maternal sensitivity (Eiden, Chavez, & Leonard, 1999; Eiden, Edwards, & Leonard, 2002). Opioid-abuse in mothers has been shown to impact on maternal sensitivity (Bergin & McCollough, 2009; Salo et al., 2010; Uhlhorn, Messinger, & Bauer, 2005).

Post-traumatic stress disorder: Foss (2001) found that neither depression nor post-traumatic stress disorder (PTSD), or comorbidity of both, were related to maternal sensitivity, in a sample of 30 mothers assessed via the Ainsworth method.

Bipolar disorder: Logsdon et al. (2015) found that mothers with bipolar depression had nonsignificant differences in scores on maternal sensitivity compared to mothers with unipolar depression or without depression.

Attention-Deficit Hyperactivity Disorder (ADHD). Maternal ADHD, specifically the inattentive symptoms, can impact on maternal sensitivity (Semple, Mash, Ninowski, & Benzies, 2011).

Anxiety. Researchers have so far been unable to find a predictive effect of researcher-assessed anxiety conditions (those that meet DSM-IV-TR criteria) on maternal sensitivity (Grant, McMahon, Reilly, & Austin, 2010; Kertz, Smith, Chapman, & Woodruff-Borden, 2008).
Impact on child

This large selection of articles focuses on the research findings regarding later effects of poor or good maternal sensitivity on children. Maternal sensitivity has been shown in various research settings to have an effect on multiple factors. Cognitive and physical factors such as weight gain or language, are summarised in Table 2. Psychosocial factors are summarised in Table 3.

It is important to note that there were a number which reported an inability of maternal sensitivity to predict the hypothesised construct. Those factors which did not appear related to maternal sensitivity (or not directly related) are listed in Table 4.
Table 2.

Child cognitive/physical factors influenced by maternal sensitivity.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Author</th>
<th>Impact of maternal sensitivity demonstrated on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language acquisition</td>
<td>Silven, Niemi, and Voeten (2002)</td>
<td>phonological awareness in 3-4 year olds</td>
</tr>
<tr>
<td></td>
<td>Baumwell, Tamis-LeMonda, and Bornstein (1997)</td>
<td>child language comprehension</td>
</tr>
<tr>
<td></td>
<td>La Paro, Justice, Skibbe, and Pianta (2004)</td>
<td>preschool language impairment</td>
</tr>
<tr>
<td></td>
<td>Leigh, Nievar, and Nathans (2011); Cantero, Alfonso-Benílliure, and Melero (2016)</td>
<td>expressive language and verbal creativity at 3 years</td>
</tr>
<tr>
<td></td>
<td>Paavola, Kemppinen, Kumpulainen, Moilanen, and Ebeling (2006)</td>
<td>intentional communication at 10 months</td>
</tr>
<tr>
<td></td>
<td>Bernier, Carlson, and Whipple (2010)</td>
<td>Executive functioning at 2 years</td>
</tr>
<tr>
<td></td>
<td>Belsky, Pasco Fearon, and Bell (2007)</td>
<td>Attentional control</td>
</tr>
<tr>
<td>Obesity</td>
<td>Worobey, Lopez, and Hoffinan (2009)</td>
<td>Weight gain and risk for obesity in formula-fed infants under 12 months</td>
</tr>
<tr>
<td></td>
<td>Wu, Dixon, Dalton, Tudiver, and Liu (2011); Anderson, Gooze, Lemeshow, and Whitaker (2011); Neal Davis et al. (2011)</td>
<td>Obesity in school-age children and adolescents</td>
</tr>
<tr>
<td>Sleep</td>
<td>Ghera, Hane, Malesa, and Fox (2006)</td>
<td>Maternal perception of child soothability</td>
</tr>
<tr>
<td></td>
<td>Bernier, Bélanger, Tarabulsy, Simard, and Carrier (2014)</td>
<td>Sleep mediates sensitivity-attachment association</td>
</tr>
</tbody>
</table>
Table 3.
Child socio-emotional factors influenced by maternal sensitivity.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Author</th>
<th>Impact of maternal sensitivity on:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural problems</td>
<td>Leerkes, Nayena Blankson, and O’Brien (2009)</td>
<td>Social-emotional functioning</td>
</tr>
<tr>
<td></td>
<td>Bradley and Corwyn (2008)</td>
<td>Externalising problems in first grade</td>
</tr>
<tr>
<td></td>
<td>Kivijarvi et al. (2001)</td>
<td>Early infant behaviour</td>
</tr>
<tr>
<td></td>
<td>Edwards and Hans (2016)</td>
<td>Toddler behaviour problems</td>
</tr>
<tr>
<td></td>
<td>Campbell et al. (2010)</td>
<td>Aggression in girls in 6 grade</td>
</tr>
<tr>
<td></td>
<td>van der Mark, Bakermans-Kranenburg, and van Ijzendoorn (2002); Feldman and Klein (2003)</td>
<td>Compliance with mother’s tasks at 2 years</td>
</tr>
<tr>
<td></td>
<td>Alink, Cicchetti, Kim, and Rogosch (2009)</td>
<td>Moderator of negative discipline-aggression</td>
</tr>
<tr>
<td>Social competence</td>
<td>Howes and Hong (2008)</td>
<td>Pre-kindergarten relationships</td>
</tr>
<tr>
<td></td>
<td>Biringen et al. (2005); Blandon and Scringeur (2015); Conway and McDonough (2006); Early et al. (2002)</td>
<td>Emotional readiness for or resilience at preschool</td>
</tr>
<tr>
<td></td>
<td>Stams, Juffer, and van Ijzendoorn (2002); Jaffar-Bimmel, Juffer, van Ijzendoorn, Bakermans-Kranenburg, and Mooijaart (2006)</td>
<td>Socio-emotional competence in adopted children</td>
</tr>
<tr>
<td>Emotionality</td>
<td>Dan, Sagi-Schwartz, Bar-haim, and Eshel (2011); Bosquet Enlow et al. (2014)</td>
<td>Child’s perceived control over stress</td>
</tr>
<tr>
<td></td>
<td>Spinrad and Stifter (2002)</td>
<td>Emotional reactivity at 10 months</td>
</tr>
<tr>
<td></td>
<td>Din, Pillai Riddell, and Gordner (2009); Sweet, McGrath, and Symons (1999)</td>
<td>Pain reactivity at infancy or 18 months</td>
</tr>
<tr>
<td></td>
<td>Mount, Crockenberg, Jo, and Wagar (2010); Bouvette-Turcot, Bernier, and Leblanc (2017); Dallaire and Weinraub (2005)</td>
<td>Child anxiety at 2 years and 6 years</td>
</tr>
<tr>
<td>Temperament</td>
<td>Kivijärvi et al. (2005)</td>
<td>Infant characteristics at 12 months</td>
</tr>
<tr>
<td></td>
<td>Mueller and Tingley (1990)</td>
<td>Valuing of self and others</td>
</tr>
</tbody>
</table>
Table 4.

Factors not directly predicted by maternal sensitivity levels.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Author</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Externalising behaviours</td>
<td>Bradley and Corwyn (2005); Bradley and</td>
<td>Increased maternal sensitivity predicted greater externalising behaviours in 1 grade children, and nil result at 5 grade</td>
</tr>
<tr>
<td></td>
<td>Corwyn (2007)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Campbell et al. (2010)</td>
<td>Nil effect was also found for aggression in boys in 6 grade</td>
</tr>
<tr>
<td></td>
<td>Rodkin and Roisman (2010)</td>
<td>Nil effect for prediction of popular-aggressive elementary schoolchildren*</td>
</tr>
<tr>
<td>Crying behaviours</td>
<td>Spinrad and Stifter (2002)</td>
<td>Nil association with amount of excessive crying in early infancy</td>
</tr>
<tr>
<td></td>
<td>Meier, Wolke, Gutbrod, and Rust (2003)</td>
<td>Nil association with amount of crying in very preterm infants</td>
</tr>
<tr>
<td>Emotion regulation</td>
<td>Bozicevic et al. (2016)</td>
<td>No prediction of maternal sensitivity assessed at 3 months on child emotion regulation in a cross-cultural sample of 48 children at 2 years</td>
</tr>
<tr>
<td>School achievement</td>
<td>Jimerson, Egeland, Sroufe, and Carlson</td>
<td>Nil association with high school dropout rates</td>
</tr>
<tr>
<td></td>
<td>(2000)</td>
<td></td>
</tr>
<tr>
<td>Socio-emotional development</td>
<td>Feldman and Masalha (2010)</td>
<td>Maternal sensitivity predicted social competence in their children only for Israeli, but not Palestinian, parents</td>
</tr>
<tr>
<td></td>
<td>Page, Wilhelm, Gamble, and Card (2010)</td>
<td>Verbal stimulation was a stronger predictor than maternal sensitivity of an infant’s socio-emotional development in US Early Childhood Longitudinal Study Birth Cohort data</td>
</tr>
<tr>
<td>SNS arousal</td>
<td>Raby, Roisman, Simpson, Collins, and Steele</td>
<td>Nil effect on electrodermal reactivity during conflict discussions with partners when the child becomes an adult (34-37 years old)</td>
</tr>
<tr>
<td></td>
<td>Steele (2015)</td>
<td></td>
</tr>
</tbody>
</table>

* Contrary to Miner and Clarke-Stewart (2008), who found that greater externalising behaviours in 9 year olds (esp. boys) were related to lower sensitivity.
Mediator of child problems

Although maternal sensitivity has been linked to a direct effect on childhood development, the review produces equivocal research findings. These lead to research on whether maternal sensitivity has a less direct, more mediating effect on a number of more obvious variables. Tables 5 and 6 show research which has and has not had success in demonstrating maternal sensitivity’s mediating link to a number of child outcomes.
Table 5.

Research demonstrating a mediating role for maternal sensitivity.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Relationship which is mediated by maternal sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feldman and Eidelman (2005); Feldman, Eidelman, and Rotenberg (2004); Grunau, Whitfield, Petrie, and Fryer (1994); Cusson (2003); Kok et al. (2014); Quittner et al. (2013)</td>
<td>Cognitive outcomes including language, for preterm babies and triplets</td>
</tr>
<tr>
<td>Weaver and Schofield (2015); Hauser-Cram and Woodman (2016); Harrison (2013); Endriga, Speltz, Maris, and Jones (1998); Hentges et al. (2011)</td>
<td>Cognitive outcomes after childhood cochlear implants</td>
</tr>
<tr>
<td>Niccols, Milligan, Chisholm, and Atkinson (2011); Atkinson et al. (1999); Koren-Karie, Oppenheim, Dolev, and Yirmiya (2009)</td>
<td>Effect of being an anxious child on peer adjustment at age 4 years</td>
</tr>
<tr>
<td>Pressman, Pipp-Siegel, Yoshinaga-Itano, Kubicek, and Emde (1998); Meadow-Orlans and Spencer (1996)</td>
<td>Effect of parental stress on socio-emotional functioning</td>
</tr>
<tr>
<td>Kim and Kim (2009); Chisholm, Gonzalez, and Atkinson (2014)</td>
<td>Development of attachment in infants with cleft lip and palate</td>
</tr>
<tr>
<td>Chisholm, Gonzalez, and Atkinson (2014)</td>
<td>Overt aggression at age 5 (but not at age 2) in Downs Syndrome</td>
</tr>
<tr>
<td></td>
<td>Development of attachment in Downs Syndrome children</td>
</tr>
<tr>
<td></td>
<td>Language gain in deaf children</td>
</tr>
<tr>
<td></td>
<td>Coordinated joint attention with hearing mothers in deaf children</td>
</tr>
<tr>
<td></td>
<td>Mother’s experienced difficulties with her child and her contentment</td>
</tr>
<tr>
<td></td>
<td>The relationship between psycho-social risk and cognitive development</td>
</tr>
<tr>
<td></td>
<td>Infant nutritional status in low-income families</td>
</tr>
<tr>
<td></td>
<td>Effect of family dissolution on risk of child depression</td>
</tr>
<tr>
<td></td>
<td>Psychological status of mothers for disabled children</td>
</tr>
<tr>
<td></td>
<td>Participation in treatment for children with Type 1 Diabetes</td>
</tr>
</tbody>
</table>
Table 6.

Research demonstrating no mediating role of maternal sensitivity.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Relationship which is mediated by maternal sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harrison (2009)</td>
<td>Physiological regulation in infants with transposition of the great arteries</td>
</tr>
<tr>
<td>Zarling, Hirsch, and Landry (1988)</td>
<td>In African women, larger social networks led to higher levels of maternal sensitivity towards full-term children, but lower levels towards pre-term children</td>
</tr>
</tbody>
</table>
Interventions

Is it possible to improve mother-child relational outcomes by intervening in parental sensitivity? A meta-analysis of the experimental research studies on intervention programs aimed at enhancing parental sensitivity or parent-child attachment addressed this question (Bakermans-Kranenburg et al., 2003; van Ijzendoorn, Juffer, & Duyvesteyn, 1996). It found 70 published studies presenting 88 maternal sensitivity interventions which looked at the effect on either maternal sensitivity or attachment. Interventions were categorised into four theoretical approaches, based on Egeland et al.’s (2000) qualitative review of attachment-based interventions: maternal sensitivity, social support for the parent, maternal mental health, and maternal mental representations of the infant (reflective function). Most studies were RCT measuring maternal sensitivity outcomes, showing a moderate and significant effect size of intervention on maternal sensitivity. The authors found that interventions focussed solely on maternal sensitivity, those that used video feedback, and those that started after the infant was 6 months old, were most effective. Trials that measured attachment security outcomes showed a low but significant effect size of intervention on attachment security. Again, interventions focussed solely on maternal sensitivity, and which started after the infant was 6 months old, were most effective, but in these studies, video feedback interventions were not the most effective. Characteristics such as socio-economic status or age of the mother, prematurity of the infant, or multiple risk factors, were not associated with significant differences in effect sizes between the studies (Bakermans-Kranenburg et al., 2003). Mountain, Cahill, and Thorpe (2016) conducted a follow-up of this meta-analysis and searched 2002-2015 for any interventions for children younger than 36 months. There were four new RCT which showed that attachment-based interventions improve attachment security. However, only one study provided information on the outcome of parental sensitivity, with positive results.

Wan, Moulton, and Abel (2008) reviewed interventions aimed at the ability of interventions to improve maternal sensitivity in mothers with Axis I disorders. Nine studies were reviewed and the authors concluded that mother-child dyad interventions (including sensitivity-focussed behavioural techniques and toddler-parent psychodynamic psychotherapy) were most efficacious.

Kersten-Alvarez, Hosman, Riksen-Walraven, Van Doesum, and Hoefnagels (2011) conducted a similar meta-analysis which focussed only on preventive interventions with depressed mothers and their impact on maternal sensitivity. They found 13 interventions reported in 10 controlled outcome studies, with a medium significant effect but large variations in effect sizes on maternal sensitivity. Interventions including baby massage were highly effective; individual therapy for the mother was ineffective. These effects were only studied short-term.
Letourneau et al. (2015) conducted a meta-analysis of interventions aimed at promoting maternal sensitivity and reflective function, identifying ten trials, seven of which were suitable for meta-analysis. Some of these trials are discussed in Bakermans-Kranenburg et al. (2003). Results suggested that the interventions increased the odds of secure maternal-child attachment.

These meta-analyses come to differing conclusions. There is an overall sense that it is possible to intervene in maternal sensitivity, but there remains debate about the best way to do this. The largest number of studies in this field look at either parent-infant psychotherapy, or interventions run by both psychologists and/or allied health staff with education. A number of studies addressed the use of video feedback as a therapy tool. Video feedback refers to the use of videotaped interactions of the parent and child and has been used in studies since the late 1980s, but in the past two decades has become more prevalent in the literature examining maternal-child relationship outcomes. It was specifically developed to enhance behavioural maternal sensitivity (Kennedy, Landor, & Todd, 2010). Video feedback involves videorecording of the interaction and showing edited sections of positive and/or negative interactions to the mother, in order to engage her in insight, reflection, and teaching about the behaviours (O’Hara, Barlow, Livingstone, & Macdonald, 2016).

Barlow, Bennett, Midgley, Larkin, and Wei (2015) conducted a literature review of parent-infant psychotherapies, looking for RCT or quasi-RCT that compared a parent-infant program against a control condition. This study does not identify the target of the therapy, just that it is an attachment-based therapy, and it does not specifically look at maternal sensitivity, but rather the attachment of the child. The authors identified eight studies comprising 846 randomised participants. They found parent-infant psychotherapy shows no change over control groups in parent outcomes, but that it does have a demonstrable effect in increasing secure and decreasing insecure attachments. However parent-infant psychotherapy was no more effective than other methods of working with parents and infants.

Table 7 outlines parent-child interventions that have had some form of assessment of their impact on maternal sensitivity. Taking into account the above findings, the interventions are identified by whether they include video feedback and/or have mother-child dyad work. Among these are a burgeoning field of studies in the community health and nursing areas looking at short-term, educational or interactive interventions not run by psychotherapists.
Table 7.


<table>
<thead>
<tr>
<th>Authors</th>
<th>Type of intervention</th>
<th>Control condition</th>
<th>Participants</th>
<th>Effect on maternal sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ziegenhain, Derksen, and Dreisorner (2004)</td>
<td>Attachment-based</td>
<td>Video feedback</td>
<td>Adolescent mothers of infants</td>
<td>Attachment-based more effective</td>
</tr>
<tr>
<td>Salomonsson and Sandell (2011a, 2011b); Salomonsson, Sorjonen, and Salomonsson (2015)</td>
<td>Mother-infant psychoanalytic</td>
<td>Child health nurse care</td>
<td>Adult mothers of infants</td>
<td>Significant short term impact of therapy but not long-term (child 4-5 yrs)</td>
</tr>
<tr>
<td>Cicchetti, Rogosch, and Toth (2006)</td>
<td>Infant-parent psychotherapy</td>
<td>Parenting psychoeducation</td>
<td>Mal-treating parents of infants</td>
<td>Both just as effective</td>
</tr>
<tr>
<td>Velderman, Bakermans-Kranenburg, Juffer, and van IJzendoorn (2006)</td>
<td>Video feedback + discussion of mother’s attachment experiences</td>
<td>Video feedback only + No-intervention control group</td>
<td>Mothers classified as ‘insecurely attached’ via AAI</td>
<td>Both video conditions increased sensitivity more than control</td>
</tr>
<tr>
<td>van Zeijl et al. (2006); Stolk et al. (2008)</td>
<td>Video feedback aimed at positive discipline</td>
<td>No intervention control group</td>
<td>Mothers of 1-3 y.o. externalising children</td>
<td>Video feedback more effective than control</td>
</tr>
<tr>
<td>Kalinauskiene et al. (2009)</td>
<td>Video feedback training</td>
<td>No intervention control group</td>
<td>Low sensitive, non-clinical primaparae</td>
<td>No effect at 1-year follow-up</td>
</tr>
<tr>
<td>Cassidy et al. (2010)</td>
<td>Circle of Security</td>
<td>Existing community sample comparison</td>
<td>Jailed mothers antenatal to 6 months postnatal</td>
<td>No effect of COS</td>
</tr>
<tr>
<td>Kersten-Alvarez, Hosman, Riksen-Walraven, Van Doesum, and Hoefnagels (2010); Van Doesum, Riksen-Walraven, Hosman, and Hoefnagels (2008)</td>
<td>10-session video feedback*</td>
<td>Parenting support via telephone</td>
<td>Depressed mothers with infants under 12 months</td>
<td>Effect at 6-month follow-up but not at 5-year follow-up</td>
</tr>
<tr>
<td>Bohr, Halpert, Chan, Lishak, and Brightling (2010)</td>
<td>Right from the Start group parent training (attachment-based)</td>
<td>No control</td>
<td>Mothers or grandmother carers of high-risk children</td>
<td>No effect of RFTS</td>
</tr>
</tbody>
</table>
Table 7. cont.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Type of intervention</th>
<th>Control condition</th>
<th>Participants</th>
<th>Outcome on maternal sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas and Zimmer-Gembeck (2011) (Australian study)</td>
<td>Parent-child interaction therapy (PCIT)</td>
<td>Attention-only waitlist control</td>
<td>Mothers with history of maltreating their child</td>
<td>At 12-weeks no significant difference</td>
</tr>
<tr>
<td>Moss et al. (2011)</td>
<td>8-week education and video feedback</td>
<td>No-intervention control group</td>
<td>Caregivers reported for maltreatment (child 1-5 years)</td>
<td>Significant change in maternal sensitivity and child attachment</td>
</tr>
<tr>
<td>Ravn et al. (2011); Ravn et al. (2012)</td>
<td>Mother Infant Transaction Program 11-week education intervention no video</td>
<td>No-intervention control group</td>
<td>Mothers and 12-month old preterm infants</td>
<td>12-month follow-up no effect on parent report measures, but sig effect on maternal sensitivity</td>
</tr>
<tr>
<td>Newnham, Milgrom, and Skouteris (2009) (Australian study)</td>
<td>MITP modified for 7-week intervention</td>
<td>No-intervention control group</td>
<td>Mothers of preterm infants in hospital</td>
<td>At 3-months more mother-child synchrony but not at 6-month follow-up</td>
</tr>
<tr>
<td>Dollberg, Feldman, Tyano, and Keren (2013)</td>
<td>Parent-infant psychodynamic therapy incl video feedback, mean of six months tx</td>
<td>No control (not a trial, pre-post treatment scores only)</td>
<td>Infants and both parents referred to infant mental health clinic</td>
<td>Significant increase in maternal sensitivity from pre to post treatment</td>
</tr>
<tr>
<td>Cassibba, Castoro, Costantino, Sette, and Van Ijzendoorn (2015)</td>
<td>VIPP-R 5 sessions of video feedback</td>
<td>“Dummy” visits with no intervention</td>
<td>Mothers of first-born 6 month olds</td>
<td>Significant effect for insecurely attached mothers but not securely attached</td>
</tr>
<tr>
<td>Barlow et al. (2007); Pillhofer et al. (2015)</td>
<td>Home visit program by trained welfare staff incl video feedback</td>
<td>Standard care control group</td>
<td>Mothers at risk for child abuse and neglect</td>
<td>Improvements only for high-risk mothers</td>
</tr>
<tr>
<td>Yoon and Park (2008)</td>
<td>Breastfeeding promotion program for working Korean women</td>
<td>No-intervention control group</td>
<td>45 mothers from general community returning to work at X=83 days</td>
<td>4 weeks post intervention no significant difference</td>
</tr>
</tbody>
</table>
Table 7, cont.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Type of intervention</th>
<th>Control condition</th>
<th>Participants</th>
<th>Outcome on maternal sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stiles (2010)</td>
<td>Promoting First Relationships 9-fortnightly sessions incl video feedback</td>
<td>Single case study only</td>
<td>1 x teen mother</td>
<td>Increased maternal sensitivity</td>
</tr>
<tr>
<td>Firk et al. (2015); Longhi et al. (2016)</td>
<td>Home visit interventions</td>
<td>Protocols only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>King, Priddis, and Kane (2015)</td>
<td>Tuning In Parenting 9-week video feedback</td>
<td>No control group</td>
<td>14 low risk parents self-referred to TIP</td>
<td>Improved maternal sensitivity</td>
</tr>
<tr>
<td>Kenny, Conroy, Pariante, Seneviratne, and Pawlby (2013)</td>
<td>Between 2-9 video feedback sessions</td>
<td>Community-based comparison groups (healthy and ill) Only one timepoint</td>
<td>Mothers in Mother-Baby Unit Measured pre-post</td>
<td>Comparison at post-treatment shows tx mothers increased to ‘healthy’ levels</td>
</tr>
<tr>
<td>Olhaberry, León, Seguel, and Mena (2015)</td>
<td>5-session group intervention based on attachment and CBT (no video)</td>
<td>Control group got written educational material</td>
<td>Pregnant women followed through to first year of infant</td>
<td>Measures only at post-intervention, higher maternal sensitivity in intervention group</td>
</tr>
<tr>
<td>Barlow, Sembi, and Underdown (2016)</td>
<td>3 sessions of VIG video feedback</td>
<td>TAU group, care from community health staff</td>
<td>Mothers of preterm infants prior to NICU discharge</td>
<td>No significant difference between groups</td>
</tr>
</tbody>
</table>

* This intervention also used other methods “depending on the mothers’ needs” including cognitive restructuring and baby massage
Conclusion on maternal sensitivity

This literature review found an extensive body of research focussing on maternal sensitivity, for the most part, linking attachment, maternal sensitivity, and the trajectory of outcomes for the child. The work of Klucznik et al. (2016) demonstrates that even after recovery from depression, these effects are apparent. There are, in addition, a small range of published and validated maternal sensitivity measures which perform as theoretically expected. Sensitivity training appears able to produce an effect on attachment security, but the effect is not as direct as the correlation between sensitivity and attachment might suggest. This suggests that, although there may be other processes of transmission of attachment (see reflective functioning review below), that a treatment which focuses on developing sensitivity in the mother would impact on the mother-child relationship for the better.

Systematic literature review on reflective functioning

Foangy and Target (2005) suggest that the ability to understand the mind of others is learned via the experience of being understood. This was demonstrated by Slade, Grienenberger, Bernbach, Levy, and Locker (2005) who measured mothers’ attachment during pregnancy, their maternal reflective functioning in the neonatal period, and the baby’s attachment, and found a mediating role for reflective functioning in this intergenerational process.

It may be that reflective functioning is the psychological construct which is transmitted from mother to infant, with maternal sensitivity simply being the external demonstration of this psychological construct. This would account for the correlational, but not causal, link between the mother’s attachment style, her maternal sensitivity behaviours towards her child, and attachment behaviours in the child towards the mother. If this is the case, maternal sensitivity is a product of her reflective functioning, which is a product of her attachment to her own mother:

In order to determine the current body of knowledge in regard to mentalization, reflective functioning, and attachment, a search was made of the PsychINFO and Medline databases for the words “reflective function” or “reflective functioning” in the subject term (SU), MeSH Terms (MH), or abstract fields. The search was limited to periodicals only, but there was no lower time constraint (articles were searched up to December 2016). Articles were then categorised according to their main topic. Figure 5 shows the categories of articles summarised below.
Figure 5. Systematic literature review results for reflective functioning.

Theory

The greatest number of articles articulated, reviewed, and developed theory in relation to mentalization, reflective functioning, and their therapeutic applications in adults and children. Not all of the theory articles reviewed will be referred to here, but main themes will be observed. Of the 67 articles, eight were written by Fonagy and colleagues on the topic of reflective functioning.
(Bleiberg, Fonagy, & Target, 1997; Fonagy, 2003; Fonagy, Bateman, & Bateman, 2011; Fonagy, Gergely, & Target, 2007; Fonagy, Moran, & Target, 1993; Fonagy & Target, 1997; Fonagy, Target, & Gergely, 2000; Taubner, Nolte, Luyten, & Fonagy, 2010). All of the other articles referenced and agreed with the construct developed by Fonagy et al. Articles focussed on the relation of psychoanalytic theory to the modern concept of mentalization (Driver, 2005; Lecours & Bouchard, 1997; Smadja, 1990), the link between trauma and reduced mentalization or reflective functioning (Martinetti & Stefanini, 2003; Yarvin, 2000), or the link between attachment and mentalization (Giannoni & Corradi, 2006; Knox, 2004; Lecannelier, 2002; Mohaupt, Holgersen, Binder, & Nielsen, 2006; Nicolai, 2001). Holmes (2005) discusses the similarities - and differences – between the concept of mentalization and the theory of mind work done in autism research, as do Ensink and Mayes (2010). Falkenström et al. (2014) found an unclear relationship (or lack of relationship) between reflective functioning, mindfulness, and affect consciousness.

Neurobiology

The ability to empirically test neurobiological changes in relation to different attachment or mentalization states has led to a series of studies which provide a biological basis to the concept of behaviourally-developed attachment. Szabolcs (2005) provides a good review of the neurobiology of social cognition, including the function of the dorsomedial prefrontal cortex in mentalization. Assaf et al. (2009) show that mentalisation and motivation differ in their brain activity patterns. Fonagy and Bateman (2006) review the field and link the growing body of neurobiological research to the constructs they have developed on reflective functioning.

Ability to predict attachment

The seminal study by Slade et al. (2005) was a study of 40 mother-child dyads using the Parent Development Interview and scored for reflective functioning using their earlier developed scoring criteria (Slade, Bernbach, Grienenberger, Levy, & Locker, 2004). They found a significant relationship between adult attachment as measured by the Adult Attachment Interview during pregnancy, and maternal reflective functioning. They also found a significant relationship between maternal reflective functioning and the baby’s attachment as measured by the Strange Situation protocol. This suggests that maternal reflective functioning plays the role of ‘transmitter’ of attachment from mother to baby. Mothers who were securely attached had higher reflective functioning ability; and babies who were securely attached similarly had higher reflective functioning ability. The exception to this was that the avoidant children could not be distinguished from the secure children in level of maternal reflective functioning. Their follow-up study linked maternal reflective functioning to the
mother’s behaviour (Grienenberger, Kelly, & Slade, 2005). They found that maternal reflective functioning was strongly and negatively correlated with disruption in mother-infant affective communication (‘sensitivity’), and that affective communication was a good predictor of infant attachment. This ‘attachment’ category in the literature review contains empirical studies which attempted to further explore or validate the role of mentalization or reflective functioning in the transmission of attachment.

Other attempts have been made to find an ‘intermediary’ construct that explains the link between mother and child attachment. Turner, Wittkowski, and Hare (2008) used a correlational design with a non-clinical sample of mothers. Ability to recognize infant cues in photographs was not correlated with maternal mentalization or mother-child bonding. A study of mothers exposed to interpersonal violence and their children found that negative/distorted maternal mental representations predicted atypical behaviour. However, it was not significantly related to PTSD pathology or reflective functioning ability (Schechter et al., 2008; Schechter et al., 2005).

However, in this literature review, the only empirical support for the intergenerational transmission of attachment lies with the concept of reflective functioning. Fonagy and his colleagues (Bouchard et al., 2008) compared ex-psychiatric patients and non-clinical volunteers on three measures of mentalization – reflective functioning, mental states, and verbal elaboration of affect. They found that only reflective functioning predicted attachment status. Ammaniti, Tambelli, Zavattini, Vismara, and Volpi (1999) used an adolescent adaptation of the Adult Attachment Inventory to interview secondary school students and found that the reflective functioning scale is strongly correlated with attachment categories. Traverso (2007) suggests the same thing via use of two case studies. Two studies found that mothers’ self-focussed and/or child-focussed parental reflective function predicts the infant’s attachment (Muscetta, Bovet, Candelori, Mancone, & Speranza, 1999) and (Borelli, St. John, Cho, & Suchman, 2016). Steele, Perez, Segal, and Steele (2016) found that maternal attachment scores predicted their children’s reflective functioning seventeen years later. Guanno, Trentini, Speranza, and Vismara (2009) compared mothers of children at high risk for maltreatment, with a low-risk group age-matched for the children. They found that maternal reflective function was correlated with maternal attachment, but that it did not predict risk status. Two other studies found that parental reflective functioning was related to attachment and associated with mind-mindedness – assessed as the parents’ ability to comment accurately on their infants’ internal states (Arnott & Meins, 2007) and (Böhmann et al., 2014).

Camisasea (2007) in a study of 40 mothers, also found this, but noted that reflective functioning appears a necessary but not always sufficient condition for maternal sensitivity. Supporting this others have found that mothers’ reflective functioning about their own attachment relationships was able to

Mental health disorders, personality disorders, and mental health problems

This section included empirical studies showing an initial body of evidence for a deficit in mentalization and reflective functioning in pathology. Table 8 shows a review of those studies in mental health disorders, and Table 9 on associated mental health conditions. Table 10 shows studies relating to personality disorders. The vast majority of works in this category were either detailed reviews or theory pieces by Fonagy and his colleagues, most of them on Borderline Personality Disorder (Bateman, Ryle, Fonagy, & Kerr, 2007; Bateman & Fonagy, 2009; Eizirik & Fonagy, 2009; Fonagy & Bateman, 2007; Fonagy, Bateman, et al., 2011; Fonagy & Luyten, 2009; Fonagy, Luyten, & Strathearn, 2011; Fonagy et al., 2000; Fonagy, Target, Gergely, Allen, & Bateman, 2004; Gergely, Fonagy, & Target, 2002). A therapy has also been developed to treat BPD with comorbid Antisocial Personality Disorder (ASPD) (Bateman & Fonagy, 2010; Bateman & Fonagy, 2008). Whilst reflective functioning is a target for both cognitive and psychodynamic therapies (Goodman, Midgley, & Schneider, 2016), many therapies were based in psychodynamic theory.
Table 8.

Research on reflective functioning in mental health disorders.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Authors</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major depressive episode</td>
<td>Fischer-Kern et al. (2008)</td>
<td>Lower reflective functioning in MDE than BPD or healthy individuals</td>
</tr>
<tr>
<td></td>
<td>Trapolini, Ungerer, and McMahon (2008)</td>
<td>“Perspective taking” of non-depressed mothers was significantly better than both ‘recovered’ and ‘chronically’ depressed patients</td>
</tr>
<tr>
<td></td>
<td>Staun, Kessler, Buchheim, Kächele, and Taubner (2010)</td>
<td>No difference in reflective functioning between chronically depressed patients and controls (but lower for depression themes)</td>
</tr>
<tr>
<td>Psychosis</td>
<td>Zsolt et al. (2003)</td>
<td>Reflective functioning of those with chronic schizophrenia impaired compared to normals, but only correlated with negative symptoms</td>
</tr>
<tr>
<td></td>
<td>MacBeth, Gumley, Schwannauer, and Fisher (2011)</td>
<td>Range of attachment classifications across first-episode psychosis patients; mentalization unrelated to psychotic symptoms</td>
</tr>
<tr>
<td></td>
<td>Bologna and Mosconi (2010); Brent (2009)</td>
<td>Case studies of mentalization-based therapy for psychotic disorder</td>
</tr>
<tr>
<td>Eating disorders</td>
<td>Rothschild-Yakar, Levy-Shiff, Fridman-Balaban, Gur, and Stein (2010)</td>
<td>AN (binge/purge) sufferers had lower mentalization than control; high mentalization reduced symptoms even in poor parental relationship</td>
</tr>
<tr>
<td></td>
<td>Claydon, Zerwas, Callinan, and Smith (2016)</td>
<td>Increased reflective functioning resulted in increased ED symptoms</td>
</tr>
<tr>
<td></td>
<td>Pedersen, Poulsen, and Lunn (2015)</td>
<td>Case studies of mentalization-based therapy for psychotic disorder</td>
</tr>
<tr>
<td></td>
<td>Kocoukova and Koutek (2011); Skarderud (2007a); Skarderud (2007b); Valladares, Garcia, Gonzalez, and Fernandez (2009); D’Onofrio, Pace, and Cavanna (2015)</td>
<td>BN sufferers had close to normal reflective functioning average scores</td>
</tr>
<tr>
<td></td>
<td>Treatment for AN focused on mentalization</td>
<td></td>
</tr>
<tr>
<td>Panic disorder</td>
<td>Rudden, Milrod, Target, Ackerman, and Graf (2006)</td>
<td>Results of pilot study not yet reported on.</td>
</tr>
</tbody>
</table>
Research on reflective functioning in mental health problems.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Authors</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic pain</td>
<td>Leithner-Dziubas, Bloml, Naderer, and Fischer-Kern (2010); Shapiro (2006)</td>
<td>Patients with chronic pain have lower levels of reflective functioning than healthy individuals.</td>
</tr>
<tr>
<td>Chronic fatigue syndrome</td>
<td>Oldershaw et al. (2011)</td>
<td>Patients with CFS are worse at recognising emotion states in others and inferring those emotions.</td>
</tr>
<tr>
<td>Drug use</td>
<td>Ostler, Bahar, and Jessee (2010)</td>
<td>Children exposed to parental methamphetamine use had lower metalization abilities.</td>
</tr>
<tr>
<td>(Brambilla et al., 2004)</td>
<td></td>
<td>Overview of neurobiological linkages of ASD with areas that operate face recognition, mentalization, and executive functions.</td>
</tr>
<tr>
<td>Taylor, Target, and Charman (2008)</td>
<td></td>
<td>Adults with high-functioning ASD had relationship between ASD and reflective functioning (but not with attachment security or theory of mind).</td>
</tr>
<tr>
<td>Barone, Biglia, and Zanardi (2008)</td>
<td></td>
<td>Autistic children (n=18) were impaired in their ability to explain interpersonal behaviour through mental states, as compared with controls.</td>
</tr>
</tbody>
</table>
Table 10.

Research on reflective functioning in personality disorders.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bohus and Kroeger (2011); Choi-Kain and Gunderson (2008); Jørgensen (2010); Yeomans and Delaney (2008); Zanarini (2009)</td>
<td>Mentalization failures in BPD and mentalisation-based treatment</td>
</tr>
<tr>
<td>Ha, Sharp, Ensink, Fonagy, and Cirino (2013)</td>
<td>Patients with BPD had poorer reflective functioning than normal controls</td>
</tr>
<tr>
<td>Bateman and Fonagy (2008)</td>
<td>RCT with 5-year follow-up for mentalization-based BPD treatment; patients maintained improvement on a range of measures compared to waitlist controls</td>
</tr>
<tr>
<td>Bateman and Fonagy (2009)</td>
<td>18-month mentalization-based treatment compared to structured clinical management approach for BPD; both groups improved on symptom measures; patients in mentalization group had more rapid decline in symptoms</td>
</tr>
<tr>
<td>Fischer-Kern et al. (2010)</td>
<td>No association between reflective functioning and severity of Axis I/II pathology</td>
</tr>
<tr>
<td>Lecours and Bouchard (1997)</td>
<td>Severity of BPD symptoms is related to lower verbal elaboration of sadness</td>
</tr>
<tr>
<td>Petersen et al. (2010)</td>
<td>Mentalization-based therapy for BPD shows clinically sig. improvements on a range of symptom-based measures at 2-year follow-up (no control group).</td>
</tr>
<tr>
<td>Diamond, Stovall-McClough, Clarkin, and Levy (2003); Levy, Clarkin, and Kernberg (2004); Levy et al. (2006)</td>
<td>RCT of transference-focused psychotherapy (TFP) vs dialectic-behaviour therapy (DBT) vs support for BPD; treatment groups improved on symptoms; only TFP group showed a change in attachment style after 12 months treatment.</td>
</tr>
<tr>
<td>Fischer-Kern et al. (2015)</td>
<td>Same result as above in a separate trial.</td>
</tr>
<tr>
<td>Goodman (2013)</td>
<td>Reflective functioning in BPD patients increased with both TFP and DBT.</td>
</tr>
<tr>
<td>Astori, Falsetti, Sala, Barale, and Caverzasi (2003); Diamond et al. (1999); Gullestad and Wilberg (2011); Simonsen, Norgaard, Larsen, and Bjornholm (2011); Ceppi and Cimafoante (2008)</td>
<td>Single case studies showing reflective functioning increase in BPD treatment.</td>
</tr>
<tr>
<td>Möller, Falkenström, Holmqvist Larsson, and Holmqvist (2014)</td>
<td>Young offenders have poorer mentalization capacity.</td>
</tr>
</tbody>
</table>
Impact on child

Only recently has research focussed on the ability of maternal reflective functioning to influence or moderate child outcomes. Yet parental reflective functioning is directly related to the quality of the parent-child relationship (Rostad & Whitaker, 2016). Ensink, Bégin, Normandin, Biberdzic, et al. (2016) in a cohort of 154 mother-infant dyads, found that in the context of child sexual abuse, maternal reflective functioning moderated the relationship between child sexual abuse and child internalising problems (Ensink, Bégin, Normandin, & Fonagy, 2016). Esbjørn et al. (2013) found that low maternal reflective functioning could predict severity of childhood anxiety but only in combination with paternal attachment variables. Heron-Delaney et al. (2016) show changes in preterm infants at 6 months of age depending on their mothers’ reflective functioning. Unlike maternal sensitivity, reflective functioning does not appear to be associated with children’s weight (Keitel-Korndörfer et al., 2016). Müller-Göttken, White, von Klitzing, and Klein (2014) found maternal reflective functioning moderates therapy success for externalising disorder in children, but not internalising disorders. Reflective functioning also mediates the relationship between early maltreatment and later violence in adolescence (Taubner, Zimmermann, Ramberg, & Schröder, 2016).

One study used a parent-child psychotherapy using a developmental individual-difference framework which emphasises the development of reflective functioning, to work with parents of children with a neurodevelopmental disorder (Sealy & Glovinsky, 2016).

Measures

The primary method of assessment of reflective functioning is via administering the Adult Attachment Interview (AAI) and coding it specifically for reflective functioning features. This process shows emerging evidence as a separate psychological measure (Katzenelson, 2014). It also has limitations in terms of the significant amount of training required to administer it, the length of time it takes, and its focus on aspects other than the mother-child relationship. When coding for reflective functioning is completed, it is then referred to as the Reflective Functioning Scale (Taubner et al., 2013). The AAI and the Reflective Functioning Scale show considerable overlap but are not fully redundant (Jessee, Mangelsdorf, Wong, Schoppe-Sullivan, & Brown, 2016). There is also a multidimensional way of rating reflective functioning, the Reflective Function Rating Scale, a 50-item measure scored by observers but which can be applied to a range of data sources, not just the AAI or other interviews (Hill, Levy, Meehan, & Reynoso, 2007; Meehan, Levy, Reynoso, Hill, & Clarkin, 2009). Recently the Brief Reflective Function Interview (BRFI) has been developed to approximately halve the administration time (Rutimann & Meehan, 2012). Ensink et al describe a way of coding the AAI which allows for a reflective
functioning measure (Trauma Reflective Functioning Scale), and a way of coding the Child Attachment Interview (CAI) which allows for a reflective functioning measure in children (Child Reflective Functioning Scale) (Ensink, Berthelot, Bernazzani, Normandin, & Fonagy, 2014; Ensink et al., 2015). Fertuck, Mergenthaler, Target, Levy, and Clarkin (2012) report on a computerised coding of the AAI. Kriss, Steele, and Steele (2012) describe, but do not evaluate, a scale to measure reflective functioning in adolescent children not yet mature enough for the AAI (Friends and Family Interview, FFI).


The reference given for the 45-item Parent Development Interview and the 40-item Parent Development Interview-Revised used by Slade and colleagues in a number of studies are unpublished manuals from Barnard College, NY, and City University, NY, respectively (Aber, Slade, Berger, Bresgi, & Kaplan, 1985; Slade et al., 1994; Slade et al., 2004). A 13-item abbreviated version used in some studies was developed by Pianta, O’Connor, and Marvin (1993) and this is also an unpublished manual from the University of Virginia. Stacks, Wong, and Dykehouse (2013) report on the initial construction of the PDI-R for Teachers. No validation of the PDI-R has been published, although the authors claim that a number of empirical studies using the PDI-R provide validation for it.

Fizke, Buchheim, and Juen (2013) describe key principles for the assessment of mentalizing capacities in childhood via case studies. Sharp and Fonagy (2008) provide a thorough review of the constructs of mentalization, mind-mindedness, and reflective function, and propose that they relate to the same underlying neurobiological system, and therefore should be able to be measured by a similar instrument.

Mental health interventions

Given the emerging literature suggesting that reflective functioning influences sensitivity and attachment – and has an impact on mental health – researchers have attempted to design interventions addressing mentalization and reflective functioning. This section looks at empirical studies which have been published in the field.

Fonagy and colleagues have described such a treatment, based on their reflective functioning work. They describe the development of mentalization-based therapy for adolescents (Sharp et al., 2009). Asen (2010) describes
mentalization-based family therapy and its development. Dimitrijeva and Beogradu (2011) and Bolm (2010) describe the basic principles of mentalization-based treatment for BPD.

In the reflective functioning field, most work has gone into the development of programs working with mothers and children. Pajulo, Suchman, Kalland, and Mayes (2006) describe an intervention for substance abusing pregnant and parenting work which focuses on maternal reflective functioning and the mother-child relationship. Reynolds (2003) describes a psychotherapeutic group called *Mindful Parenting* which focuses solely on promoting reflective functioning in parents and their infants. Slade (2006) describes her work on the *Minding the Baby* program which focuses solely on the development of maternal reflective functioning, describing two very different target groups for this work. Suchman, Decoste, Rosenberger, and McMahon (2012) demonstrate that the mechanism of change in an attachment-based therapy for substance-using mothers is maternal reflective functioning. Soderstrom and Skorderud (2009) describe their adaptation of the Slade work. Marvin, Cooper, Hoffman, and Powell (2002) describe the *Circle of Security* (COS) intervention which focuses on increasing both maternal sensitivity and maternal reflective functioning. As yet, there has been no large empirical study of the effectiveness of these programs, although Sadler et al. (2016) report promising preliminary data findings on improved physical and mental health outcomes. Huber, McMahon, and Sweller (2015) assessed archived pre- and post-intervention data for 83 dyads who received COS treatment and found increased reflective functioning. Those whose scores were least optimal prior to intervention showing greatest change.

An interesting study gave first-time mothers the task of sculpting a model of themselves with their child. The mothers, in interview afterwards, demonstrated increased insight in regards to their mental state as mothers. The author claims this demonstrates parental reflective functioning (Or, 2010).

Standard psychodynamic psychotherapies have also been investigated for their relationship to improvements in reflective functioning. Three authors describe case studies of infant-parent psychotherapy with a focus on, amongst other things, developing reflective function (Birch, Mennet, & Zorrah, 2005; Mayers, 2005; Schechter & Willheim, 2009). Barratt and Kerman (2001) describe a standard psychodynamic therapy group for children which they believe emphasises reflection function development. However Bressi et al. (2016) were not able to demonstrate an effect on reflective functioning in their short-term psychodynamic psychotherapy (STPP) for depressed adults.
Public health interventions

In their *Peaceful Schools* experiment, Twemlow, Fonagy, and Sacco (2005) report the development of a RCT for a mentalization-based program aimed at reducing primary school bullying rates. No follow-up data on this was discovered, but the authors also report the implementation of this program in a violent Jamaican school, with improved academic performance and decreased victimisation at completion of the 3 year program (Twemlow, Fonagy, Sacco, Vernberg, & Malcolm, 2011).

McIntosh, Wells, Smyth, and Long (2008) compared two different (non-randomised) programs mandated for parents with custody disputes. Both programs targeted enhanced parental reflective functioning amongst other conflict-reduction issues. One program included children in the treatment and showed improved family relationships at completion and 1 year follow-up.

Levinson and Fonagy (2004) found that the capacity of forensic patients to reflect on the mental states of others is critically impaired, even when psychiatric disorders are controlled for. Taubner, Wiswede, Nolte, and Roth (2010) compared a late adolescent violent offenders to a control group of adolescents. Violent offenders scored significantly lower on reflective functioning than age and gender matched controls, independent of IQ scores.

Tomlin, Sturm, and Koch (2009) looked at early care and early intervention providers’ self-report of the importance of teaching parental reflective function, and their actual behaviour with parents. Providers were asked to rate importance of different parental skills and, via the use of vignettes, to identify their most likely responses to common situations. There was no correlation with the importance providers gave to the development of parental reflective functioning, and their actual encouragement/teaching of this skill. Similarly, Schofield and Beek (2005) conducted a qualitative review of the needs of foster carers and suggest a model for supporting foster carers that increases their parental reflective functioning abilities.

Training therapists

An interesting body of articles applies the theory of reflective functioning to the process of psychotherapy or the training of therapists. Walker (2008) reviews the theory and provides suggestions for training social workers in reflective functioning skills. Sordano and Consolini (2007) discuss the possible importance of reflective functioning skills for group team leaders.

Holmes (1999) applies the concept of intergenerational transmission of attachment to the therapeutic sense and proposes that reflective functioning is
a key requirement for therapists. Martius (2010) and Brunori, Magnani, and Raggi (2007) present a case study on this topic. Trowell, Davids, Miles, and Paton (2008) conducted a qualitative study of postgraduate mental health trainees. Trainees rated the importance of being able to reflect on their emotional responses to difficult work as critical to their training. They found the mean reflective functioning score of trainees improved from low to average across the training course. Rizq and Target (2010) conducted a qualitative study in relation to mandatory therapy for trainee psychologists. Individuals with high levels of reflective functioning used their mandatory therapy to manage feelings evoked in difficult client work, whereas those with low reflective functioning were more likely to use their therapy for behavioural modelling. This did not affect the benefits gained from therapy. Karlsson and Kermott (2006) looked at developing reflective functioning in patients across two different therapies, CBT and IPT. Patient reflective functioning remained stable or decreased during both treatments. However, therapists who showed high reflective functioning had good outcomes, and those showing low reflective functioning had poor outcomes.

Conclusion on reflective functioning

Reflective functioning is an important concept to consider in the treatment of PND. The body of literature, whilst still emerging and at the moment mostly theory-driven, shows some encouraging results suggesting its role in the intergenerational transmission of attachment and as a mediator of maternal sensitivity. At the moment there do not appear to be measures which look specifically at maternal reflective functioning; however, there are suggestions from the Reflective Functioning Scale and the work of Slade et al, that it may be possible to measure. At the moment many studies rely on maternal sensitivity, child attachment, and the mothers’ reflective functioning in relation to her attachment style, to measure the outcome of training directed at maternal reflective functioning.

General Conclusions

Maternal mood disorder treatments

This chapter provided literature review of the existing knowledge base on the treatment of both maternal mood disorder and the mother-child relationship. In terms of maternal mood disorder, there are multiple gold-standard treatment options with different approaches. The gold-standard treatment that is relational in nature is Interpersonal Therapy (IPT), and therefore an exploration was made of its underlying theoretical base and principles for intervention.
Attachment, maternal sensitivity and reflective functioning

In terms of the mother-child relationship, much of the theoretical literature is coherently focussed around the concept of attachment, whilst the knowledge base still has gaps in our knowledge of exactly how attachment transfers between mother and child – and how to intervene if it is going wrong.

Due to this existing knowledge gap, the chapter provided a systematic literature review on two conceptual ways in which attachment is transmitted intergenerationally: maternal sensitivity and reflective function. It may be theorised that the internal attachment representations that a mother holds affect her cognitive/emotional skill of reflective functioning, which in turn affects her behavioural skills in maternal sensitivity, thereby perpetuating poor intergenerational attachment.

The body of evidence for the treatment of child outcomes post-PND is less established than that of depression treatments. There is evidence from meta-studies, randomised trials, and prospective data which demonstrates that there is a link between child attachment style and maternal sensitivity behaviours. The literature on reflective functioning is new and under-developed at the moment, with some interesting studies suggesting reflective functioning as the link between the child’s internal psychological experience of attachment, and the mother’s external behaviour. There is further information required on this.

In exploring treatments for children who live with depressed mothers, there are few RCT, and those that have been completed show equivocal evidence. In line with the above theoretical discussion, there is little information on reflective functioning, meaning the development of a therapy from it is difficult. The literature on maternal sensitivity has been used more to develop therapies which have some form of impact on the mother-child relationship, although the extent of this impact is still debatable. The newer interventions being developed have timeframes which are realistic for patients (and funding bodies) and delivery approaches which are suitable for the community settings in which women with PND are often identified. Many of the successful studies used non-therapists such as allied health staff (sometimes under the supervision or training of a psychotherapist). There remains debate in regards to whether interventions need to include education or therapy, and whether those interventions require video feedback components. There is increasing evidence that interventions which focus mothers on the in-session relationship with her child are successful in addressing maternal sensitivity.

Despite the evidence showing that maternal psychological health, especially mental health disorders, are directly associated with maternal sensitivity, there were no studies found which demonstrated an ability to jointly address maternal mood and mother-child relationship in anything under 12 months of
treatment. It might be concluded that an intervention addressing maternal sensitivity may have to address maternal mental health in order to be effective. The findings here provide support for the use of a PND therapy with a relational approach that uses mother-child examples to address maternal sensitivity and hence, attachment issues.
Chapter 3: A protocol for concurrent mood/relationship treatment

The previous chapter concluded that, if one were looking for a mood disorder treatment and attachment-based relationship treatment that could operate together, there is a clear path suggested. That path may be the use of a gold-standard treatment for PND in combination with one focussed on maternal sensitivity.

This chapter develops that theoretical base into a proposed protocol for a concurrent mood and mother-child relationship treatment. It reviews a number of attachment treatments aimed at maternal sensitivity behaviours, looking at their effectiveness, their ability to be implemented in a general community setting, and their intervention techniques. It then discusses IPT, first as a treatment for maternal mood disorder, and then the relationship-focussed aspects of the therapy. It then discusses a number of proposed modifications and additions to a group IPT protocol to allow for a focus on the mother-child relationship in particular.

Requirements for an ‘attachment-focussed’ treatment

It acknowledges the mother’s attachment. Research suggests that an anxious attachment style may be more amenable to treatment than avoidant (Fraley & Shaver, 2000; Wilkinson & Mulcahy, 2010). McBride, Atkinson, Quilty, and Bagby (2006) found that depressed adults with an anxious attachment style showed greater improvement in symptoms across treatment styles. Those with avoidant attachment styles benefitted more from cognitive interventions than interpersonal. They suggested that avoidant personalities found the interpersonal approach too uncomfortable to engage in. However, Meredith and Noller (2003) and Wilkinson and Mulcahy (2010) found that women with PND are more likely to report an anxious attachment style than non-depressed mothers. Maternal attachment style is not related to perceived infant characteristics, or to the self-reported mother-child relationship, meaning that it is likely due to factors that preceded the birth of the child. This has led to the suggestion that PND and child-outcome based treatments pay attention to the mother’s attachment style (Whiffen & Johnson, 1998).

However, it focusses primarily on the child’s attachment style. One difficulty in measuring the success of treating attachment is measuring the outcome for the child. This is especially the case for very young children, who cannot answer self-report inventories or respond to requests for information. One way of measuring this is via cognitive development, in line with the theory that attachment problems do not allow the proper cognitive or emotional development of the child (Milne, Greenway, Guedeney, & Larroque, 2009).
A second way is by targeting the infant’s mental health through concepts such as infant withdrawal (Dollberg, Feldman, Keren, & Guedene, 2006). Infant withdrawal is observed by muted expressions and social withdrawal on the part of the infant in response to basic engagement cues from adults (Milne et al., 2009). Experts suggest that infant social withdrawal is associated with attachment problems, however, there are as yet no studies demonstrating this effect.

A third, and the most common way, is to measuring the developing intergenerational attachment cycle in the mother-infant dyad (Poobalan et al., 2007). The hypothesis is that the child’s future attachment is dependent on the mother’s maternal sensitivity, reflective functioning, or some other maternal factor. As discussed in the previous literature review, there is scant current evidence for reflective functioning as a measurable, predictive concept. Thus most current attachment-focussed interventions attempt to alter maternal sensitivity, whilst taking notice of the child’s response.

A description of a number of maternal sensitivity interventions

In their systematic literature review, Poobalan et al. (2007) found eight clinical trials of PND treatment that contained either moderate or strong methodologies (Cicchetti et al., 2000; Clark, Thuczek, & Wenzel, 2003; Glover & O’Connor, 2002; Hart, Field, & Nearing, 1998; Horowitz & Cousins, 2006; Meager & Milgrom, 1996; Murray et al., 2003; O’Hara et al., 2000). These studies variously investigated toddler-parent psychotherapy, counselling, CBT, psychodynamic therapy, mother-infant therapy, IPT, support programs, psychoeducation, interaction coaching, and infant massage. There were various ways of assessing the mother-infant relationship and this was not always a reliable attachment measure. All treatments for postnatally depressed mothers had some ability to improve the quality of the mother-infant interaction and the level of child behavioural problems. There was only one study which showed a significant impact on cognitive development in the children, and this study lacked a long-term follow-up. One study with a long-term follow-up failed to show sustainability of benefits for a short-term intervention. There does not appear to be a gold-standard maternal sensitivity intervention.

Mother-infant therapy (MIT). Mother-infant therapy is psychotherapy which treats the mother and the infant as a single dyadic relationship (Galbally et al., 2006). It has also been referred to as ‘mother-baby’, ‘parent-infant’, and ‘infant centred’ therapy. MIT is not one specific treatment protocol, but rather a philosophy or set of guiding theoretical underpinnings of treatment, based on attachment theory (Bowlby, 1988). Galbally states that the infant is not only physically present in the therapy but is also present in the mind of the mother and the therapist. Thus MIT not only aims to improve the parent’s mental
health, but also that of the child. In a survey of perinatal mental health workers in Melbourne, Galbally et al. (2006) found that most subscribed to a psychodynamic theory of therapy, but that some subscribed to a cognitive-behavioural or other therapeutic theory, and that most practitioners felt MIT was an intervention to be used in conjunction with other therapeutic interventions. The depression organization beyondblue rated psychodynamic therapy (not specifically MIT) as a therapy in which the ‘body of evidence provides some support for recommendation but care should be taken in its application’ (beyondblue, 2011).

Cohen et al. (1999) compared an infant-directed MIT called Watch, Wait and Wonder (WWW) with a traditional psychodynamic therapy. This was for mothers referred for various reasons, but with low to moderate BDI-II scores, and babies aged 10-130 months. The intervention was half mother-infant play with instructions to follow the baby’s lead, and half a psychoeducation session regarding attachment. Mean BDI-II scores were significantly different at end of treatment, with the WWW group performing better. The WWW group, running weekly over a mean of 13.8 sessions, was also able to shift the infants’ attachment style as categorized by the SSP. As discussed, infant attachment styles are expected to vary before the age of three years, but the WWW had a significantly higher number of infants shift their attachment style from insecure to secure. The attachment-directed intervention improved the scores of the children on the Bayley Scales of Infant and Toddler Development. However, by the six month follow-up, those infants in the traditional psychodynamic psychotherapy group had caught up in terms of number of children who shifted to a secure attachment style, and in results on the Bayley Scales (Cohen, Lojkasek, Muir, Muir, & Parker, 2002). There was no waitlist control group so it is not possible to determine whether this is a treatment effect for both a MIT and psychodynamic therapy, or whether it reflects a normal developmental shift in infant attachment.

Toth, Rogosch, Manly, and Cicchetti (2006) describe a MIT called toddler-parent psychotherapy (TPP). Mothers with a history of PND at some stage after their toddler’s birth were randomized into a control group and a TPP group. This was based on the psychodynamic theory of Fraiberg, Adelson, and Shapiro (1975), who detailed the pernicious influences that an unresolved parental past can exert on the evolving mother–child relationship. The dyadic relationship is observed in session and through parallel process and ‘emphatic comments’ to teach the mother about the impact of her experience of childhood on her parenting. This allows the mother to alter her parenting style. Attachment was assessed using the SSP. This study is of note because it showed a significant change in the number of toddlers who changed their attachment style towards a secure style. This significant change was not seen in either the depressed control or the nondepressed control groups. This demonstrates an important point, that it is possible to change attachment style in mothers via a psychotherapy intervention. This was done, however, with a significant
intensity of intervention: the intervention length varied, ranging from 42 to 79 weeks with a median of 58 weeks. This means that much of the group had over a year of weekly therapy sessions. Again, the therapeutic intervention did not affect maternal depression as measured by BDI-II scores. These results are consistent with research finding on adults with ‘earned’ secure attachment. Earned secure attachment is when an adult previously had an insecure attachment and via therapeutic intervention is able to recover and now presents with a secure attachment organisation. These adults do not appear to be protected from the experience of inward distress and symptomatology, even though they display appropriate parental sensitivity behaviours and their children are in-distinguishable from those of continuous secure adults (Cowan, Cohn, Cowan, & Pearson, 1996).

Hoffman, Marvin, Cooper, and Powell (2006) developed a MIT called Circle of Security. Working with children 11-58 months (mean 32 months) over 20 weekly sessions, the intervention used video-feedback to educate a group of mothers about attachment style and children’s need for a secure base and safe exploration. Participants were the subject of 3 of the weekly sessions of feedback via videotape of their attachment assessment protocol. Attachment was assessed using the SSP if the infant was under 24 months, and the MacArthur Preschool SSP for over 24 months. Hoffman et al found a significant shift from insecure to secure attachment style. This shift was only seen from pre-treatment to immediately post-treatment and the group was not followed up after any lapse of time. In addition, the study did not include any other group such as a waitlist or other treatment control.

Video feedback education. Kalinauskiene et al. (2009) conducted a randomized trial of a videotape feedback intervention with nondepressed but ‘insensitive’ (on the Ainsworth sensitivity scale) mothers of children at 6 months. This intervention consisted of five sessions across five months in the mothers’ homes. Kalinauskiene and colleagues found that the intervention improved mothers’ maternal sensitivity but did not improve infant attachment at post-treatment.

Psychodynamic therapy. Clark, Tluczek, and Brown (2008a) described a complex treatment including aspects of psychodynamic therapy (PDT), self-psychology, attachment and family systems theories as well as IPT, CBT, and group therapeutic approaches. A pilot study was developed with 32 women diagnosed by a psychiatrist with a depressive disorder via means of a clinical interview. At baseline, there was no difference between the sequentially randomized treatment and waitlist groups on measures, and following 12 weeks of 2 hour sessions, there was a significant difference in BDI-II, parenting stress, and mother-child interactions (PCERA scores). This intensive treatment included a 90-minute group therapy for mothers incorporating various depression treatment approaches, a 90-minute developmental therapy group for infants (one therapist per infant) involving play, and a 30-minute mother-infant dyadic
group therapy involving play, which included the fathers in two sessions. Setting aside the difficulties in operationalising such an intensive therapy on a large scale, this design also makes it difficult to determine which interventions in the program had the effect on mood and attachment scores. The study does, however, show that combining both depression and mother-child treatments can have a joint effect on depressive symptoms and child outcomes.

This pilot was replicated by Puckering et al. (2010), who conducted 14 weeks of 5 hour-long sessions that combined psychodynamic and cognitive-behavioural strategies with mother-infant playtime and parenting education. There were three additional father sessions. Participants were selected based on EPDS scores only and at completion the intervention group’s EPDS scores were significantly decreased compared to baseline, with no decrease in the control group’s scores. The sample size was small (17 mothers in total).

All the interventions described above remain faithful to a theoretical basis in attachment theory, yet attempt to intervene at different points in the developing mother-child relationship. Clark et al. (2008a) and Puckering (2010) combine multiple approaches, including a move towards reflective functioning by bringing the baby into the room with the mother for part of the therapy. This contrasts with the work of Slade (2005) which focuses solely on reflective functioning. Toth et al. (2006) use mostly a psychoeducational intervention. Cohen et al. (1999) combine psychoeducation with a maternal sensitivity (behavioural) approach. Hoffman et al. (2006) and Kalinauskiene et al. (2009) address psychoeducation and maternal sensitivity with the use of videotape feedback. It could be argued that this moves towards a reflective functioning approach, developing the mother’s theory of mind about her baby’s needs. It may also be that the use of video material simply adds concrete examples to the behavioural (maternal sensitivity) education. It appears that educational, behavioural, and feedback approaches are all consistent with attachment-based work if they focus the mother on developing maternally sensitive behaviour.

Modifying IPT to form IPT-MC

As discussed briefly in Chapter 2, Interpersonal Therapy (IPT) is a focused, short-term therapy emphasizing the interpersonal context of depression (Klerman & Weissman, 1993). It addresses one or more of three general areas related to interpersonal functioning: interpersonal disputes; role transitions; and/or grief. IPT is based on the work of Sullivan (1953) and the school of interpersonal therapists who emphasized the scientific study of people and the processes that go on among them as key to understanding human behaviour. This school identified the need to explore a patient’s patterns of interacting with others in order to treat mental illness. There is, however, no specific model of human functioning attached to the interpersonal school – it is more a group of related schools of thought.
IPT is different from cognitive and psychodynamic models of therapy in that it is an integration of a number of theory bases. Specifically, it draws its methodology from three theories: attachment theory, social learning theory, and communication theory. The social learning theory proposed by Rotter and Bandura states that people learn important life skills from each other (Bandura, 1977). It postulates that poor or disrupted social support plays a role in mental health and other interpersonal problems. The social milieu in which a patient develops interpersonal relationships strongly influences his or her ability to cope with interpersonal stress (Henderson, Byrne, & Duncan-Jones, 1981; Weissman & Paykel, 1974). Kiesler (1979) described that interpersonal problems occur as a result of negative or nonsupportive responses from others. Importantly, Kiesler felt that these responses were elicited unintentionally by the distressed person. This leads to the theory that an individual’s attachment style is what makes their communication about their attachment needs problematic (Stuart & Robertson, 2002). Stuart describes attachment theory as being connected to the social-context, while communication theory informs the interpersonal-context. This describes nicely the link between attachment and interpersonal distress and the reason for intervening in mental health problems using communication analysis.

**IPT acknowledges attachment theory.** Whilst IPT does not directly address attachment, it pays attention to the work of Bowlby (1988) and Ainsworth (1989) and the school of attachment theory. Attachment theory postulates that the relationship is the primary focus of psychic functioning, and that people develop an ‘inner working model’ of how relationships operate. IPT indirectly addresses this working model by focusing on the relationship.

**Effectiveness of IPT for PND**

IPT is unique in that it aims to simultaneously improve the depressive symptoms and the interpersonal functioning of the client. IPT has shown in numerous studies to be effective for major depressive episode at any stage in life (de Mello et al., 2005).

IPT has been shown to be effective for perinatal mental health disorders in controlled trials with large sample sizes and different comparison groups (O’Hara et al., 2000; Spinelli & Endicott, 2003b; Swartz et al., 2008). In their Clinical Practice Guidelines for the treatment of depressive disorders in the perinatal period, the depression organization beyondblue rated interpersonal therapy as a therapy in which the “body of evidence can be trusted to guide practice in most situations” (beyondblue, 2011).

Reay et al. (2010) developed a group IPT for PND over 10 sessions. This focused on two problem areas: role transition and interpersonal disputes. Reay et al later trialled this in a randomized controlled trial with a small number of women.
meeting criteria for PND. Compared to waitlist controls, the women reported a significant improvement in depression scores and higher ‘recovery’ rates from PND (Mulcahy et al., 2010). In this group, Reay et al included the (male) partners of the women in the group in two 'partner' sessions. These sessions were focussed on psychoeducation about depression and IPT treatment for depression, rather than any form of family therapy intervention. Wee et al. (2011) found the most common correlate of depressive symptoms (following the birth of their child) in men is PND in their partner. Interestingly for an interpersonal focus, they found that poor relationship satisfaction was also frequently associated with male depressive symptoms post-birth.

Finger et al. (2009) found that conflicted mother-father relationships were associated with low maternal sensitivity in a sample of low-SES women. However, IPT so far has not been shown to make significant changes to the attachment relationship or the outcomes for the child. This has been demonstrated in the case of PND by Forman et al. (2007). Forman and colleagues recruited a large community sample of depressed women and conducted a randomized controlled trial of IPT. They found that compared to a waitlist control, the IPT group had significant success in resolution of depressive symptoms. In addition, the group of IPT-treated women reported improvement in their marital relationships. The IPT-treated women reported some reduction in their parenting stress, but not to levels consistent with a control sample of non-depressed women. The intervention did not improve the mothers’ view of their child’s temperament, behavioural problems, and significantly, the mother-child relationship as rated through videotaped exercises.

Forman et al. (2007) suggested two possible causes for why their successful treatment of depression fails to address the mother-child attachment. One possibility is that when the mother’s relationship with the child is formed under negative circumstances (such as during a depressive episode), then it remains stable and resistant to treatment. They quote some studies which show that parents’ views of their children tend to be unrealistically stable over time (Saudino & Cherny, 2001). This suggests that the depression would need to be addressed at a much earlier infant age or before the birth. However, studies that have attempted to address this early on (L. Murray, et al., 2003) or at preventive stage have not had success.

The second possibility, a more promising one, is that the IPT simply did not target the mother-child relationship. When the IPT targeted the marital relationship, it resulted in improvements in this relationship (Forman et al., 2007), and there is evidence from other studies which shows that when IPT targets different relationships, such as the one between adolescents and their parents (Mufson, Dorta, Wickramaratne, et al., 2004). Potentially, targeting the mother-child relationship with the same interpersonal focus, based on attachment and communication theories, may lead to improvements.
There are clues that a modification of IPT for PND may have the capacity to address this relationship. The study designed by Clark, Tluczek, and Brown (2008b) compared a standard IPT treatment with a modified MIT which contained both MIT sessions, IPT training, and some individual therapy work with the infants. They found that both groups were able to significantly reduce depression (BDI-II and CES-D) scores and increase positive affective involvement and verbalization with their infants, as compared to the waitlist controls. Modification of the IPT protocol to include some of the valuable aspects of MIT in relation to its effect on attachment, may help to address this question. Some research linking the theories contained in both IPT and MIT has been completed: Simpson, Rholes, Campbell, and Wilson (2003) tested Bowlby’s model of ambivalent attachment and its vulnerability during the role transition to parenthood to deficient social support (key facets of IPT). Simpson et al found that ambivalent women who entered the new role perceiving less support from their partners experienced increases in depressive symptoms from birth to six months postpartum, as measured by the CES-D. For ambivalent women, the association between prenatal and postnatal depression scores was mediated by perceptions of partner support.

Grigoriadis and Ravitz (2007) suggest that it would be possible under an IPT protocol to focus on the relationship with the newborn – both the traditional IPT areas of recruiting or using support to help with the child, and also on assisting parents to be more attuned and responsive to their child during their period of recovery.

The following article provides more theoretical structure to the concept of group IPT, and specifically, groups focused on maternal mood disorder.
Interpersonal psychotherapy for groups: Advantages and challenges

C A R O L Y N  D E A N S ,  R E B E C C A  R E A Y  A N D  S C O T T  S T U A R T

Interpersonal psychotherapy (IPT) is a focused, short-term psychological therapy which is effective for the treatment of a number of mental health disorders. In this article, CAROLYN DEANS and SCOTT STUART provide a brief overview of IPT, its theoretical base, and IPT tactics and techniques. The empirical evidence for the use of group IPT (IPT-G), and the theoretical adaptations for group IPT treatment are reviewed, accompanied by the advantages of working interpersonally in groups and the challenges associated with adapting IPT to this format. An applied example of IPT-G for mother-child bonding, and a case example of a patient’s transition through an IPT group are offered to illustrate the application of IPT in clinical practice.

Interpersonal psychotherapy (IPT), a focused, short-term psychological therapy, is an accepted ‘gold-standard’ treatment for depression and has been proven effective in the treatment of many other mental health problems and diagnoses (see Markowitz, 2006 for a review; see Ellis, 2004; Craig & Howard, 2009 for specific examples). There are various adaptations of IPT for different target groups (e.g., adolescents and geriatric patients), disorders (e.g., bipolar disorder and social anxiety disorder) and formats (e.g., couples and community health delivery).

There has been a recent increase in the use of group IPT (IPT-G). Group psychotherapy has many advantages and, given the specific interpersonal focus of IPT, a group format has obvious intuitive appeal. However, IPT-G is not just IPT delivered to multiple people at the same time. There is potential for the therapeutic aspects of IPT to be distorted or negated by the use of a format that requires the facilitator to engage several people at once. Most of these challenges can be overcome or even re-framed in order to conduct a successful and therapeutic group, but facilitators need to be aware of these specific challenges and cater for them in the design and delivery of IPT-G. These issues are discussed, and recommendations for IPT-G facilitators are provided in this article.

Interpersonal psychotherapy: Theory and evidence

The primary emphasis of IPT is on interpersonal issues. Like other empirically-based psychotherapies, it is focused on symptom resolution. However, it also has two additional unique primary foci: improvement in interpersonal functioning and increased social support (Stuart & Robertson, 2012; Stuart, 2006). IPT addresses one or more of three general problem areas related to interpersonal functioning: interpersonal disputes; role transitions; and grief/loss. These problem areas used to include one formulated as interpersonal sensitivity. Originally considered a fourth problem area, this concept is best described as a long-standing attachment style rather than a specific interpersonal crisis. A problematic attachment style or sensitivity may still be addressed, but is done so in the context of the here-and-now crisis (Stuart & Robertson, 2012).

IPT has its foundation in the work of Sullivan (1953) who emphasised the need to explore a patient’s patterns of interacting with others in order to treat mental illness (Klerman et al., 1984). Although it shares some theoretical foundations with psychodynamic therapy, it is not a brief psychodynamic therapy (and therefore should not be confused with therapies such as Dynamic Interpersonal Therapy). It does not focus on the unconscious and clinicians do not require psychodynamic training to deliver it. IPT differs from other models of psychological therapy in that it is focused primarily on interpersonal issues; this is reflected in its theoretical foundations of attachment theory, social learning theory, and communication theory (Stuart, 2008, Stuart & Robertson, 2012).

Whilst IPT does not aim to modify attachment style as part of the treatment, it is grounded theoretically in the work of Bowlby (1988) and Ainsworth (1989) who emphasised that the human drive to form attachments—relationships—is an intrinsic need that is critical for our survival and mental well-being. Furthermore, through their interactions with others, individuals
develop an 'inner working model' of how relationships operate. These models of relationships determine to a large degree the way in which the patient manages his or her current relationships, because they reflect the patient's expectations that others will be available to provide help (or not) and the quality of help (good or bad) they are likely to provide. The current relationships of the patient are the focus of IPT.

IPT is also based in part on the social learning theory of Rotter and Bandura (Bandura, 1977) which postulates that poor or disrupted social support plays a role in mental health problems. The social milieu in which a patient develops interpersonal relationships has been shown to have a strong influence on their ability to cope with interpersonal stress (Henderson, Byrne, & Duncan-Jones, 1982; Weissman & Paykel, 1974).

Finally, IPT is influenced strongly by communication theory (Kiesler, 1979), which states that interpersonal problems occur as a result of negative or non-supportive responses from others, and these responses are unknowingly elicited by the distressed person. When psychological distress occurs, this social context can be seen to describe what happens on the 'micro' level whereas attachment describes what is happening on the 'macro' level.

These theoretical foundations provide the rationale for interventions to alleviate distress using communication analysis—a major intervention in IPT. The premise is that improvement in communication will increase the ability of the patient to enlist support during times of crises, helping him or her to more effectively resolve immediate interpersonal crises. At the same time, the therapist aims to help the patient develop and utilise additional social support.

IPT is therefore unique in that it aims simultaneously to improve the depressive symptoms and the interpersonal functioning of the client.

Research trials have now shown that it can do both—while treating depression or other mental health problems, IPT has been shown to provide functional improvement via interpersonal functioning (e.g., Frank et al., 2005).

Published manuals exist for IPT for depression in adults (Stuart & Robertson, 2012), adolescents (Mufson, Dotta, Moreau, & Weissman, 2004), geriatric patients (Hinrichsen & Clougherty, 2006), and pregnant adolescents (Miller, Gur, Shanock, & Weissman, 2008). Manuals have also been developed with adaptations of IPT for bipolar disorder (Frank, 2005), social phobia (Lipsitz & Markowitz, 2007), dysthymic disorder (Markowitz, 1997), and perinatal mental health disorders (O'Hara, Stuart, Gorman, & Wenzel, 2000; Spinelli & Endicott, 2003; Swartz et al., 2008). IPT has been shown to treat major depressive episode at any stage in life (Cuijpers et al., 2011; de Mello, de Jesus Mari, Bacalchuk, Verdelli, & Neugebauer, 2005).

**Tactics and techniques in IPT application**

IPT has four phases conducted typically over 6–20 sessions. The flexibility of IPT is a strength, and the therapy can be extended for more complex cases. IPT is not a 'one size fits all' treatment in which every patient receives the same number of sessions—it can be modified to fit the variety of individuals found in any treatment setting.

**The initial phase**

The initial phase of IPT (usually sessions 1–3) involves the development of an interpersonal history to identify the problem areas, establish a rationale and plan for treatment, and agree on goals and expectations for the therapy. The development of an Interpersonal Inventory (Klerman et al., 1984) and an Interpersonal Formulation (Stuart & Robertson, 2012) are a critical part of this phase. These tools assist the patient to explore issues in his or her current relationships and allow for a conceptualisation that links distress to interpersonal issues.
The intermediate phase

The intermediate phase (approximately sessions 3–15) consists of active strategies to make changes in the identified problem areas. If there is more than one problem to be addressed, if social support is poor, or if the patient is more severely ill, then the duration of the middle phase of treatment will tend toward the 14–15 session range. If the patient has good social support and a single acute problem, treatment can be far shorter.

The concluding and maintenance phases

It is critical to note that IPT is not ‘terminated’ (Stuart & Robertson, 2012). Instead, the acute phase comes to a conclusion. Though this may seem at first glance to be simple semantics, the difference is immense. Evidence for IPT and other psychotherapies is clear that they work well as acute treatments, but if terminated, i.e., brought to a complete end, the patient will remain at higher risk for relapse. Maintenance treatment, particularly with IPT, has proven to be helpful in reducing relapse. Such maintenance treatment may take place once a month for patients at higher risk for relapse, and as infrequently as every six months for those at low risk. The provision of continuing treatment to prevent future episodes and promote continued high functioning means, by definition, that the therapy is not terminated. Instead, the weekly sessions (acute treatment) come to a conclusion and the therapy shifts into a maintenance phase.

IPT is a flexible and individualised therapy that is consistent with current research which indicates that tailoring treatment to the client improves therapy outcomes (Norcross & Wampold, 2011). While there is a broad agreement between therapist and patient to focus on a specific relationship or set of relationships in the patient’s life, each session can cover a variety of incidents or behavioural patterns within a particular problem area. However, within this flexibility, IPT utilises some key techniques that are characteristic of the therapy (Stuart & Robertson, 2012). These include:

- Communication analysis and exploration of interpersonal incidents. This targets the patient’s communication skills and is the core technique in an interpersonal intervention. The patient describes examples of typical conflicts with another and explores the patterns of communication and what is communicated explicitly, inferred, or wished for. The idea is to identify and help to modify the ineffective communication methods of the patient.

- Analysis of content and process affect. This technique explores the patient’s emotions and affect, specifically emotions that may conflict, be difficult to express, or be outside the patient’s awareness. Affect is also particularly important in communicating distress and the need for support to others.

- Brainstorming. Patient and therapist engage in brainstorming exercises to discover options for different ways of communicating needs, expectations, and wishes. It can also be used to resolve interpersonal problems.

- Role playing. This technique, not unique to, but used widely within IPT, has a twofold purpose. First, it helps the patient ‘step into the other person’s shoes’ and to develop some insight into the way another person in a dispute may be thinking and communicating. Second, it allows the therapist to model, and the patient to practice, new ways of communicating.

- Homework tasks. While IPT does not require homework to be assigned, it can be used to increase behavioural change between sessions and reinforce learning.

Adapting IPT for group work

IPT has been adapted for various group settings. The evidence for all types of group therapy in the treatment of mental disorders is still in the development stage (Huntley, Araya, & Salisbury, 2012). This is in part a function of the difficulty in measuring outcome across the group in research studies. There is, however, a consensus among therapists that group therapy is valuable, and it is being used increasingly to facilitate the treatment of greater numbers of patients and reduce costs.

...interpersonal problems occur as a result of negative or non-supportive responses from others, and these responses are unknowingly elicited by the distressed person.

IPT is one of the most promising group interventions. A published manual now exists for group IPT (IPT-G) (Willfrey, Mackenzie, Welch, Ayres, & Weissman, 2000), and there is evidence from randomised trials that IPT-G is as effective in the treatment of depression as its individual counterpart (Goodman & Santangelo, 2011; Bolton et al., 2003; Petersen, Bhana, & Baillie, 2012). IPT-G has also been shown to be effective in randomised trials for treatment of post-partum depression (Mulkay, Reay, Wilkinson, & Owen, 2010) and bipolar disorder (Bouwkamp, et al., 2013).

IPT-G follows a similar course to individual IPT but in a way that maximises the strengths of working in an interpersonal environment in the therapeutic setting. IPT is suited uniquely to the group environment because it provides an ‘in vivo’ opportunity to strengthen the patient’s interpersonal skills with other group members with the expectation that the new skills can be generalised to other relationships (Wilfrey et al., 2000). The group environment allows the patient to practise newly acquired interpersonal skills in a supportive social setting prior to trying them out in the external world. In this way the homework tasks which are a component of the individual setting are able to be practiced within the group therapy, providing a more graduated link from in-session to external work.

Initial phase

In IPT-G the initial phase is conducted in a combination of individual and group formats. Several individual sessions are first conducted
in which an individual assessment is completed and an Interpersonal Inventory and Formulation is developed with each patient prior to each group. These sessions provide opportunities for the therapist to confirm that the patient is suitable and ready for the group, and to provide some psychoeducation and preparation for the group process.

The first group session also includes some 'initial phase' work, in which the expectations of each member are reviewed (e.g., active participation, support of others), 'ground rules' of respect and confidentiality are set, and a focus on working on present interpersonal problems is clarified.

Group members share and refine their interpersonal goals with each other while the facilitator links members' issues by noting general themes, facilitating group connectedness and a greater awareness of the universality of their problems.

Intermediate phase

In the IPT-G intermediate phase, sessions will often focus on consolidating the interpersonal goals of members within the strategies of the three IPT problem areas (role transitions, disputes, grief/loss) and using the IPT strategies described above to address them. During this phase, members can learn vicariously from others and utilise the problem-solving skills of the group during brainstorming sessions. It allows group members to experience empathy from others, and to learn from others in similar interpersonal circumstances to their own, enabling them to gain insights and expand their knowledge and skills. These additional aspects of group IPT help patients to share coping strategies, gain insights and expand their knowledge and skills through vicarious learning and feedback.

Within the IPT-G setting, the characteristic IPT techniques are adapted in the following ways:

Communication analysis and exploration of interpersonal incidents. Patients receive valuable feedback and encouragement from each other regarding effective versus unclear or ambiguous aspects of their communication style. Patients also benefit from vicarious learning of others’ interpersonal incidents.

Analysis of content and process affect. A group setting allows for the development and rehearsal of expression of affect, rather than the simple exploration of such, not only in role plays but also within the process of the group.

Brainstorming. Brainstorming exercises can be extended to include the ideas of the group as a whole, coming up with a rich variety of solutions.

Role playing. Role playing can also be extended to occur between members of the group, allowing for a more creative process that may bring about different solutions. Participants can play the role of themselves, their significant other, or observe communication styles of other members, allowing for more insights into disputes.

Homework tasks. Group participants can practice some tasks that were scheduled originally for ‘homework’ within the therapy environment, and can report on other homework tasks to the group, with the opportunity to hear of similar experiences from other group members.

Concluding phase. In the final sessions, the group therapist reviews and consolidates the progress of members, facilitates feedback to each other, and anticipates future difficulties. An important aspect of the ending of the group is to encourage participants to express their feelings about the group ending, both positive and negative.

Challenges in group IPT

Working within a group environment raises a number of challenges. While relevant to individual treatment, these issues require greater attention and emphasis in group settings. The primary issues regarding group adaptation include: structuring, patient selection, group dynamics and termination.

Structuring and maintaining individual problem-area focus

Within individual IPT, there is general agreement between four phases of therapy (initial, intermediate, conclusion and maintenance) and the goals of each stage. Within each session, however, there is a large degree of flexibility for the patient to discuss their current interpersonal circumstances. In that way IPT contrasts to cognitive–behavioural therapy, in which an agenda is set at the beginning of each session and the sessions move through a program.

However, in IPT-G, there are a number of constraints which lead it to differ, including the limited timeframe (usually within a ‘dosing range’ of 8–12 weeks rather than the flexible 6–20 week range for individual work). In contrast to individual IPT, in which additional sessions can be added if needed, the group usually follows a structured number of sessions. Moreover, the number of sessions is set a priori by the therapist. To make matters more complex, this fixed number of sessions must accommodate all of the patients and their differences, complexities, personalities, and interpersonal needs.

In order to overcome this difficulty, IPT-G typically includes one or two individual pre-group sessions. During these, the therapist and client can develop a list of goals that the client has for their participation in the group. Many IPT-G therapists include initial and concluding letters to each client with a summary of the goals for or progress of the group, and giving suggestions as to how the group work was relevant to the individual goals of that client. In addition, there needs to be a level of structure within the group to allow each participant to focus on their experiences during each session.

In groups there is also a tendency for a group discussion to move off-topic more easily, taking time away from work on shared goals. This requires more emphasis on in-session structure to cover the material relevant for all of the patients. IPT-G is structured generally so that there are specific weeks in the middle phase allocated to specific topics determined prior to the start of the group. For instance, session three of the group may be devoted to Interpersonal Disputes, and session four to Role Transitions.

Each session also has an in-session structure, with participants assigned individual or paired tasks followed by discussion about these tasks. IPT-G sessions work well with a ‘check-in’
and ‘wrap-up’ at each session, giving each member the opportunity to briefly discuss their week at the start and make concluding comments at the end of each week, in a manner similar to psychodynamic therapy groups (Yalom & Leszcz, 2005). Wilfley et al. (2000) advocate following Yalom’s provision of weekly written summaries to each participant. The summaries ensure that, given the amount of information in each group session, the patient is able to maintain a focus on their own individual goals and how the session information related to those.

**Patient selection**

In a group, patients have the potential to impact both negatively and positively on the therapy progress (and therefore mental health) of the other participants. Therefore, it is critical to pay attention not only to the suitability of the member for group work, but the suitability of the members to work with each other.

It is preferable to select patients who have similar problems (e.g., depression, posttraumatic stress disorder), similar interpersonal circumstances (e.g., postpartum depression, diagnosis of cancer, bereavement), as well as similar levels of interpersonal functioning. This facilitates a more natural shared empathy and understanding between the group members, and maintains the peer support benefits that a group environment brings (Wilfley et al., 2000). Broadly similar goals ensure that patients gain from the work that others do in the group.

Group in IPT are typically people struggling with care of an elderly partner or parent. The similarity of social circumstance serves a number of purposes. First, it brings together people with shared interests, leading to more rapid group cohesion. Second, the brainstorming of the group when discussing problems can be more specific and precise, increasing the pro-active focus on the development of shared interpersonal connectedness. When problems arise, they are treated in a way that is unique to IPT; this can be illustrated by contrast using IPT to other group approaches.

**Brainstorming about childcare options in a group of postpartum women, for example, is likely to be far more efficient than in a mixed group of patients. Third, the group can itself serve as a source of social support for the patients, and this is also enhanced by a common social context.**

**Group dynamics**

Group dynamics invariably impact on the progress of the therapy. Three particular group tasks are of relevance in the interpersonal laboratory of IPT-G. Patients need to learn how to communicate effectively with one another; they need to be able to acknowledge and manage conflict; and they need to be able to develop intimate relationships with other individuals (Wilfley, Frank, & Welch, 1998). There is evidence that group climate or cohesion has a direct impact on treatment outcomes in interpersonal psychotherapy (Bonsaksen, Borge, & Hoffart, 2013).

Preparation for group work can ensure a smoother within-group and interpersonal learning process. The therapist needs to be aware that these tasks will be ongoing for the group, and most importantly, must deal with problems in group dynamics in an interpersonally-focused way. This allows modelling of the specific interpersonal communication styles for patients as well.

IPT groups are usually closed, meaning that everyone in the group starts at the same time and new members are not added. As a result, drop-outs can be problematic. The loss of the ‘corrective emotional experience’ (Yalom & Leszcz, 2005) is a critical stage of the process. This occurs when a participant experiences a strong emotional reaction to something that is raised in the group. This can be a positive emotion such as a new sense of belonging, a cathartic release of pent-up emotion, or it can be a disruptive emotion such as anger or disdain. The psychodynamic group then stops and focuses its attention on that reaction and attempts to explore what prompted it. The group therefore uses its own dynamics as the content of the session. In a cognitive-behavioural therapy group, the positive emotional experiences such as identification and modelling are utilised but the disruptive emotional experiences are usually not a focus because processing them takes time away from the examining and evaluating of cognitive content (Bieling, McCabe, & Antony, 2006).

IPT-G, in contrast to both models, draws the attention of the group to the emotional experiences of group members but re-frames them within the context of the interpersonal aspects of that person’s goals and problem areas. It stays in the here-and-now experience of the patient outside the group. IPT-G does not focus on the antecedents in the participant’s life that led to that interpersonal style, nor does it focus on examining the patient’s emotional experience to other group members. Instead, the focus is on how the patient experiences and expresses emotions in their social relationships (Bieling, 2006).
patients (as in an individual setting), as well as between group members. Discussion in the concluding phase focuses not only on the loss of these relationships but on the loss of the group supportive environment. Consistent with a focus on positive management of role transitions, group members are asked to brainstorm ways of continuing to receive support in meeting their goals after the group finishes. This can include the group members choosing to meet outside of a therapy context in a social setting. It could also include group members moving on to some other form of structured peer support.

**Training in group IPT**

IPT is an open-access treatment, available in the public domain and, according to the International Society for Interpersonal Psychotherapy (ISIPT), ‘accessible to anyone who wishes to practice, teach, or conduct research’ (2014). The ISIPT guidelines on training recommend clinicians receive at least two days of formal training in IPT followed by supervision of at least two complete cases of individual or group formats with an experienced IPT therapist, before practising alone.

Wilfley et al. (2000) state that competence as an IPT-G therapist requires a working knowledge of IPT and IPT-G, together with an understanding of group psychotherapy theory and practice. They note the challenges of transferring skills in individual therapy to group work, and recommend general training in group psychotherapy before practising IPT-G. Training in adapting IPT for group settings is available internationally, although there is a scarcity of trainers in Australia. Those with expertise in the conduct of group psychotherapy should be able to adapt IPT to a group format with the assistance of training or supervision.

**IPT-G adapted for mother-infant bonding: A specific IPT group**

Group IPT for postpartum depression (IPT-PND) has been tested in a number of settings. Klier, Muzik, Rosenblum, and Lenz (2001) found significant treatment effects for such groups over 12 sessions; Reay et al. (2010) also found significant effects in a 10 week group. In a subsequent randomised trial, they demonstrated significant improvement in depression scores at 3-months post-treatment for the IPT-PND group than a treatment-as-usual condition (Mulcahy et al., 2010). Participants also showed improvements in perceived marital functioning.

Reay et al. (2010) found that depressed mothers generally presented their interpersonal problems within the group as either role transitions or disputes. They therefore suggested that postpartum depression groups focus primarily on these two areas. The Reay et al. (2010) protocol also included the partners of the postpartum women in two sessions focused on assisting the partner to support the woman in her recovery.

Grigoriadis and Ravitz (2007) suggested it would be possible under an IPT protocol to focus on the relationship with the newborn—both the traditional IPT areas of recruiting or using support to help with the child, and also on assisting parents to be more attuned and responsive to their child during their period of recovery. Deans (2013) therefore developed a 10-week IPT-G protocol to include material based on attachment theory regarding relationship between mother and baby (see Table 1).

The mother-newborn group approach attends to the evidence that intervening with both mother and child and their interaction during the postpartum depression period can impact positively on the child’s functional outcomes (Cicchetti,

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-group individual sessions (2)</td>
<td>Assessment of suitability for IPT Interpersonal Inventory, Formulation, and preparation of therapy goals</td>
</tr>
<tr>
<td>Session 1</td>
<td>Introduction to group and psychoeducation</td>
</tr>
<tr>
<td>Session 2</td>
<td>The Role Transition to motherhood</td>
</tr>
<tr>
<td>Session 3</td>
<td>The Role Transition to motherhood plus Introduction to thinking about baby: ‘the baby’s role transition’</td>
</tr>
<tr>
<td>Session 4 and 5</td>
<td>Communicating with baby: how good communication occurs and how conflict occurs between you and baby</td>
</tr>
<tr>
<td>Session 6 and 7</td>
<td>Interpersonal disputes with main support person (usually partner)</td>
</tr>
<tr>
<td>Session 8 and 9</td>
<td>Patterns in relationships: addressing the development of support networks</td>
</tr>
<tr>
<td>Session 10</td>
<td>Review of progress, farewells and relapse prevention</td>
</tr>
</tbody>
</table>
emotions associated with caring for a baby, and how they express their emotions to their baby.

*Communication analysis.* Patients are asked to wonder actively about how much their baby understands their communication. Mothers who are depressed are at risk of being less ‘emotionally available’ (Biringen, 2000). They are less likely to consider that their infant is observing them and understands some of the signals they are giving about being a caring, reliable, and available parent. They also explore how their babies communicate needs and emotions. Psychoeducation plays a large role here.

*Interpersonal incidents* are used to explore specific times when caring for a baby was emotionally difficult, and some of the patterns of communication that mothers engage in with their children. This offers the opportunity (consistent with attachment theory) for parents to reflect on their own experiences of being parented, and what this has taught them about parenting. Some of these early influences may be explored as general themes during the group sessions.

*Role playing* is used in a specific way. Instead of a live within group role play, the use of videotape material allows group members to see different forms of communication between mothers and children. For instance, a video is used in which a mother is caring for a child and picking up on the child’s subtle cues of distress to provide the required care. The video can be stopped periodically to explore how the patients are reading the child’s communication signs.

### IPT-G for postpartum depression: A specific case example

Following is a case example of the progress of a client through an IPT-G protocol designed for mothers suffering from postpartum depression.

Dani was a 25-year-old woman who was referred by her obstetrician/gynecologist after a positive screen for depression at her six-week postpartum visit. She had no history of depression, but did have a family history of postpartum depression which her mother and an older sister had experienced. She reported moderate depression which she attributed to feeling overwhelmed following the birth of her second child.

The first individual session included a complete psychiatric assessment. Since she was breastfeeding, Dani reported little interest in medication; the psychiatrist felt that medication was not needed and that group IPT would be helpful. Dani expressed interest in participating in a group, in part because she was interested in meeting other women with similar experience and, in part, because she felt it might provide some social support. The therapist felt that Dani’s social skills were sufficient for group participation, that Dani was able to be empathic, and that her motivation for group made her a good candidate.

The second individual session included the development of an Interpersonal Inventory and Formulation. Highlights included a committed relationship with her husband, who described her as caring but unable to really understand what she was going through. Though wanting to help, he was a farmer and was working long hours and unable to provide as much practical support as she wanted. Her mother and sister were supportive but often overwhelmed with their own problems.

In addition to the obvious workload and poor sleep, Dani noted in the Formulation that the temperament of her two children was very different; her first had been very easy while the second was quite colicky. She often felt torn between their needs and had no time for herself. Dani described specific goals of developing more support from friends and dealing with the transition to having two children.

The first of 8 group sessions included introductions and sharing of specific goals. Near the end, Dani and several of the other eight women noted that it was helpful to hear that other women were ‘in the same boat’ and that they were not alone. The two co-therapists remarked that this was a common experience with postpartum groups, and that the bonds forming between group members would ideally lead to more sharing and support.

The second and third sessions focused on the postpartum transition. Several of the women in the group had only one child, while one had
three. Several were anticipating going back to work relatively soon. Dani had planned on taking at least a year off, though as she described it she was working full time and more with all the responsibility of two children. All of the women agreed with this general theme. The co-therapists encouraged mutual identification with this issue, and then moved the discussion to social support, exploring how the women in the group had conveyed their feelings of being overwhelmed to others. Most, like Dani, had not done so because they felt they should be able to manage on their own without help. The co-therapists emphasised this common experience, and then highlighted the helpfulness of the group support. They assigned homework to the group to identify others in each member’s social network who might understand the patient’s experience.

Sessions 4 and 5 focused on disputes. After some psychoeducation, women shared their experiences with this, largely focusing on difficulties in getting spouses and partners to help. The universality of this experience was again noted by the members. The co-therapists directed the group to share specific interpersonal incidents in which they had attempted to elicit help. These were examined in detail, with general themes that the group members often communicated in a way that was not specific. Several women noted that they would ask their husbands to ‘babysit’; others responded that this terminology ‘let fathers off the hook, because they aren’t babysitting. It is his child too!’ Brainstorming focused on ways that communication could be more specific and direct.

Session 6 focused on grief and loss with a big emphasis on perinatal loss. Though Dani had not experienced this kind of loss, she still found it helpful to connect with the other women who had. All of the group noted how helpful it was to tell their stories and to be able to support each other.

Sessions 7 and 8 were designed to facilitate the conclusion of the group and consolidate gains. The co-therapists elected to enlist the group in designing follow-up, and gave the group the option to simply conclude after session 8, to meet again in two months for a single maintenance session, or to plan to meet in two months and to determine if they wished to continue meeting periodically. All participants felt strongly that they wanted to meet again, and a follow-up was scheduled. Knowing that they were meeting again took some pressure off the last weekly session (#8); though ending was discussed, all of the women reported being very pleased they would continue to stay in contact and meet again.

At the end of the group, Dani reported that she was no longer depressed, and had really appreciated the emotional support from the group and the sense that others were struggling with similar issues. The opportunity to learn about more direct communication had been helpful; she also had utilised some of the practical suggestions provided by other members.

**Conclusion**

There are a number of advantages in delivering IPT in a group format. These include being able to leverage the interpersonal aspects of the group environment for use within a therapy which is, by definition, interpersonally focused. A group setting can provide additional material for sessions, enhance motivation for therapy attendance, increase social support networks, and reduce stigmatisation. Therapists can use the additional resources that a group brings to conduct potentially richer brainstorming and role play sessions. They can also use the group as an opportunity for participants’ vicarious learning during communication analysis activities.

There are also a number of challenges to adapting IPT to a group format. These include patient selection and maintaining a focus on individual goals. There are a number of unique challenges related to the management of group dynamics and the inclusion of relevant role playing activities. The use of pre-group individual sessions, mid-group letters, and a higher degree of inter-session structure can assist with maintaining a focus on individual goals. An emphasis on the homogeneity of patient problem areas in addition to patient diagnosis can help to increase the cohesion of groups. Re-framing group dynamics to focus on here-and-now interpersonal problem areas outside of therapy is also an effective way to use IPT principles within a group.

The benefits, particularly for well-constituted IPT groups, far outweigh the challenges. There is no doubt that both research and clinical work with IPT-G will be expanding as we address the needs of increasing numbers of patients with interpersonal problems.

**References**


During the initial stages of IPT comprising most importantly the Interpersonal Inventory, the patient builds an awareness of their history, and allows for the conceptualisation of their difficulties into one of three areas – interpersonal conflicts, role transition, or grief (in the case of death of a loved one). In IPT, interpersonal conflicts are dealt with using communication analysis and practical activities such as brainstorming, role playing, and homework tasks. A role transition is conceptualised as the process of change within relationships, occurring as a consequence of environmental factors (Stuart & Robertson, 2002). Grief is often dealt with as a role transition of sorts. Both are therefore dealt with in a similar way as interpersonal conflicts.

Techniques use in IPT (Stuart & Robertson, 2002) are:

1. The Interpersonal Inventory. This targets patient awareness and allows for conceptualization of the case. It focuses discussion on the different relationships in the patient’s life, the expectations the patient has of those people, and whether those relationships are being fulfilled. It also asks the person to develop a form of mentalisation, by asking them to put themselves in the others’ shoes and describe what others’ expectations are of them.

2. Content and Process Affect. This targets the patient’s attachment style and communication style. The patient is asked what they are feeling in interpersonal conflicts, what affect there are communicating to others, and whether there is a consistency in their ability to communicate what they are feeling to other people.

3. Communication Analysis. This targets the patient’s communication skills and is the core technique in an interpersonal intervention. The patient is asked to describe examples of a typical conflict with another (for example, their spouse). Analysis then looks at the patterns of communication, what is being communicated as opposed to just thought or felt by each party, and options for different ways of communicating needs, expectations, and wishes.

4. Interpersonal Incidents. This is a specific form of communication analysis at the micro-level.

5. Role Playing. This makes use of social learning theory but also assist in patient awareness and prepared them for homework exercises.

To date, there are no specific articles which deal with the similarities between IPT and maternal sensitivity or reflective functioning. However it could be
concluded that the similarities are many, based on an understanding of IPT as one which attempts to change behaviours (communication style) in order to reduce deficits in the attachment style. Regular IPT does this for other adults in the client’s life; however, there is no reason that this behavioural/attachment approach cannot be extended to the child.

Maternal sensitivity is also a behaviour which reflects the attachment style. There are many component parts of maternal sensitivity which relate to the communication between mother and child. This protocol for a mother-infant focussed IPT (IPT-I) is based on this reasoning. This also fits in with the conclusion of Forman et al. (2007) that IPT may be able to impact on the mother-child relationship if it were to target it directly.

Modifications and additions

Listed here are the intervention techniques unique to IPT which have been remodelled to include the mother-child relationship. The content is consistent with both an interpersonal approach and attachment-based parenting interventions.

1. The Interpersonal Inventory. During the conceptualization phase, motherhood might be conceptualized as a significant role transition which has resulted in a change to almost all the relationships in the mother’s life – including the development of a new relationship, with baby. The mother would have the opportunity to discuss her expectations about motherhood prior to, and after, becoming a mother, and to start thinking about what expectations/needs her baby has of her.

2. Content and Process Affect. Mother would be given the opportunity to discuss good and bad feelings about being with her baby, and about how people express emotions to a baby.

3. Communication Analysis. Mother would explore how she communicates with her baby and how her baby communicates his needs and feelings to her.

4. Interpersonal Incidents. Specific examples of times when being with baby was emotionally difficult for mother would be discussed.

5. Role Playing. The use of some videotape material could simulate the roleplay environment and allow mother to see different forms of communication behaviours in infants.

In regards to the specific information about communicating with a child, the model would draw this from the various successful attachment models that have been discussed. Video feedback would not be used; however, some videotape
education would occur in the form of an example. This would be followed by an intervention along the same lines as an IPT intervention i.e. one which is directed at mothers’ experiences at present and allows them to problem-solve within a supportive environment. Having this element follow on from the previous components of IPT which are relationship-building approaches, will allow parents to use some of their new knowledge about relationships, affect, and attachment, to assist with their learning about their relationship with baby.

The final component of IPT normally focuses on attachment styles - called *interpersonal sensitivity* or *interpersonal deficits* in the IPT model and *patterns in relationships* in the Reay et al. (2010) protocol. This component will be able to incorporate information from both the ‘adult’ and ‘infant’ targets. This means that mothers will have the opportunity to reflect on how their experience of other relationships has affected their relationship with their child. Again, this is a key principle of attachment work but is here delivered in an IPT format.

Following is a conceptual peer-reviewed article describing in more detail the development of the protocol. A full version of the modified Mother-Child Interpersonal Therapy (IPT-MC) protocol is included in the Appendices.
Addressing the mother–baby relationship in interpersonal psychotherapy for depression: an overview and case study

Carolyn Deans, Rebecca Reay and Anne Buist

Abstract

Objective: This article describes the development of an interpersonal psychotherapy group which has been adapted to address the mother–child relationship in the context of postnatal depression (PND). Background: When PND develops, the child of the sufferer is also at risk for deleterious outcomes. It is thought that this is because the mother–baby bonding process is interrupted, affected, or reduced in quality by the existence of depression in addition to genetics and biological effects of exposure to illness in utero. Past approaches to mitigating this risk have focused on treating the depression as the primary issue and the mother–baby relationship as secondary. This article makes the argument that interpersonal psychotherapy has neglected this relationship despite the evidence that this is a key precipitating/perpetuating factor in PND, and that targeting this relationship has benefits for both mother and baby. Method: An interpersonal psychotherapy protocol was developed, modified to incorporate psychoeducation and practice of maternally sensitive interactions. A case study from a version of this group intervention is provided. Results: The case study outcomes on self-report scales of depression suggest the modified protocol is as effective in treating PND as the original protocol. Self-report of maternal attachment and videotape measures of maternal sensitivity also improved, suggesting that the modified protocol can address the mother–baby relationship. Conclusion: The suitability of adapting interpersonal psychotherapy to address the mother–baby relationship appears promising. Further rigorous trials using this therapy are warranted to determine its effectiveness.

Motherhood is a time of transformation across the spectrum of functioning for women. For most, motherhood is associated with greater well-being and satisfaction (Holton, Fisher, & Rowe, 2010). However, it can also be associated with challenges, one of the biggest being that of postnatal depression (PND). For some 7–16% of women (O’Hara & Swain, 1996), new motherhood is associated with the onset of PND. While PND is not a distinct disorder from Major Depressive Episode, there are some clinical differences. The psychosocial stressors surrounding new motherhood, including sleep disturbance and breastfeeding pain, have...
been shown to increase inflammatory hormones associated with depression (Kendall-Tackett, 2007). There is a higher risk for PND in women with poor marital relationships, and those who develop PND report greater symptoms for a greater duration, and are more susceptible to later recurrence of depression relative to women with supportive relationships (Campbell, Cohn, Flanagan, Popper, & Meyers, 1992). Mothers can find it difficult to engage in depression treatments due to the demands of motherhood, reluctance to disclose their feelings, and concerns about antidepressant medication use during breastfeeding (Dennis & Chung-Lee, 2006; Goodman, 2009).

Another clinical difference for PND is in its impact on the psychological health of someone other than the sufferer. Children of mothers with PND have been shown to be at risk in a number of areas. These include low birth weight (Gracka-Tomaszewksa, 2010) and poor sleep development (Armitage et al., 2009). The offspring of mothers with clinical or subclinical depressive symptoms are more likely to be exposed to negative maternal affect and behaviours (Lovejoy, Graczyk, O’Hare, & Neuman, 2000), which can influence negative affective states and bias their interactions with others (Tronick & Reck, 2009). Children of mothers who demonstrated even low-level depression symptoms in their child’s early childhood are more likely to show internalising and externalising behaviour problems in late childhood (Conners-Burrow et al., 2015). A combination of antenatal and postnatal maternal depression demonstrates long-term effects on the cognitive development and depressive illness risk of children (Asselmann, Wittchen, Lieb, & Beesdo-Baum, 2015; Sanger, Iles, Andrew, & Ramchandani, 2015).

One of the mechanisms of transmission of risk for mental health disorders is thought to be associated with the mother’s attachment security and her behaviour with the child, and there is growing evidence to suggest maternal attachment style can be seen as a mediator (Toth, Rogosch, Sturge-Apple, & Cicchetti, 2009). However, women with a pre-existing negative model of the self and others have been shown to be at higher risk of developing PND (Wilkinson & Mulcahy, 2010). This leads to impairment of the mother’s ability to provide a secure bond with her infant (von der Lippe, Eilertsen, Hartmann, & Killen, 2010), which impairs her ability to teach her child to interact socially. This may affect the interpersonal style of her child, in turn leading to greater susceptibility to mental health problems (Fonagy & Target, 2005).

This suggests that the mechanism of transmission of susceptibility to mental health problems involves either maternal behaviours, as operationalised in the concept of maternal sensitivity (Stayton, Hogan, & Ainsworth, 1971), or maternal cognitions, such as in the concept of parental reflective functioning (Slade, 2005). The review of the construct of maternal sensitivity by Shin, Park, Ryu and Seomun (2008) describes it as involving multiple aspects of a mother’s behaviour including appropriateness, timing, situational awareness, emotional availability, and expressiveness. These overlap with the definition of parental reflective functioning (Slade, 2005). Parental reflective functioning is described as the ability of the parent to use their understanding of their child’s mental states to anticipate their child’s needs and build the child’s ability to make sense of his internal state (Slade, 2005). Low levels of maternal sensitivity have been shown to be related to various deleterious child outcomes such as poorer cognitive development (Bernier, Carlson, & Whipple, 2010), behavioural and social problems (Campbell et al., 2010), and emotional reactivity (Braungart-Rieker, Hill-Soderlund, & Karras, 2010). Research on the concept of parental reflective functioning is rarer; however, there seems to be an indirect relationship between parental reflective functioning, attachment, and mental health (Bouchard et al., 2008).
Addressing maternal sensitivity deficits to improve infant outcomes

There is a growing field of interventions aimed at therapeutically addressing the intergenerational transmission of poor attachment style. Bakermans-Kranenburg, van Ijzendoorn and Juffer (2003) found 70 published studies on the impact of maternal sensitivity, social support, maternal mental health, or reflective functioning interventions on child–parent attachment. They found a moderate effect size for altering a child’s attachment style, with interventions focused solely on maternal sensitivity found to be the most effective.

Whether these are effective in the context of PND is not yet determined. Milgrom and Holt’s (2014) review of mother–infant interventions targeted at women with PND concluded treatments containing moderate to strong methodologies. These studies variously investigated toddler–parent, counselling, cognitive–behavioural, psychodynamic, mother–infant, and interpersonal therapies, support programmes, psychoeducation, interaction coaching, and infant massage. All treatments for PND had some impact on the mother–infant interaction and child behavioural problems. However, only one study (Cicchetti, Rogosch, & Toth, 2000) showed a significant impact on child cognitive development. The treatment was toddler–parent psychotherapy with long-term follow-up have not shown sustained child outcomes (Poobalan et al. 2007). Two recent randomised controlled trials of home-visiting programmes focused on both PND and attachment were unsuccessful at either preventing/reducing PND, or improving child outcomes (Cooper, De Pascalis, Woolgar, Romaniuk, & Murray, 2015; Guedeney et al., 2013). Current PND treatments therefore remain adjunct treatments to the mother–child relationship, but show some promise in their ability to address this relationship.

Interpersonal therapy is a relationship-focused PND treatment

Interpersonal psychotherapy (IPT) is a focused, short-term therapy originally developed for depression, which emphasises its interpersonal context (Klerman & Weissman, 1993). It addresses one or more of three interpersonal functioning areas: interpersonal disputes, role transitions, and grief. IPT is an integration of a number of theory bases, drawing methodology from attachment, social learning, and communication theories (Stuart & Robertson, 2003). While IPT does not directly address attachment, it is theoretically grounded in the work of Bowlby (1986), which states that people develop an inner working model of how relationships operate. IPT focuses on here-and-now relationships which are problematic as a result of the patient’s attachment style, and uses Kiesler’s (1979) communication theory to guide the treatment of this. Kiesler theorised that interpersonal problems occur as a result of negative or non-supportive responses from others. IPT therefore attempts to improve the communication skills of the client to allow them to enlist and better utilise social support to
provide distress relief, enjoyable experiences, and a sense of belonging (Deans, Reay, & Stuart, 2014).

IPT has been shown to be effective for major depressive episode at any stage in life (de Mello, de Jesus Mari, Bacaltchuk, Verdeli, & Neugebauer, 2005). It has proven effective for PND in controlled trials with large sample sizes, different comparison groups, and individual and group settings (Grote et al., 2009; Miniati et al., 2014; O’Hara, Stuart, Gorman, & Wenzel, 2000; Spinelli & Endicott, 2003). IPT is therefore a PND treatment which has the potential to directly address maternal sensitivity in a similar manner to the attachment-based therapies. However, IPT so far has not been shown to make significant changes to the mother–baby relationship or the outcomes for the child (Forman et al., 2007).

Forman and colleagues (2007) suggest two possible causes for why IPT fails to change the course of the mother–baby relationship. One possibility is that when the mother’s relationship with the child is formed under negative circumstances (such as during a depressive episode), then it remains stable and resistant to treatment. This suggests that the depression would need to be addressed at a much earlier stage. However, previous preventive/early interventions have not had success (Murray, Cooper, Wilson, & Romaniuk, 2003). The second possibility is that the IPT simply did not target the mother–child relationship. When IPT targets different relationships, such as the marital relationship (Forman et al., 2007) or the adolescent–parent relationship (Mufson et al., 2004), these relationships improve. Clark, Tuczek and Brown (2008) found that a standard IPT treatment for depression could increase maternal positive affective involvement and verbalisation. The authors speculated that the presence of infants during IPT sessions for mothers may have resulted in added therapeutic benefits to the mother–infant relationship.

Grigoriadis and Ravitz (2007) suggest that it would be possible under an IPT protocol to focus on the relationship with the newborn, working in the traditional IPT areas of recruiting or using support to help with the care of the child, and on assisting parents to become more attuned and responsive to their child during their period of recovery. These are two important areas of IPT foci: the relationship, and the social support outside of the relationship. One difficulty in adapting IPT treatment to the mother–child relationship might be due to the focus on verbal communication during conflicts. The normal use of direct, verbal, unambiguous communication cannot occur due to the young child’s inability to verbalise words, thoughts, or feelings. A modification of IPT to address the behaviours in the mother–baby relationship may have to focus less on the standard communication work of Kiesler (1979) and more on attachment work, specifically from the maternal sensitivity literature. Nicholls and Kirkland (1996) reviewed the literature on maternal sensitivity and found the following common elements. These appear to closely overlap with the IPT techniques of understanding and communicating needs and expectations:

- Perceiving, interpreting, and responding to baby’s signals of emotional state and needs.
- Responding to emotional requests and providing emotional plus instructional support.
- Ensuring communication is developmentally appropriate, non-intrusive, and consistent.

**Required adaptations to IPT for the mother–child relationship**

An adaptation of IPT to directly address the mother–baby relationship would make important but not inconsistent amendments to the assessment and therapeutic stages of the therapy.
There are limitations to the amount of attachment or parent–infant work that can be completed in an IPT context— the aim would not be to complete an entire course of parent–infant therapy. However, there may be significant positive implications for the incorporation of some maternal sensitivity work into a therapy which is procedurally focused on relationships.

**Changes to the assessment stage**

An important part of the assessment for IPT work is the development of an Interpersonal Inventory, which is a detailed review of the patient’s current relationships, including any patterns in those relationships. The client is asked about the expectations each party has of the other, the joyful and difficult aspects of the relationship, and desired change. An interpersonal circle surveys the client’s interpersonal world, containing three concentric circles of relationship in terms of ‘closeness’. In our experience, mothers often create a dot in the centre of these circles, reserved for their children. The children are described as being different from other people in the relationship with the woman, e.g. ‘part of me’. We postulate that this relates to the bonding between mother and child as it qualitatively differentiates the position of the child in her world (as per Stern, 1995). While her relationship with her child is therefore different to other relationships, it also has similarities. A mother is capable of describing the IPT facets of a relationship with her baby: her expectations of the baby, baby’s expectations of her, the joyful and difficult times, and things she would like to change. The initial interview includes an assessment of the mother’s internal working model of relationships. This information is used to make inferences about problems in her relationships, including the caregiving relationship.

**Changes to the therapeutic stage**

Including the child in the group of relevant relationships for therapy provides the mother with an opportunity to discuss her expectations of and experiences since becoming a mother, and allows the mother to consider coming into the world from her child’s perspective, thereby developing reflective functioning ability. IPT develops skills in understanding one’s own and others’ emotional expression. Attachment therapies show that reflecting on positive and negative emotional experiences in parenting has benefits, and understanding how these states are intentionally or unintentionally expressed would affect maternal sensitivity. The typical focus in IPT is on verbal communication; we postulate that during mother–child work there is a need to focus on the range of ways in which humans express emotion. Group brainstorming work would allow for individual and vicarious discovery of this.

A key technique of IPT is the analysis of a difficult episode of communication: the client is asked to role-play a difficult conversation, reflect on it, and brainstorm alternative behaviours. Mothers regularly report difficult interactions with their babies; much of early parenting involves trial-and-error to resolve the baby’s distress. This provides scope for the use of communication analysis. Where role-play is difficult to achieve, it may be possible to use videotape material to stimulate conversation.
Table 1. Modified group IPT with maternal sensitivity concepts.

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-group</td>
<td>Two individual sessions assess suitability for IPT, develop the Interpersonal Inventory, and identification of problem areas as per Wilfley et al. (2000)</td>
</tr>
<tr>
<td>1</td>
<td>Introductory week as per Reay et al. (2012)</td>
</tr>
<tr>
<td>2–3</td>
<td>Focused on the role transition to parenthood as per Reay et al. (2012). It also alerts mothers to the fact that in being born, their babies have also undergone a major life adjustment, and focuses on the maternal process of getting to know the baby</td>
</tr>
<tr>
<td>4–5</td>
<td>Communication analysis work aimed at developing maternally sensitive behaviours. Considering how one communicates intentionally and unintentionally. Viewing a videotape of a mother and child (not a group member) and brainstorming what each was communicating</td>
</tr>
<tr>
<td>Half-way</td>
<td>A psychoeducational partner session as per Reay et al. (2012)</td>
</tr>
<tr>
<td>6–8</td>
<td>IPT problem areas to address each member’s interpersonal focus as per Reay et al. (2012)</td>
</tr>
<tr>
<td>9–10</td>
<td>Social support and planning for relapse prevention as per Reay et al. (2012)</td>
</tr>
</tbody>
</table>

IPT for the mother–child relationship: a case example

Description of intervention

A short-term group IPT (mother–child) intervention for PND, modified in line with the above changes to the assessment and therapeutic stages of IPT, was developed and manualised. The intervention is informed by the group model of Wilfley and colleagues (2000), and based on the work of Reay and colleagues (2012), who developed an 8-week (plus partner session) Group IPT for postnatal depression. The mother–child IPT modified existing weeks and added two weeks of additional content to create a 10-week therapy group, as detailed in Table 1.

Case study

A version of the group was held with a small group of Melbourne-based mothers referred via their Maternal and Child Health Nurse as presenting with depressive symptoms. Inclusion criteria were that mothers met SCID-II criteria for major depressive episode in the postpartum period; had babies under 12 months; and had suitable English skills to participate in a group. Exclusion criteria were psychiatric hospitalisation or existence of psychosis.

Research on this group was approved by the Victoria University Human Research Ethics Committee and participants provided informed consent to the use of their de-identified data. The following case study emphasises some of the work done during the sessions.

Background

Tracey was a first-time Australian-born mother with a partner. Her seven-month-old infant had difficulties sleeping. Tracey was referred by her child health nurse due to her raised EPDS score. At assessment, Tracey described a sense of feeling ‘flat’ most of the time and being highly sensitive to others’ remarks. Tracey reported a difficult transition to parenthood; she missed her old life and resented the fact that she was the main caregiver for her baby. She felt jealous of childless friends, and let go of a number of friendships. She felt guilty about wishing to have time away from her baby, or not missing him during baby-free time. She was frustrated at not keeping up with household chores, had low energy and felt sleep-deprived all of the time. She felt insecure about her performance as a parent, often interpreting events to mean that she was not ‘good enough’ as a mother. She had left her full-time job and felt a lack of financial freedom now that she was not earning any of the household
ing a family and personal history of depression, and physical distance from her family who lived interstate. Tracey found it difficult to discuss her feelings with others, even with her close family. The assessment showed the IPT problem areas of interpersonal disputes with her partner, and difficulties adjusting to the role transition to motherhood. Tracey identified her child as belonging in the 'centre' of her Interpersonal Circle, as more part of her than a separate person. Tracey's self-report of maternal attachment was reasonably high, but her self-report of parenting stress was high and her depressive symptoms were at a clinical level. The videotape measure indicated strong scores in non-hostility and non-intrusiveness, with medium–low scores on maternal sensitivity, child responsiveness, and child involvement.

**Standard IPT themes**

Consistent with her interpersonal style, Tracey took time to interact meaningfully with other participants, and expressed feeling stuck in her communication patterns with her partner. She found it difficult to make him understand her sense of being overwhelmed with the work involved in looking after the baby. During role-play and brainstorming she was able to realise that her expectations of her partner were uncommunicated or unrealistic. She found it useful to listen to the discussion about communication styles, giving her insight and ideas about small changes that she could make to her communication style that could impact on what her partner was able to say to her. During the section on social support, Tracey was able to describe her wish for closer relationships with family members, particularly her father, and to brainstorm possible first steps to achieving that. By the end of the group work, Tracey had started going to a mother–baby gym which allowed for dedicated playtime and time to meet other mothers. She took on some part-time work and was able to ask her partner to support her with this.

**Mother–baby relationship themes**

During the session regarding role transitions, Tracey identified some negative experiences about being a parent that the other participants shared. This was an opportunity for her to bond with group members and share her parenting difficulties in a supportive setting. When other participants struggled to identify positive aspects to the new role of parent, Tracey was able to identify that she enjoyed watching her baby learn things. She subsequently reported that her mood had lifted as she started thinking of her baby as another person, rather than as a source of work. She was able to build on this to understand her baby during more difficult interactions, such as messy nappy changes, and respond with attempts to communicate with her baby rather than silently attempt to physically restrain him.

She found it useful during the role transitions section to start viewing positively some of her coping mechanisms, instead of feeling guilty that, for example, she is sleeping when the baby sleeps. This allowed her to see herself as managing a role transition to 'being a mother'. It also allowed her to dedicate time to playing with her baby rather than feeling frustrated that she was not 'getting things done'. She reported a greater sense of joy from her time with her baby. Importantly, Tracey started to talk about her baby in terms of his wishes and communication skills: she started interpreting his talk, behaviours and wishes: ‘he likes phones
he's trying to get your phone. The development of Tracey's maternal sensitivity behaviours and her observed parental reflective functioning coincided with an improvement in Tracey's report of her mood.

**Measures**

Table 2 shows Tracey's change in scores from Time 1 (pre-group) to Time 2 (follow-up at 3 months post-completion of the group). Her depression scores improved across the timeframe, moving from the 'moderate' to the 'mild' range. A videotape measure of maternal–child relationship, the Emotional Availability Scales (Biringen & Robinson, 1991), was completed to provide a complementary measure of the relationship to Tracey's self-report. Tracey made improvements in the subscales of maternal sensitivity (from 'risk' to 'non-risk'), and in structuring, non-intrusiveness, child involvement and child responsiveness (from 'non-risk' to 'optimal'). This increase in maternal sensitivity is consistent with the IPT focus on this skill. Her non-hostility scale remained consistent over time. Her self-report of the attachment also improved slightly across time, and her reported parenting stress decreased.

**Discussion**

This review and the attached case study suggests that a manualised, short-term PND treatment consistent with Interpersonal Psychotherapy and incorporating the mother–child relationship is possible. The inclusion of material with a mother–baby relationship focus did not reduce the ability to focus on standard IPT themes as they became important. For example, switching between participants' reports of their relationships with partners and with children occurred throughout the therapy, and did not require a significant change in techniques. The core technique of focusing on episodes of communication and discussing positive or negative impacts on mood remained consistent across relationship types. The impact of the therapy on depressive symptomatology appears to be undisturbed by the modification of the material, and importantly, the pilot was able to show an impact on an objective measure of the mother–baby dyad, which has not been possible to demonstrate in prior PND treatments.

**Limitations**

This is a single case design and did not include a post-group SCID–II assessment; therefore, the proven effectiveness of this treatment for PND remains to be demonstrated. In addition,
there was no child age-matched comparison to address the possible impact of child development and the continuing development of the mother–baby relationship on maternal sensitivity. One possibility is that as mothers gain more experience as mothers, their sensitivity increases. A randomised trial with an age-matched control group would address this. The intervention was also facilitated by one of the authors, and should be tested with therapists who are unfamiliar with the development of the protocol.

From our experience with this case, the inclusion of videotape material, consistent with attachment interventions, is not a standard IPT protocol. The participants’ understanding of mother–child communication appeared to be more effectively achieved during the brainstorming session and in the ‘challenges for baby’ work. It may be possible to remove the videotape material in order to increase adherence to IPT techniques.

Conclusion

Interpersonal psychotherapy is an effective treatment in addressing mothers’ key relationship issues that precipitate and exacerbate PND. To date, it has not focused on addressing relationship problems between women and their infants, despite the growing evidence that PND can interfere with this developing relationship in negative ways. This paper proposes a theoretically intuitive way of incorporating mother–baby work into IPT using existing techniques. Where those techniques are not directly transferable, the principles of attachment-based therapies lend themselves to a consistent addition to the intervention. Our experience with a group IPT intervention for postnatal depression that addresses all key relationships has shown that the participants value the mother–baby material, that it fits with their therapeutic goals, and that it appears to improve important aspects of the mother–baby relationship. We found it was feasible to deliver the modified group protocols within the brief time frame. Further research into this intervention is recommended to determine whether such an intervention has long-term and beneficial impacts on the child.

Disclosure statement

No potential conflict of interest was reported by the authors.

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References


Chapter 4: Methodology

This chapter provides the methodology for the study design, collection of data and the types of statistical analyses conducted in the following chapters.

Previous chapters identified that combination of antenatal and postnatal maternal depression demonstrates long-term effects on the cognitive, socioemotional, behavioural and mental health development of the child of the sufferer (Asselmann, Wittchen, Lieb, & Beesdo-Baum, 2015; Sanger, Iles, Andrew, & Ramchandani, 2015). As there are no current preventive or antenatal strategies for addressing these child outcomes, early intervention therapies have been trialled. For maternal mood, these are at the evidence-based level. For mother-child relationship, the review of the evidence suggests that maternal sensitivity interventions, especially those that combine behavioural (role modelling) and reflective components, are most effective.

Previous chapters identified a need for research on interventions employing combined treatment for PND and the mother-child relationship (Forman et al., 2007). O'Hara (2009a). Milgrom and Holt (2014) conclude that studies of existing mother-infant interventions targeted at women with PND were "scarce, rarely used randomised controlled trial methodology, are poorly evaluated, of long duration, and generally have not assessed infant outcomes". This study developed and trialled IPT-MC for PND which used attachment theory to inform its additional focus on the mother-baby relationship. It was a controlled trial with cluster-randomised allocation for participants identified as meeting criteria for PND.

It is recommended that evaluations of PND treatments occur in realistic, community settings that overcome barriers to care for new mothers (O'Hara, 2009a). The trial methodology was developed recognising difficulties associated with the recruitment of new mothers suffering from PND, and using identified strategies to overcome those difficulties.

Aims and Hypotheses

This study attempts to address the lack of trials evaluating short-term, community based interventions that address both PND and mother-child relational disturbance. It contains objective assessment of both maternal mood and mother-child relationship outcomes.

Considering the gaps identified in the research, the overall aim of this study was to determine whether the addition of a mother-child component to a standard IPT-PND is capable of addressing both mood disturbance and mother-child relational disturbance concurrently. That is, that IPT-MC
improves the relationship between mother and baby, without disturbing the ability of the treatment to address mood disturbance.

In order to test this aim, specific indicators of success of this proposal were identified and hypotheses devised from them. At the basic level, there are hypotheses dedicated to ensuring that a modification of a standard therapy does not modify its current mechanism of change or current ability to be successful.

Underlying that, a number of hypotheses are made regarding the specific impact of IPT-MC on the mother-child relationship. In order to look broadly at its impact, it uses both maternal self-report and objective (observer-coded) measures.

While RCT commonly measure aggregate change, some commentators have suggested they need to also focus on individual responses to treatment and the mechanisms of nomothetic change (Salekin, Jarrett, & Adams, 2013). Thorough research of treatment of depression may need to incorporate both symptom and functional change (McKnight & Kashdan, 2009). Such a functional measure is possible using the risk zones for the EA Scale identified by Vliegen, Luyten, and Biringen (2009). These allocate direct scores on the subscales to ‘risk’, ‘non-risk’, and ‘optimal’ zones to identify levels of dysfunction in the relationship which may be at a clinical level and thus, are at risk of negative outcomes for the child.

This structural model of hypotheses is provided in Figure 6 below.
Figure 6. Structural design of the study hypotheses.

**Research Question 1**: To investigate the impact of IPT-PND as a mental health disorder therapy, when sessions are modified to include a mother-child relationship focus.

**Hypothesis 1**: That an IPT-PND modified to incorporate the mother-child relationship (IPT-MC) will not reduce its ability to improve maternal mood and anxiety, as assessed by:

1. severity of depressive symptoms (measured by BDI-II).
2. severity of anxiety symptoms (measured by BAI).

Whilst IPT-PND is most effective as a mood disorder treatment, it is recognised that many people with Major Depressive Episode, including post-partum
women, report a mixed depressed/anxious episode, and so anxiety symptoms are also assessed.

**Research Question 2:** To investigate the impact on the mechanism of change of IPT-PND, when sessions are modified to include a mother-child relationship focus.

**Hypothesis 2:** That IPT-MC will not reduce its ability to improve maternal social functioning, as measured by:

1. the mother’s self-reported interpersonal functioning (measured by SAS-SF).

**Research Question 3:** To investigate the effect of IPT-MC on the mother’s self-report of her relationship with her child, in comparison to a group receiving no attachment or interpersonal treatment.

**Hypothesis 3:** That IPT-MC is better able to reduce the impact of PND on mother-child relationship disturbance, compared to no attachment or interpersonal therapy, as assessed by:

1. mother’s self-reported change in relationship with baby (measured by MAI).
2. the mother’s self-reported levels of parenting stress (measured by PSI).
3. mother’s reported change in the child’s behaviour/temperament (measured by ICQ).

**Research Question 4:** To investigate the effect of IPC-MC on observed maternal sensitivity, in comparison to a group receiving no attachment or interpersonal treatment.

**Hypothesis 4:** That IPT-MC is better able to reduce the impact of PND on maternal sensitivity disturbance, compared to no attachment or interpersonal therapy, as assessed by:

1. researcher-coded change in maternal sensitivity behaviours via a videotape measure (the EAS).

**Research Question 5:** To investigate the ability of IPT-MC to show effects on observed child variables in the mother-child relationship.

**Hypothesis 5:** That IPT-MC is better able to reduce the impact of PND on child variables in the relationship, compared to no attachment or interpersonal therapy, as assessed by:
1. researcher-coded change in child responsiveness via a videotape measure (the EAS)

**Research Question 6:** To investigate the ability of IPT-MC to show functional, as opposed to symptom-based, change in the mother-child relationship.

**Hypothesis 6:** That IPT-MC is better able to reduce the risk of mother-child relationship disturbance, compared to no attachment or interpersonal therapy, as assessed by:

1. change in researcher-coded *risk status* for the dyad, via a videotape measure (the EAS).

**Procedure**

*Trial registration and Ethics clearance*

The trial was registered with the Australia and New Zealand Clinical Trials Register (ACTRN12616000474599 Date Registered: 11 Apr 2016).

Ethical approval was obtained from The University of Melbourne Human Research Ethics Committee (Project No. HREC1238586). The project was also notified to the Victoria University Human Research Ethics Committee (as the author was an employee of the University at the time of the trial), which provided reciprocal approval based on the University of Melbourne HREC approval.

Approval from the Department of Education and Training, Research and Evaluation Branch was granted to recruit women via Maternal and Child Health Nurses in five different local government areas in Victoria, Australia (Approval reference: 2012_001707). These were Moonee Valley, Brimbank, Maribyrnong, and Wyndham Councils and Melton Shire.

*Recruitment Protocol*

The research was a multi-site, two group, cluster allocation controlled trial.

During the first 12 months of life, a baby has seven "key ages and stages" visits to a Maternal and Child Health Nurse funded by the Victorian Government (DEECD, 2009). A Nurse makes the first appointment in-home and a registry of births is used to remind parents of the due date of all following appointments. Recruitment via a Maternal and Child Health Centre was therefore designed to increase the representativeness of the sample.
Collaboration with Maternal and Child Health Nurses.

Maternal and Child Health Nurses (MCHN) in western Melbourne were canvassed and provided information sessions regarding the study. The study was offered as an additional resource for them to refer mothers to in their local area. A protocol for treatment as usual was formalized in keeping with their current practice including referral to GP or psychologist. In addition, MCHN were provided with the opportunity to have general questions regarding psychosocial treatment of mood or anxiety answered via email.

MCHN were asked to screen all women visiting their service using their normal Council-advised EPDS screening schedule, and to discuss the study with those who score over the cut-off for likelihood of depression. This is a standard measure used by MCHN and was used to ensure no addition to their workload. MCHN were also asked to notice any clinical signs of mood disturbance and consider referral to the study using their clinical judgment as well as EPDS. Again, this was structured to add no further workload for the MCHN in the course of their duties.

MCHN were only required to indicate to participants that a research study existed which:

- had been ethically approved by DEECD
- involved a treatment arm so that participants may get the chance to be involved in a free postnatal depression treatment
- did not involve any change in their treatment from the MCHN

MCHN provided potential participants with an information sheet (supplied by the researcher) and asked for permission to provide their contact telephone number to the researcher.

MCHN were specifically briefed that they were not required to:

- coerce the participant into providing details
- provide any specific information or professional opinion about the merits of the research study
- change any of their treatment of the client based on their participation or lack of participation in the study

Assessment of suitability by researchers

After providing consent, women were visited either in their home or in their local Maternal and Child Health Centre for in-person assessment by the researchers. Women were screened using the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders-IV-TR (DSM-IV-
TR), Mood Disorders Module, to determine whether they met criteria for major depressive episode. Whilst the DSM has now moved into a new version (DSM-5), there is no current SCID for DSM-5 and there is no significant change to the diagnostic criteria for major depressive episode. Informed consent procedures and baseline data including videotape measure were completed either at this interview or, if time constraints were in place or the potential participant wanted time to reflect on the information, within seven days of the interview.

Once women had agreed to participation in the study, they were allocated to receive either the IPT-MC intervention plus TAU or to receive only the TAU.

Figure 7 provides the study flow diagram.
Inclusion and exclusion criteria

**Inclusion criteria:** Women with a SCID diagnosis of major depressive episode who were 18 years of age or older and had a child under 12 months at the commencement of the study, were eligible for participation.

**Exclusion criteria:** Women needed to have a sufficient grasp of English to participate in a group therapy, and this was determined by their ability to participate fully in the assessment interview. If they were unable to understand the content of any of the interview questions or unable to verbally communicate...
their answers, they were considered to not be able to benefit from a group therapy. Women were also excluded if they fulfilled any of the following criteria:

- current substance abuse
- diagnosed manic/hypomaniac episode or psychosis
- current inpatient psychiatric admission
- significant current suicidality resulting in inpatient treatment
- participation with any of their children in an attachment-based mother-child intervention now or in the past

As this was designed as a community-embedded study, there were no exclusion criteria surrounding current individual psychotherapy treatment, antidepressant medication, or infant sleep intervention. Borderline Personality Disorder was not an exclusion criteria, however significant suicidality (enough to warrant inpatient treatment) was excluded.

**Allocation**

Allocation was completed using computer algorithm. This was a cluster allocation procedure in which groups of three women were grouped together. The first three women who agreed to participate in the trial in the same Council site were grouped together. The allocation was made once three women were eligible to be grouped. The next group of three women was again grouped based on location. This group was allocated to the alternate condition. For example, if the first allocation was to IPT-MC, the next group were automatically allocated to TAU. The purpose of cluster allocation is to reduce the amount of time eligible women spend waiting to participate in the program.

It was not feasible to conceal the intervention from those delivering or receiving the treatment. Therefore participants were not blind to which condition they are allocated. The study was, however, presented as one which monitors all mental health or mother-child interventions a woman is participating in, including but not limited to the IPT-MC group. Assessment for inclusion into the study was made before the researcher was aware of the allocation group.

**Treatment Groups**

*Treatment as Usual (TAU)*

All participants, including those allocated to the treatment as usual group, received their normal 'best practice' care by their Maternal and Child Health
Nurse, including any option she recommends for referral to GP for a mental health care plan (MHCP) intervention, medication, etc. In practice the MCH Nurse will recommend GP referral but not administrate the referral except in severe circumstances. The MCH Nurse may also provide referral to sleep interventions ("sleep school") or other educational, support, or intervention groups as currently exist in the community. The MCH Nurse facilitates inclusion in a "new parents" group for those with babies of appropriate age.

*Interpersonal Therapy (Mother-Child) (IPT-MC)*

Participants allocated to the IPT-MC treatment received a manualised 10-week interpersonal therapy for postnatal depression treatment, modified to focus on the mother-child relationship. There is now good evidence that group treatments are appropriate for PND (Goodman & Santangelo, 2011). The treatment here was based on the content of sessions in Reay et al. (2010). The program consisted of a pre-group individual session of 90 minutes prior to the commencement of the group, to address the development of IPT-MC appropriate goals. Women were asked to ensure at least one of these goals included the development of a good relationship with their baby. The group process involved 10 weeks of IPT-MC sessions for participants and their child under 12 months. Older siblings were not included in the group. There was an evening partner session, solely for partners, to provide psychoeducation regarding supporting a partner to improve her communication. The interpersonal therapy addressed the role transition to parenthood within a relational framework, and then addressed conflicts in relationships with partners, with their child(ren), and to a lesser extent, with their wider social circle.

*Sample Protocol*

Reay et al (2010) found in their pilot study that depressed mothers generally presented with either role transitions or disputes as their problem area. They therefore developed a group protocol that focussed on these two and subsumed grief into those two rather than addressing it specifically. There was one session at the end on interpersonal sensitivity, which is no longer a formal ‘problem area’ in the IPT formulation, as it was considered that addressing other problem areas would address the issue of sensitivity/insecure attachment.

The adaptation here of the Reay et al (2010) protocol involved additional material based on attachment theory regarding relationship between the mother and baby, but maintaining a here-and-now focus on communication difficulties in line with IPT. For example, there was a focus on improving reflective functioning in the mother via improving her ability to understand and communicate with her baby.
Table 11 provides a short outline of the content of each section of the IPT-MC. New material not included in Reay et al (2010) is italicised.

*Adherence to IPT treatment*

Audiotapes of all sessions were reviewed by an IPT therapist holding IPT supervision qualifications with the *Interpersonal Psychotherapy Institute* at the University of Iowa. Sessions were reviewed to ensure that the treatment met the theoretical orientation of IPT and techniques from other therapeutic approaches were not prominent.
### Table 11.

Outline of IPT-MG sessions used in the study.

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>Assessment of suitability</td>
</tr>
<tr>
<td>Pre</td>
<td>One individual session: Interpersonal Inventory, preparing goals to work on in the group</td>
</tr>
</tbody>
</table>
| 1       | Introduction to group, education about PND and IPT  
  - Introduction to group work and sharing treatment goals.  
  - Education about PND, IPT and focus on relationships including with the baby. |
| 2       | Role transitions  
  - Experiences of life before and after being a mother: positive and negative aspects.  
  - Introduction of thinking about baby: “the baby’s role transition”  
  - Challenges for mother and baby of the new role, and incorporating positive aspects into the new situation. |
| 3       | Communicating with baby  
  - Education on communicating with baby.  
  - Interpersonal incidents associated with enjoying/not enjoying being with baby.  
  - Role play, communication analysis, or brainstorm of those disputes. |
| Mid     | Partner session: Psychoeducational in nature regarding PND and how to support partner |
| 6       | Resolving disputes  
  - Exploring common disputes between partners in the new parenthood period.  
  - Identifying interpersonal incidents, and role play, communication analysis, or brainstorm of those disputes.  
  - Education on modifying expectations, communicating needs, other options. |
| 7       | Patterns in relationships  
  - Consolidating progress  
  - Education on life experiences determining communication style in relationships  
  - Identification of patterns and brainstorming, additional interpersonal incident work as required |
| 10      | Review of progress and farewells: last session is reserved for relapse prevention work and farewells |
Data collection and storage

Data was collected by the author, research assistants and/or investigators associated with the trial, who met the minimum criteria to be able to administer the measures included. Researchers contacted the participants by telephone to organise follow-up assessments at their house or local Maternal and Child Health centre. All data for the study (videotape and written) was kept electronically on a password secured server. A data management protocol for the study was maintained by the investigators.

Sample size calculations

The primary outcomes were post-treatment and follow-up scores on the mother-infant relationship measures (EAS and MAI). Power analysis was done assuming an umbrella MANOVA to test the main and interaction effects for a design incorporating 2 treatment groups (between groups) x 3 treatment times (within groups) x 4 response variables. MANOVA would be completed separately for the primary outcomes (relational measures) and the secondary outcomes (depression, anxiety, and social adjustment), and be followed by repeated measures ANOVA and t-tests for significant individual measures. This is in line with the approach taken by Forman et al. (2007) in their study on the effects of IPT on maternal sensitivity. With an alpha level of 0.05 and a power level of 0.8, the effect size was set based on estimated MAI scores from the Mulcahy et al. (2010) study of group IPT for PND. This gave an initial sample size required of n=32 participants.

Approach to anticipated recruitment challenges

Women with newborn children, postnatal depression, and/or lacking social support do not have to be socially or financially disadvantaged to find it difficult to engage in services. The care of a new child is a time-consuming task which reduces a woman’s ability to engage in activities in the wider world. In addition, there is a component of guilt at failure in the parental role which has been reported to reduce treatment-seeking in mothers.

Winkworth, McArthur, Layton, Thomson, and Wilson (2010) lists barriers to care for families with limited social support, and particular attention is paid to avoiding these barriers or engaging with women in ways that would not exacerbate them. These include:

- a sense that they needed to be self-reliant and a lack of family or friends who utilised formal support services;
- feeling shame, judgment, or ‘under surveillance’ when engaging services;
- not being made aware of services; and
- poor customer service or client-liaison experience in engaging a service.

Cortis (2012) discusses strategies for engaging hard-to-reach, socially disadvantaged, or other populations which are in need of services but are less likely to engage. In our experience, the recruitment of postnatally depressed women is historically difficult. Some of the recommendations from Cortis were therefore included in the recruitment protocol.
To increase likelihood of participation, women who were allocated to a Treatment-As-Usual group were offered the option of participating in a *Calm Parenting* mindfulness group, providing psychoeducation on mindfulness practices related to parenting. The group was designed to avoid any reference to attachment-based or interpersonal work. The group was optional. Following participation in the study and the follow-up period, the mindfulness group was also offered to the women in the IPT condition.

**Measures**

Measures were chosen as valid tests of the hypotheses. In addition, consideration was taken of the measures used in the Reay (2010; Mulcahy et al, 2010) study, such as the MAI to assess maternal bonding and the ISEL to assess change in relationship quality. Consideration was also given to the Forman et al. (2007) study, which included the PSI to measure the mother’s report of her level of stress in raising her child and videotape measures of the mother-child relationship.

A combination of self-report and observation techniques may be best practice to assess the mother-child relationship in therapy trials (Condon, 2012). Both were therefore included in the study. The primary outcome measure for the study was the Emotional Availability Scales (EAS) *clinical screener* and *maternal sensitivity* score (Biringen et al., 2014). The EAS is one of very few simple, objective measures of the mother-child relationship. The Maternal Attachment Inventory was chosen as the self-report measure.

Additional outcomes were self-report scales of depression (BDI) and anxiety (BAI).

The theorised mechanism of change for IPT is via social functioning (Stuart & Robertson, 2012). Thus a measure of social adjustment, the Social Adjustment Scale – Short Form (SAS-SF) was included. As well as assessing the mechanism of change, a measure of social functioning fulfills the aim of measuring functional outcome. McKnight and Kashdan (2009) make the case for the assessment of functional outcomes in depression research rather than simply symptom outcomes. The authors’ review of the literature found that the relationship between symptoms and functioning remains unexpectedly weak and often bidirectional, even in therapies considered gold-standard. Reviews of the functional impact of depression often focus on the impact on social variables (Coyne & Downey, 1991; Coyne, Thompson, & Palmer, 2002; Joiner, 2000; Nezlek, Hampton, & Shean, 2000; Petty, Sachs-Ericsson, & Joiner, 2004; Wildes, Simons, & Harkness, 2002).

All measures except the Structured Clinical Interview for Depression and the EPDS were administered at baseline, +3 months, and +6 months.

**Hypotheses Group A: Mother’s Mental Health**

*Edinburgh Postnatal Depression Scale* (Cox, Holden, & Sagovsky, 1987). This 13-item self-report screening tool for postnatal depression was used by MCHN in their screening procedures. It has been shown to be accurate at identifying depression in large cohorts.
Whilst a note of the score was taken, this measure was not a formal part of the assessment process, and women who did not have an EPDS completed but had been identified via clinical assessment were still interviewed for suitability.

Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-I) (First, Spitzer, Gibbo, & Williams, 1996). The Structured Clinical Interview for DSM-IV-TR was the measure used to assess whether women met criteria for Major Depressive Episode. It is a 15-30 minute semi-structured interview designed to allow the interviewer to make the major DSM-IV Axis I diagnoses. For this study, the SCID-CT (Clinical Trials) was used, a streamlined version which retains the diagnostic accuracy of the SCID. It was tailored to include maximum information on the Major Depressive Disorder diagnosis.

Although the Diagnostic and Statistical Manual was updated to DSM-5 in May 2013, there was no equivalent SCID-I for DSM-5 until the Research version in November 2014 and the Clinical Trials version in December 2014. By that stage recruitment for the study had commenced. However, there has been no significant change in diagnostic criteria for Major Depressive Episode in the changeover to DSM-5. Neither the core criterion symptoms applied to the diagnosis of major depressive episode nor the requisite duration of at least 2 weeks has changed from DSM-IV. Criterion A for a major depressive episode in DSM-5 is identical to that of DSM-IV, as is the requirement for clinically significant distress or impairment in social, occupational, or other important areas of life (American Psychiatric Association, 2000).

Beck Depression Inventory (BDI-II) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The Beck Depression Inventory 2nd Edition (BDI-II) is designed to assess the existence and severity of symptoms of depression according to the DSM-IV-TR/DSM-5. It is a 21-item self-report measure, with items scored on a four-point scale (0-3) yielding a total depression severity score. There is extensive research on the construct validity, sensitivity, specificity, and test-retest reliability (Beck, Steer, & Brown, 1996). For general populations, a total score of 0-13 is considered minimal depression, 14-19 is mild depression, 20-28 is moderate depression, and 26-63 is severe depression.

A recent study of western mothers with children aged 0-14 months recommended cut-off scores for optimal sensitivity for major depressive disorder which are lower than used for the general population. The authors recommend a BDI-II score of 11 or greater as indicating mild depression and a score of 14 or more as indicating moderate depression (Chaudron et al., 2010).

Beck Anxiety Inventory (BAI) (Beck, Epstein, Brown, & Steer, 1968). The Beck Anxiety Inventory is a 21-item scale designed to discriminate anxiety symptoms from depressive episode symptoms, and covers subjective, somatic, or panic-related symptoms of anxiety. Items are answered on a four-point scale (0-3) and yield a total anxiety score. It has high internal consistency, high test-retest reliability, and good convergent validity with other measures of anxiety in adults. Scores of 0-21 indicate minimal anxiety, 22-35 indicate moderate anxiety, and 36-63 indicate severe anxiety. There is minimal research on the BAI and depression for postnatal women; one study indicates that prenatal BAI scores do not have predictive validity for postnatal depression (Kim, Hur, Kim, Oh, & Shin, 2008). However, some research suggests that postnatal depression and anxiety are often
comorbid (Stuart, Couser, Schilder, O’Hara, & Gorman, 1998). We chose to assess the impact of treatment on anxiety symptoms of the sample as a secondary measure.

**Social Adjustment Scale – Self Report, Short Version (Weissman & Bothwell, 1976).** The Social Adjustment Scale – Self-report is a self-report adaptation of an interview measure of social functioning used widely in research and clinical practice. It is suitable for individuals aged over 17 years. The questions measure expressive and instrumental performance over the past two weeks in six role areas: work (study or home duties), social and leisure, extended family, relationship, parental, and family unit. Questions address performance, friction with others, interpersonal relationships, and feelings/satisfaction. Each question is rated on a five-point scale from which role area means (1-5) and an overall mean (1-5) can be obtained. Higher scores relate to greater impairment. Role areas not relevant to the respondent are skipped (Weissman et al, 1976).

The 32-item Short Form version of the SAS-SR was developed for research methodologies with time constraints. It was designed to carry all of the sub-scales of the SAS-SR with fewer items in each subscale. As scores are averages, they are directly comparable to the full-scale version. The Short Form has been found to have high correlations with SAS-SR full scores and with the SF-36 Health Survey, the ability to distinguish major depression from other psychiatric disorders or no mental disorder, and sensitivity to change in clinical status (Gameroff, Wickramaratne, & Weissman, 2011).

**Hypotheses Group B: Mother-Baby Relationship**

**Parenting Stress Index – Short Form (PSI-SF) (Haskett, Ahern, Ward, & Allaire, 2006).** The Parenting Stress Index Short Form (PSI-SF) was designed to measure the level of stress directly associated with the parenting role, and is used for early identification of dysfunctional parent-child interactions, parental stress, family functioning, and risk for child abuse. It is a self-report inventory completed by either parent with children up to 12 years, but is primarily intended for parents of children 0-3 years.

The PSI-SF is derived from a full-length test and consists of 36 items answered on a 5-point scale. It provides a total stress score and three sub-scale: parental distress, parent-child dysfunctional interaction, and difficult child. Parents with Total Stress scores above a raw score of 90 are considered to experience clinically significant parenting stress. The scale has good internal consistency reliability, validity, and test-retest stability (Abidin, 1995).

The PSI-SF has been found to be negatively associated with parenting self-efficacy and positively related to the number of family risk factors (Raikes & Thompson, 2005). PSI-SF Difficult Child scores correlated in the expected direction with observations of maternal intrusiveness and sensitivity in a sample of mothers and 6-month-old infants (Calkins, Hungerford, & Dedmon, 2004). Maternal scores on the PSI-SF have also been found to be related to increased risk for developing insecure attachment in a sample of premature infants (Laganière, Tessier, & Nadeau, 2003).
Emotional Availability Scales, 4th Edition – Infancy/Early Childhood Version (EAS) (Biringen, 2000, 2008). The Emotional Availability (EA) Scales are a short (20 minute) videotape measure of the relationship between caregiver and child. They are based on attachment theory but widen this to incorporate the work of Biringen (2000) on emotional availability as a communication between caregiver and child, whereby each recognises and responds satisfyingly and reassuringly to the signals of the other. Videotapes are therefore coded along four ‘caregiver’ variables: sensitivity, structuring, non-intrusiveness, and non-hostility, and two ‘child’ variables: responsiveness and involvement. The dyads are coded as one unit, and subscales are independent of one another. Tapes are coded by health professionals with additional EA Scales accreditation.

Emotional availability, along with other forms of behavioural/objective assessment of mother-child relationships, is an emerging measurement style. The EA Scales shows acceptable validity and reliability, giving intra-class correlation reliabilities between .79 for non-hostility and .92 for sensitivity (Bornstein et al., 2006). The scales have been shown to remain stable between 18 and 24 months (Biringen, Brown, et al., 2000). They have been shown to be related to, but distinct from, attachment style in young children (Biringen et al., 2014), although the construct validity work has been completed using attachment measures (Ziv, Aviezer, Gini, Sagi, & Koren-Karie, 2000). Brief emotional availability interventions have been shown to alter scores on the EA Scales (Nicolson, Judd, Thomson-Salo, & Mitchell, 2013).

The scale for the EA2 Clinical Screener included in the fourth edition of the EA Scales ranges from 1 to 100 (Biringen, 2008). Ratings along this scale fall into one of four zones: ‘Problematic’ (1–40), ‘Detachment’ (41–60), ‘Complicated’ (61–80), and ‘Dyadic Emotional Availability’ (81–100). The anchor points of the scales are defined in whole points, but we coded by half-points. The adult-child relationship is categorised in the Dyadic Emotional Availability zone if both members of the dyad are, in general, emotionally available and responsive to one another. That is, the adult is observed to be sensitive to the needs of the child, appropriately structuring the interaction, and nonintrusive and nonhostile toward the child, while the child is observed to be socially/emotionally responsive and involving. In contrast, dyads in the lowest three zones are considered to be most at risk for poor EA. Dyads categorised in this range are observed as connected, but in a way that is not healthy. The Complicated zone indicates a mismatch in EA, with one member available and the other less so; the Detachment zone indicates an emotional disconnection but basic needs are met; and the Problematic zone indicates an extreme lack of adult sensitivity and child responsiveness. Within each zone, lower on the scale indicates more problems in the relationship.

In this study, the coders were separate to the assessment and therapy teams and were blind to the randomisation of the participant and her questionnaire answers. Biringen et al. (2014) state that the EA Scales provide information on the overall affective quality of the caregiver-child relationship beyond the child’s attachment with that caregiver. Intraclass correlation analysis indicated that interrater reliability for the EA Scales and the EA2 Clinical Screener was achieved in this study (further statistical analysis of this is provided in the Results chapter).
EAS administration method for this study. For this study, the videotaper and rater were separate and the raters were blind to any additional information about the mother or her study condition. Mother-child dyadic interactions were videotaped either at the dyad’s home or at the Maternal and Child Health Centre that the mother regularly attends. Interactions were taped for 20 minutes, during which time the mother was told to carry about her activities as she normally would at home with her child during the day. Periods of time when the child was sleeping were not taped. Periods of time when mothers were breastfeeding were limited to under 50% of the video time. Mothers were allowed to leave the room, and if so, the recorder was kept on the child, with occasional switches to provide context for the mother’s location and behaviours. Mothers were told that they could ‘veto’ any material they didn’t feel comfortable having on videotape; however, during this study there were no times when a mother indicated this.

Maternal Attachment Inventory (MAI) (Müller, 1994). The Maternal Attachment Inventory (MAI) was developed to provide a practical measure of maternal affectionate attachment. The MAI was validated on women with children under 12 months of age and demonstrated correlations with other indicators of maternal attachment and internal consistency. It measures three dimensions of maternal attachment: pleasure of proximity, acceptance, and tolerance and compassion. The MAI is a 26-item scale of maternal activities and feelings that indicate affection, and is scored on a four-point scale (1-4) and yielding a total score, with higher scores indicating greater attachment. In a randomised study, Gürol and Polat (2012) found an increase in scores on the MAI in their control group of healthy mothers from 84.28 at 1 day postpartum to 85.10 at 1 month postpartum and in an infant-massage training intervention group from 88.12 at 1 day postpartum to 90.87 at 1 month postpartum. In a sample of 220 Jordanian first-time mothers with babies 0-6 months, Gharabeh and Hamlan (2011) found a mean MAI score of 87.9 (SD=10.43).

Infant Characteristics Questionnaire (ICQ) (Bates, Freeland, & Lounsbury, 1979). Child behaviour, or temperament, and the mother’s perception of this was measured by the Infant Characteristic Questionnaire (ICQ). This is a 24-item measure rated on a 7-point scale. The original 24-point scale yielded four sub-scales: fussy-difficult (items 1, 5, 6, 13, 22, and 24), unadaptable (items 9, 10, 11 and 20), dull (items 16, 23, and 15(reversed)), and unpredictable (items 2, 3, and 4) plus all items can be added together to provide a total score of infant difficulty-in-managing. Adequate levels of internal consistency and test-retest reliability have been reported for the ICQ. The Fussy/Difficult scale is the most widely used in research and the scale with the highest reported validity. Bates’ mean scale scores at 6-months are: Fussy/Difficult, M= 17.77, SD= 5.88; Unadaptable, M= 8.90, SD= 1.85; Dull, M= 5.88, SD= 1.85; and Unpredictable, M= 7.32, SD= 2.69. In their later sample, Mantymaa, Puura, Luoma, Salmelin, and Tamminen (2006) found the mean ICQ Fussy/Difficult scale score was 18.8 (SD=5.5).
Chapter 5: Results

This chapter describes the outcomes of the treatment study with regards to the six hypothesised effects, as outlined in the study structure in the Methodology chapter.

Participants

The CONSORT flow chart of the number of women identified for the study, assessed for inclusion, consenting to participate, and completing the study is presented in Figure 8. Further discussion of recruitment numbers will be made in the Discussion chapter.
Figure 8. CONSORT Flow Diagram for the study.

Data from N=28 participants was available (after randomisation, TAU N=12, IPT-MC N=16). Six participants withdrew from the study following the first measure. The remaining 22 participants (IPT N=13 and TAU N=9) completed measures at all three time-points. All participants’ baseline data was used when intent-to-treat analyses were conducted. Table 12 outlines the demographics of the participants.
Demographics of all study participants.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean (SD)</th>
<th>N (N=28)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Mother (unknown N=7)</td>
<td>34.29 years (3.44)</td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Age of children</td>
<td>167 days (135 days)</td>
<td>[5.38 months]</td>
</tr>
<tr>
<td>Relationship Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partnered</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Council</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moonee Valley</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Brimbank</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Melton</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Treatments Reported Using</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual therapist</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Antidepressant medication</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>‘Sleep school’ or sleep consultant</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Data screening

All data analyses were completed using the statistical package, IBM SPSS Statistics 24.0 for Windows. Prior to analysis, outcome and predictor variables were examined for accuracy of data entry, missing values, and fit between their distributions and the assumptions of nonparametric, correlational, and ANCOVA analysis.

Missing data. For the paper and pencil questionnaires, data was checked for accuracy of the coding and entry into SPSS. Two researchers entered the data. Given the small sample size, 100% of the data was then cross-checked for accuracy and discrepancies amended. The observer-coded data was entered into a Microsoft Excel spreadsheet and transferred into SPSS for coding. Researchers were asked to double-check their data prior to upload.

Data ranges for each variable were checked to ensure they were within the range prescribed in the manual for each questionnaire. For the questionnaire data, missing variables were assessed. There was no missing data for BDI-II scores. Missing data existed on a maximum of two items for the BAI (Time 1), PSI (Time 1), PSI (Time 2), PSI (Time 3), MAI (Time 1), ICQ (Time 1) and ICQ (Time 3). There were no scores below the PSI ‘Defensive Responding’ threshold of 10. SAS-SF scores are robust to missing values as the total score is calculated as an average of all questions answered. This is because some questions are not relevant to an individual’s life (for example, dysfunction as a student is not relevant if the respondent is not studying). A Missing Values Analysis indicated that Little’s (1988) test of Missing Completely at Random (MCAR) was not significant $\chi^2 = 162.744$ (df = 154, $p = .299$). Therefore, there was no evidence to suggest that the data were...
not MCAR. For the observer-coded data, researchers checked to ensure no missing data prior to upload.

Scale reliability. Table 13 provides the Cronbach’s alpha calculation of the reliability (internal consistency) of the questionnaires. As different items applied to different women in the Social Adjustment Scale (depending on whether women were working, studying, or at home), there were too few cases to assess item reliability on this scale. All scales had high levels of internal relationship. No scales are above .950 where redundancy would be a consideration.

Table 13.

Internal consistency measures for questionnaire data.

<table>
<thead>
<tr>
<th>Scale</th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI-II Time 1</td>
<td>28</td>
<td>.848</td>
</tr>
<tr>
<td>BDI-II Time 2</td>
<td>22</td>
<td>.938</td>
</tr>
<tr>
<td>BDI-II Time 3</td>
<td>22</td>
<td>.943</td>
</tr>
<tr>
<td>BAI Time 1</td>
<td>28</td>
<td>.869</td>
</tr>
<tr>
<td>BAI Time 2</td>
<td>22</td>
<td>.869</td>
</tr>
<tr>
<td>BAI Time 3</td>
<td>22</td>
<td>.931</td>
</tr>
<tr>
<td>PSI-SF Time 1</td>
<td>28</td>
<td>.807</td>
</tr>
<tr>
<td>PSI-SF Time 2</td>
<td>22</td>
<td>.834</td>
</tr>
<tr>
<td>PSI-SF Time 3</td>
<td>22</td>
<td>.903</td>
</tr>
<tr>
<td>MAI Time 1</td>
<td>28</td>
<td>.943</td>
</tr>
<tr>
<td>MAI Time 2</td>
<td>22</td>
<td>.916</td>
</tr>
<tr>
<td>MAI Time 3</td>
<td>22</td>
<td>.918</td>
</tr>
<tr>
<td>ICQ Time 1</td>
<td>28</td>
<td>.887</td>
</tr>
<tr>
<td>ICQ Time 2</td>
<td>22</td>
<td>.891</td>
</tr>
<tr>
<td>ICQ Time 3</td>
<td>22</td>
<td>.907</td>
</tr>
</tbody>
</table>

Assumptions of ANCOVA

Analyses were based on General Linear Model (GLM), treating the data as continuous across all measures. SAS-SR scores were totalled and the average response for participants across all categories that they responded to was used. A GLM can test changes in a dependent variable across different timepoints. The model can be extended to include continuous explanatory variables that are not part of the experimental manipulation but potentially have an influence on the dependent variable (Field, 2013). The purpose of including a covariate is to a) reduce within-group error variance and b) eliminate confounds. In this case, Time 1 scores of the women were used as a covariate, to account for the within-group variance of the participants’ starting level symptoms and relationship quality. Assumptions of the GLM include normality of the distribution of residuals.
Additionally, when including a covariate, there is an assumption of a) independence of the covariate and treatment effect, and b) homogeneity of regression slopes (Field, 2013).

Table 14 provides some descriptive statistics for participants on self-report measures relating to their own mental health. As the inclusion criteria indicated that women must be suffering from a depressive episode, it is not surprising that the average BDI-II score on enrolment in the study was in the severe range. There was a wide standard deviation for BDI-II scores at all time points. BAI scores were also in the elevated range and SAS-SR average scores were high.

Table 14.

Descriptive statistics for maternal data.

<table>
<thead>
<tr>
<th>Time</th>
<th>Scale</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>TAU – IPT-MC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mean difference</td>
</tr>
<tr>
<td>Time 1</td>
<td>BDI-II</td>
<td>TAU</td>
<td>12</td>
<td>29.92</td>
<td>6.39</td>
<td>0.13</td>
<td>-1.65</td>
<td>1.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>16</td>
<td>28.00</td>
<td>10.15</td>
<td>-0.11</td>
<td>-0.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BAI</td>
<td>TAU</td>
<td>12</td>
<td>19.58</td>
<td>10.12</td>
<td>0.69</td>
<td>0.01</td>
<td>-1.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>16</td>
<td>20.69</td>
<td>10.41</td>
<td>0.20</td>
<td>-0.30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAS-SR</td>
<td>TAU</td>
<td>12</td>
<td>2.65</td>
<td>0.41</td>
<td>-1.09</td>
<td>2.55</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>16</td>
<td>2.55</td>
<td>0.34</td>
<td>0.16</td>
<td>-0.15</td>
<td></td>
</tr>
<tr>
<td>Time 2</td>
<td>BDI-II</td>
<td>TAU</td>
<td>9</td>
<td>17.89</td>
<td>13.90</td>
<td>0.15</td>
<td>-2.19</td>
<td>-1.49</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>19.38</td>
<td>11.32</td>
<td>0.60</td>
<td>-0.70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BAI</td>
<td>TAU</td>
<td>9</td>
<td>13.33</td>
<td>9.73</td>
<td>0.79</td>
<td>-0.38</td>
<td>-1.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>15.00</td>
<td>9.47</td>
<td>1.28</td>
<td>2.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAS-SR</td>
<td>TAU</td>
<td>9</td>
<td>2.09</td>
<td>0.50</td>
<td>-0.20</td>
<td>-0.97</td>
<td>-0.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>2.33</td>
<td>0.44</td>
<td>-0.51</td>
<td>-0.65</td>
<td></td>
</tr>
<tr>
<td>Time 3</td>
<td>BDI-II</td>
<td>TAU</td>
<td>9</td>
<td>16.56</td>
<td>11.30</td>
<td>-1.03</td>
<td>-1.23</td>
<td>-1.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>18.23</td>
<td>12.60</td>
<td>0.54</td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BAI</td>
<td>TAU</td>
<td>9</td>
<td>9.11</td>
<td>7.30</td>
<td>0.26</td>
<td>-1.44</td>
<td>-5.97</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>15.08</td>
<td>12.92</td>
<td>1.02</td>
<td>0.52</td>
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</tr>
<tr>
<td></td>
<td>SAS-SR</td>
<td>TAU</td>
<td>9</td>
<td>1.87</td>
<td>0.51</td>
<td>-0.33</td>
<td>-1.65</td>
<td>-0.35</td>
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<td>IPT</td>
<td>13</td>
<td>2.22</td>
<td>0.46</td>
<td>0.62</td>
<td>1.59</td>
<td></td>
</tr>
</tbody>
</table>

Distributions. Data was reviewed taking into account that clinical measures of emotional disturbance such as those used in this study are commonly negatively skewed when used within an unhealthy population (Pallant, 2001). In addition the low ceiling effect of the MAI resulted in large kurtosis at some timepoints (Wilkinson & Scherl, 2006).

The Mann-Whitney U Test was used to examine the null hypothesis of no difference in location for the variables in the TAU and IPT groups at Time 1. These results are also displayed in Table 12. No results were statistically significantly for any scales, indicating that the data were consistent with the null hypothesis of no difference in locations, including the means.

Table 15 provides some descriptive statistics for participants on self-report measures relating to their relationship with their child. Values of skewness and kurtosis between -2 and +2 are considered consistent with an underlying normal univariate distribution.
Therefore most of the self-report measures of relationship were considered appropriate for further statistical analysis using a GLM. The exception is the MAI, which was leptokurtic at all time points, and to a significant degree for those in the IPT-MC group. The kurtosis increases across time periods for both groups, and extends past $+2$ for both groups at Time 3.

Table 15.

Descriptive statistics for self-reported relationship data.

<table>
<thead>
<tr>
<th>Time</th>
<th>Scale</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>TAU – IPT-MC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mean difference</td>
</tr>
<tr>
<td>Time 1</td>
<td>PSI-SF</td>
<td>TAU</td>
<td>9</td>
<td>103.44</td>
<td>11.83</td>
<td>0.44</td>
<td>-0.72</td>
<td>3.29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>100.15</td>
<td>19.77</td>
<td>-0.07</td>
<td>-1.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(parent-child dysfunction)</td>
<td>TAU</td>
<td>9</td>
<td>25.67</td>
<td>5.57</td>
<td>-0.00</td>
<td>0.34</td>
<td>-0.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>25.85</td>
<td>9.12</td>
<td>0.08</td>
<td>-0.65</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MAI</td>
<td>TAU</td>
<td>12</td>
<td>96.42</td>
<td>7.42</td>
<td>-0.75</td>
<td>-0.73</td>
<td>3.48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>16</td>
<td>92.94</td>
<td>9.08</td>
<td>-1.69</td>
<td>3.48</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ICQ</td>
<td>TAU</td>
<td>9</td>
<td>83.11</td>
<td>26.14</td>
<td>0.28</td>
<td>-0.95</td>
<td>-3.74</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
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<td>86.85</td>
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<td>0.23</td>
<td>-0.61</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(unpredictable child)</td>
<td>TAU</td>
<td>9</td>
<td>24.67</td>
<td>7.07</td>
<td>0.11</td>
<td>-1.61</td>
<td>-0.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>24.92</td>
<td>6.49</td>
<td>0.24</td>
<td>-1.59</td>
<td></td>
</tr>
<tr>
<td>Time 2</td>
<td>PSI-SF</td>
<td>TAU</td>
<td>9</td>
<td>89.69</td>
<td>15.90</td>
<td>0.66</td>
<td>-0.57</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>87.34</td>
<td>15.51</td>
<td>0.34</td>
<td>-0.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(parent-child dysfunction)</td>
<td>TAU</td>
<td>9</td>
<td>21.89</td>
<td>6.92</td>
<td>-0.22</td>
<td>-1.65</td>
<td>1.12</td>
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<td></td>
<td>IPT</td>
<td>13</td>
<td>20.77</td>
<td>6.33</td>
<td>0.44</td>
<td>-1.15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MAI</td>
<td>TAU</td>
<td>9</td>
<td>99.22</td>
<td>5.29</td>
<td>-1.07</td>
<td>0.19</td>
<td>5.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>93.62</td>
<td>9.61</td>
<td>-1.94</td>
<td>4.47</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ICQ</td>
<td>TAU</td>
<td>9</td>
<td>68.44</td>
<td>23.74</td>
<td>0.51</td>
<td>0.14</td>
<td>-3.79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>72.23</td>
<td>15.25</td>
<td>-0.70</td>
<td>2.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(unpredictable child)</td>
<td>TAU</td>
<td>9</td>
<td>18.89</td>
<td>7.62</td>
<td>-0.30</td>
<td>-1.82</td>
<td>0.51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>18.38</td>
<td>3.73</td>
<td>-0.88</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>Time 3</td>
<td>PSI-SF</td>
<td>TAU</td>
<td>9</td>
<td>87.98</td>
<td>21.23</td>
<td>0.93</td>
<td>-0.65</td>
<td>5.64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>82.34</td>
<td>19.58</td>
<td>0.82</td>
<td>-0.70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(parent-child dysfunction)</td>
<td>TAU</td>
<td>9</td>
<td>21.03</td>
<td>7.32</td>
<td>0.29</td>
<td>-1.12</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>20.34</td>
<td>6.48</td>
<td>0.38</td>
<td>-1.36</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MAI</td>
<td>TAU</td>
<td>9</td>
<td>100.11</td>
<td>4.51</td>
<td>-1.54</td>
<td>2.70</td>
<td>4.73</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>95.38</td>
<td>9.09</td>
<td>-1.88</td>
<td>3.70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ICQ</td>
<td>TAU</td>
<td>9</td>
<td>69.67</td>
<td>21.97</td>
<td>0.08</td>
<td>-0.64</td>
<td>-3.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>72.70</td>
<td>17.38</td>
<td>0.44</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(unpredictable child)</td>
<td>TAU</td>
<td>9</td>
<td>17.67</td>
<td>6.82</td>
<td>-0.23</td>
<td>-0.53</td>
<td>-0.56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IPT</td>
<td>13</td>
<td>18.23</td>
<td>3.68</td>
<td>0.37</td>
<td>-0.80</td>
<td></td>
</tr>
</tbody>
</table>

Figure 9 shows the degree of skew for the groups at Time 3. Maternal Attachment Inventory scores are commonly high in healthy mothers (Şerçekuş & Başkale, 2016). This may have created a “ceiling effect”, especially as scores improved across time. Given that skew stayed within appropriate levels, it was decided to follow advice that health data often displays some non-normality and that transformations may not resolve this difficulty (Mihaylova, Briggs, O’Hagan, & Thompson, 2011).
Figure 9. MAI total for those in TAU and IPT-MC groups at Time 3.

*Independence of covariate.* Table 16 shows Levene’s test of equality of variances for all self-report measures at Time 1. No effects are statistically significant indicating the covariate is independent of the outcome effects of the study and GLM is a viable model.
Homogeneity of regression slopes. The assumption of homogeneity of regression slopes is tested by testing for an interaction of the covariate and the treatment condition. This was checked for each outcome. Table 17 provides the results of this analysis, with no statistically significant effects for the full scales. However, the subscales of the PSI (parent-child dysfunction) and ICQ (unpredictable child) showed significant interactions. These scales were considered as proxy measures of mother-child relationship on the self-report data. This result means further analysis on these subscales can only be interpreted with caution and the main scales should be used as the robust measure. The small sample size must again be noted as making it difficult to determine statistically significant changes in effect (Field, 2013).
Table 17.

Interaction effects for the self-report variables.

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group (TAU/IPT-MC) x BDI-II Time 1</td>
<td>1</td>
<td>30.55</td>
<td>0.19</td>
<td>0.665</td>
</tr>
<tr>
<td>Group (TAU/IPT-MC) x BAI Time 1</td>
<td>1</td>
<td>40.10</td>
<td>0.52</td>
<td>0.480</td>
</tr>
<tr>
<td>Group (TAU/IPT-MC) x SAS-SF Time 1</td>
<td>1</td>
<td>0.23</td>
<td>1.38</td>
<td>0.255</td>
</tr>
<tr>
<td>Group (TAU/IPT-MC) x PSI Time 1</td>
<td>1</td>
<td>1977.09</td>
<td>2.78</td>
<td>0.113</td>
</tr>
<tr>
<td>Group (TAU/IPT-MC) x (parent-child dysfunction) Time 1</td>
<td>1</td>
<td>80.48</td>
<td>6.77</td>
<td>0.018</td>
</tr>
<tr>
<td>Group (TAU/IPT-MC) x MAI Time 1</td>
<td>1</td>
<td>31.05</td>
<td>0.58</td>
<td>0.458</td>
</tr>
<tr>
<td>Group (TAU/IPT-MC) x ICQ Time 1</td>
<td>1</td>
<td>33.59</td>
<td>0.17</td>
<td>0.683</td>
</tr>
<tr>
<td>Group (TAU/IPT-MC) x (unpredictable child) Time 1</td>
<td>1</td>
<td>106.84</td>
<td>6.66</td>
<td>0.019</td>
</tr>
</tbody>
</table>


The manual for the EAS measure contains little direction on data screening or use for EAS scores (Biringen, 2008). In fact, the way in which data from observer-coded variables is used is still under debate (Sussman, 2016). Most published research on the EAS has used the direct scores on the subscales as a continuous measure (Biringen, 2005; Bornstein et al., 2006). This is in line with the theory that the different aspects of maternal-child relationships change along a continuous scale and do not ‘jump’ from category or style to another (Biringen, 2008). When coding, researchers assess each direct score scale based on individual item analysis, but they are provided with a qualitative definition of each score and are aware they are coding across a Likert scale.

Global ratings on a scale of 1-7 are coded on the parent (sensitivity, structuring, non-intrusiveness, and non-hostility) and child (responsiveness to the parent and involvement in the interaction) dimensions. Higher scores on all global dimensions represent more positive behaviours (Biringen, 2008). The scale for the EA2 Clinical Screener included in the fourth edition of the EAS ranges from 1 to 100. Ratings along this scale fall into one of four zones: ‘Problematic’ (1-40), ‘Detachment’ (41-60), ‘Complicated’ (61-80), and ‘Dyadic Emotional Availability’ (81-100). There are qualitative descriptions of zones and blocks of 10-point discrimination. Researchers are aware they are coding across a continuous scale, normally rounding to the nearest five-point score.

*Inter-laboratory and within-laboratory reliability.* Two research assistants, each with postgraduate training in clinical psychology, coded all (100% double coding) of the videos. As per Biringen (2005), both researchers who coded the videotape material received training and reached inter-laboratory reliability on the instrument prior to its use. Biringen also indicates that after obtaining inter-laboratory reliability, within-study reliability on videotapes of at least 20 minutes duration is recommended. Four videotapes, coded at various times during the study, were provided to the EAS training team to receive additional inter-laboratory ratings in order to ensure ratings continued to remain reliable.
A paid EAS expert cross-coded four videos and corrections were made to the coding across both coders’ scores. These ratings and any ‘corrections’ were discussed amongst the coders and subsequently their ratings reviewed, and the information incorporated into future coding.

The probability of multiple practitioners producing consistent results on the same participants at a similar time using the same instrument is important for establishing tool reliability. Intra-class correlation (ICC) establishes the conformity of a tool. It is commonly used to evaluate the reliability of continuous variables and is also suitable for data on ordinal scales when intervals between measurements are assumed to be equivalent (Portney, 2015). This is important because in this study, the direct scores (global scores) were used, as discussed above. This is a score on a continuous scale, which is calculated by assessing qualitative information given on an ordinal scale. The assessment of reliability therefore needed to take both into account. The ICC represents a proportion of variance between single and mean scores (Weir, 2005). The range of ICC scores vary between 0 and 1, with scores of 0 indicating no reliability, and scores of 1 indicating perfect reliability.

ICC estimates and their 95% confidence intervals were calculated based on a mean-rating ($k = 2$), absolute-agreement, 2-way random-effects model. ICC effects for all timepoints on measures were calculated together. In such a model, values less than 0.5, between 0.5 and 0.75, between 0.75 and 0.9, and greater than 0.90 are indicative of poor, moderate, good, and excellent reliability, respectively (Koo & Li, 2016). ICC estimates for each of the measures are listed below.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Intraclass correlation</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Screener</td>
<td>0.77</td>
<td>0.59-0.90</td>
</tr>
<tr>
<td>Maternal Sensitivity</td>
<td>0.80</td>
<td>0.63-0.90</td>
</tr>
<tr>
<td>Child Responsiveness</td>
<td>0.68</td>
<td>0.43-0.84</td>
</tr>
<tr>
<td>Child Involvement</td>
<td>0.62</td>
<td>0.35-0.82</td>
</tr>
</tbody>
</table>

Table 18 provides the means, standard deviations, skewness and kurtosis for the EAS variables used in this analysis. The values for asymmetry and kurtosis between -2 and +2 are considered acceptable (Gravetter & Wallnau, 2014). Therefore the distributions were considered appropriate for further statistical analysis using a GLM.
Table 19.

Descriptive statistics for the observer-coded variables.

<table>
<thead>
<tr>
<th>Time</th>
<th>Scale</th>
<th>Group</th>
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<th>SD</th>
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<td>16</td>
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</table>

Due to sample size limitations, nonparametric Kendall’s tau correlations were calculated to estimate the ordinal association between EAS clinical screener and subscale direct scores. These are shown in Table 20. As theorised by Biringen (2000), the maternal sensitivity and child responsiveness subscales had moderate to strong, but not perfect, correlations with the clinical screener. These correlations were mostly statistically significant. Correlations across time were mostly weak and not statistically significant.
Table 20.

Kendall’s tau nonparametric correlation for EAS subscales used.

<table>
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<tr>
<th></th>
<th>CS T1</th>
<th>MS T1</th>
<th>CR T1</th>
<th>CS T2</th>
<th>MS T2</th>
<th>CR T2</th>
<th>CS T3</th>
<th>MS T3</th>
<th>CR T3</th>
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</table>

CS=Clinical Screener MS=Maternal Sensitivity CR=Child Responsiveness

Differences for women who withdrew from the study

Means for the six women who completed Time 1 measures but then withdrew from the study were compared with means for those who continued to Time 3 (no women dropped out after Time 2). Table 21 shows the the Time 1 maternal self-report measures for those groups. Independent samples t-tests indicated that the data were consistent with no difference in the underlying means of those withdrawing and those remaining. That is, the characteristics of women who withdrew were not unduly different from the characteristics of those who remained in terms of mood and relationship dysfunction. However, given the small sample size, only large differences would be detected.
Table 21.

T1 scores for participants who completed/withdrew from study.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Status</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-test for equality of means</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mean difference</td>
</tr>
<tr>
<td>BDI-II Time 1</td>
<td>Withdrew</td>
<td>6</td>
<td>30.33</td>
<td>8.69</td>
<td>1.92</td>
</tr>
<tr>
<td></td>
<td>Remained</td>
<td>22</td>
<td>28.41</td>
<td>8.79</td>
<td></td>
</tr>
<tr>
<td>BAI Time 1</td>
<td>Withdrew</td>
<td>6</td>
<td>22.33</td>
<td>10.69</td>
<td>2.69</td>
</tr>
<tr>
<td></td>
<td>Remained</td>
<td>22</td>
<td>19.64</td>
<td>10.13</td>
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</tr>
<tr>
<td>SAS-SR Time 1</td>
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<td>2.65</td>
<td>0.43</td>
<td>0.07</td>
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<td></td>
<td>Remained</td>
<td>22</td>
<td>2.58</td>
<td>0.36</td>
<td></td>
</tr>
<tr>
<td>PSI total Time 1</td>
<td>Withdrew</td>
<td>6</td>
<td>97.67</td>
<td>5.65</td>
<td>-3.83</td>
</tr>
<tr>
<td></td>
<td>Remained</td>
<td>22</td>
<td>101.50</td>
<td>16.71</td>
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<tr>
<td>PSI parent-child dysfunction Time 1</td>
<td>Withdrew</td>
<td>6</td>
<td>21.67</td>
<td>6.06</td>
<td>-4.10</td>
</tr>
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<td></td>
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<td>22</td>
<td>25.77</td>
<td>7.70</td>
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<td>MAI Time 1</td>
<td>Withdrew</td>
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<td>89.00</td>
<td>6.32</td>
<td>-6.91</td>
</tr>
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<td></td>
<td>Remained</td>
<td>22</td>
<td>95.91</td>
<td>8.45</td>
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</tr>
<tr>
<td>ICQ unpredictable child Time 1</td>
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<td>26.00</td>
<td>6.29</td>
<td>1.18</td>
</tr>
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<td></td>
<td>Remained</td>
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<td>24.82</td>
<td>6.57</td>
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</tr>
<tr>
<td>ICQ total Time 1</td>
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<td>85.83</td>
<td>19.41</td>
<td>0.51</td>
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<tr>
<td></td>
<td>Remained</td>
<td>22</td>
<td>85.32</td>
<td>20.38</td>
<td></td>
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</tbody>
</table>

**Hypothesis 1: Effect on mood disturbance and anxiety symptoms (outcomes of IPT)**

The effects of the treatment on BDI-II and BAI scores over time were first assessed using these scores as continuous measures. Figure 10 shows the effect on scores in an intent-to-treat model. Depression and anxiety scores decreased for all participants regardless of group status.
Figure 10. Change in maternal mood scores over time.

Paired samples $t$-tests were completed to investigate the difference across time for each of the treatment groups separately. As shows in Table 22, there was a statistically significant drop in BDI-II and BAI scores for both groups.

Table 22.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Treatment as usual</th>
<th>IPT Mother - Child</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean difference (Time 3 – Time 1)</td>
<td>Mean difference (Time 3 – Time 1)</td>
</tr>
<tr>
<td></td>
<td>Estimate 95% CI $P$-value</td>
<td>Estimate 95% CI $P$-value</td>
</tr>
<tr>
<td>BDI-II total score</td>
<td>13.22 3.08, 23.36 0.017</td>
<td>9.23 0.52, 17.95 0.040</td>
</tr>
<tr>
<td>BAI total score</td>
<td>8.33 2.87, 13.80 0.008</td>
<td>6.08 -0.00, 12.16 0.050</td>
</tr>
</tbody>
</table>

A GLM was fitted to each of the Time 3 maternal outcomes using group (IPT-MC or TAU) and the Time 1 measure as explanatory variables. Table 23 gives the estimate of the mean difference, with $P$-values for the test of the null hypothesis of no mean difference and confidence intervals for the mean difference. It also provides the regression coefficient – that is, for every one point of change in the Time 1 value, the regression coefficient shows the predicted change in Time 3 value. There is a significant association across time for
BAI scores. There is no difference between mean scores, according to treatment group, on the BDI-II total score.

Table 23.

Comparison of groups at T3 on maternal self-report variables.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Comparison of means (TAU – IPT-MC)</th>
<th>Regression coefficient for T1 measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>95% CI</td>
</tr>
<tr>
<td>BDI-II total score</td>
<td>-2.14</td>
<td>-13.38, 9.11</td>
</tr>
<tr>
<td>BAI total score</td>
<td>-3.39</td>
<td>-11.39, 4.61</td>
</tr>
</tbody>
</table>

Using a categorical approach to depression scores is important to determine functional change (Cole, McGuffin, & Farmer, 2008). Scores on the BDI-II were categorised into minimal, mild, moderate, and severe as per the manual (Beck et al., 1996). Figure 11 shows the functional recovery rates of women across time, as a proportion of the group that completed questionnaires at that time.

Figure 11. Changes in BDI risk zone across time.

At the commencement of treatment, all women allocated to the TAU condition and thirteen women allocated to the IPT-MC condition fell above the commonly used cutoff of 15/16 on the BDI-II. This is an indicator that their depressive symptoms may be significant enough to meet criteria for a depressive episode (Dennis, 2003). Follow-up was completed at six months after the first assessment – by which point a majority of untreated episodes of depression in the general population will have resolved (Spijker et al., 2002). At follow-up, the proportion of women above cutoff indicated an equivalent recovery rate.
across treatment conditions. Additionally, the recovery rates show a similar pattern. Due to the small sample size, a Fisher’s exact test was used to determine any difference between cell numbers at each timepoint. There was no significant difference in the percentage of women over or above cutoff at Time 1 (N=26, p=0.225), Time 2 (N=22, p=1.00), or Time 3 (N=22, p=1.00).

Hypothesis 2: Effect on social adjustment (mechanism of change of IPT)

The effects of the treatment on average SAS-SR (short-form) scores over time were also assessed. Figure 12 shows the effect on scores in an intent-to-treat model. Social functioning levels increased for all participants, regardless of group status.

![Graph showing change in social functioning scores over time.](image)

Figure 12. Change in social functioning scores over time.

Paired samples t-tests were completed to investigate the difference across time for each of the treatment groups separately. As shows in Table 24, there was a statistically significant increase in social functioning (drop in SAS-SR average scores) for both groups.

Table 24.

Changes over time for groups on maternal self-report variables.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Treatment as usual</th>
<th>IPT Mother - Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean difference (Time 3 – Time 1)</td>
<td>Mean difference (Time 3 – Time 1)</td>
<td></td>
</tr>
</tbody>
</table>
A GLM was fitted to the Time 3 social functioning outcome using group and the Time 1 measure as explanatory variables. Table 25 gives the estimate of the mean difference, with P-values for the test of the null hypothesis of no mean difference and confidence intervals for the mean difference. It also provides the regression coefficient. There is a significant association across time for SAS-SR (short-form) scores and a difference between mean scores according to treatment group. This change was in the opposite direction to that predicted.

Table 25.

Comparison of groups at T3 on maternal self-report variables.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Comparison of means (TAU – IPT-MC)</th>
<th>Regression coefficient for time 1 measure</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>95% CI</td>
</tr>
<tr>
<td>SAS-SR average</td>
<td>-0.44</td>
<td>-0.81, -0.06</td>
</tr>
</tbody>
</table>

**Hypothesis 3: Effect on self-reported mother-child relationship**

The change over time and effect of treatment on participants’ self-reported relationship with their child was assessed using a GLM, treating the scores as continuous measures. Figure 13 shows the effect on scores using an intent-to-treat model. In addition to the total scores, scores on two subscales which are theoretically most related to maternal sensitivity were reviewed: the PSI Parent-Child Dysfunction subscale, and the ICQ Unpredictable Child subscale. Parenting stress, parent-child dysfunction, maternal attachment, child ‘difficultness’, and child ‘unpredictability’ scores all improved across time, regardless of group status.
Figure 13. Effect of treatment on self-reported relational variables.
Paired samples $t$-tests were used to investigate the mean difference across time for each of the groups. As shown in Table 26, there was a statistically significant positive change on all self-report relationship measures, except for MAI, for both groups. It should be noted that the mean MAI scores at commencement of treatment for both groups were very high and therefore a ‘ceiling effect’ may have influenced the outcomes on this measure.

Table 26.

Changes over time on mother self-report relationship variables.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Treatment as usual</th>
<th>IPT Mother - Child</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean difference (Time 3 – Time 1)</td>
<td>Mean difference (Time 3 – Time 1)</td>
</tr>
<tr>
<td></td>
<td>Estimate 95% CI P-value</td>
<td>Estimate 95% CI P-value</td>
</tr>
<tr>
<td>PSI total score (parent-child dysfunction)</td>
<td>-15.46 -3.56,-27.36 0.017</td>
<td>-17.81 -32.59,-3.03 0.022</td>
</tr>
<tr>
<td>MAI total score</td>
<td>-4.64 -2.39,-6.90 0.001</td>
<td>-5.50 -8.66,-2.35 0.003</td>
</tr>
<tr>
<td>ICQ total score (unpredictable child)</td>
<td>0.88 -1.59,3.36 0.431</td>
<td>1.77 -4.99,-8.53 0.579</td>
</tr>
<tr>
<td></td>
<td>-13.44 -23.69,-3.20 0.016</td>
<td>-14.14 -23.74,-4.54 0.008</td>
</tr>
<tr>
<td></td>
<td>-7.00 -10.33,-3.67 0.001</td>
<td>-6.69 -10.90,-2.49 0.005</td>
</tr>
</tbody>
</table>

GLMs predicting Time 3 outcomes from group (IPT-MC or TAU) and Time 1 scores were fitted. Table 28 gives the estimate of the mean difference, with $P$-values and confidence intervals, as before. It also provides the regression coefficient. There is no statistically significant difference between TAU and IPT-MC for their mean scores at Time 3. For the PSI (total score) and ICQ (total score and unpredictable child subscale) there is a significant regression coefficient, suggesting that mothers functioning at Time 1 can predict functioning at Time 3. Given the failure to meet the assumptions of homogeneity of variance, caution must be taken to interpret the ICQ subscale score.

Table 27.

Comparison of T3 maternal self-report relationship variables.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Comparison of means (TAU – IPT-MC)</th>
<th>Regression coefficient for time 1 measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate 95% confidence interval P-value</td>
<td>Estimate 95% confidence interval P-value</td>
</tr>
<tr>
<td>PSI total score (parent-child dysfunction)</td>
<td>4.25 -13.47,21.96 0.622</td>
<td>0.42 -0.11,0.96 0.113</td>
</tr>
<tr>
<td>MAI total score</td>
<td>0.81 -2.77,4.38 0.641</td>
<td>0.72 0.48,0.95 0.000</td>
</tr>
<tr>
<td>ICQ total score (unpredictable child)</td>
<td>2.83 -4.16,9.81 0.408</td>
<td>0.34 -0.08,0.76 0.105</td>
</tr>
<tr>
<td></td>
<td>-0.52 -12.96,11.93 0.932</td>
<td>0.68 0.37,0.98 0.000</td>
</tr>
<tr>
<td></td>
<td>-0.46 -4.61,3.68 0.817</td>
<td>0.39 0.07,0.71 0.018</td>
</tr>
</tbody>
</table>

Hypothesis 4: Effect on observed mother variables in the relationship

The effect of treatment on mothers’ observed relationship with their child was assessed using the EA2 Clinical Screener scale and the EA Scales Maternal Sensitivity direct score, as continuous measures. Figure 14 shows the effect on scores using an intent-to-treat model. Both the TAU and IPT-MC groups improve their overall emotional availability and
their maternal sensitivity scores over time. However, the IPT-MC group shows gains that outstrip the TAU group on both these variables.

Figure 14. Effect of treatment on observed maternal variables.

Paired samples $t$-tests were carried out to investigate the mean differences across time for each of the groups. As shown in Table 28, for the TAU condition, the mean increase in scores was not statistically significant. However, for the IPT-MC condition, the mean increase was statistically significant for both scales.

Table 28.

Changes over time for maternal variables in the relationship.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Treatment as usual</th>
<th>IPT Mother – Child</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean difference (Time 3 – Time 1)</td>
<td>Mean difference (Time 3 – Time 1)</td>
</tr>
<tr>
<td></td>
<td>Estimate</td>
<td>95% confidence interval</td>
</tr>
<tr>
<td>Clinical screener</td>
<td>10.00</td>
<td>1.77, 21.78</td>
</tr>
<tr>
<td>Maternal sensitivity</td>
<td>0.36</td>
<td>0.40, 1.12</td>
</tr>
</tbody>
</table>
A GLM was fitted predicting Time 3 (follow-up) outcomes from group (IPT-MC or TAU) and Time 1 scores. Table 29 gives the estimates of the mean difference, with \( P \)-values and confidence intervals. It also provides the regression coefficient. For every one point of change in the Time 1 value, the regression coefficient shows the change in Time 3 values. There is no statistically significant difference in the mean Time 3 between groups for on the clinical screener. On the maternal sensitivity scale, there is a statistically significant difference in mean score at Time 3, with the IPT-MC women doing better.

Table 29.

Comparison of T3 scores on maternal relationship variables.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Comparison of means (TAU – IPT-MC)</th>
<th>Regression coefficient for time 1 measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>95% confidence interval</td>
</tr>
<tr>
<td>Clinical screener</td>
<td>-7.55</td>
<td>-16.54, 1.44</td>
</tr>
<tr>
<td>Maternal sensitivity</td>
<td>-0.78</td>
<td>-1.56, -0.01</td>
</tr>
</tbody>
</table>

**Hypothesis 5: Effect of IPT-MC on child variables in the mother-child relationship**

The effect of treatment on the observed child variables in the relationship was assessed using the EA Scales *Child Responsiveness* and *Child Involvement* direct scores as continuous measures. Figure 15 shows the effect on scores using an intent-to-treat model. Child variables improve across time for both groups, but there is no advantage over time for the IPT-MC group.
Figure 15. Effect of treatment on observed child variables.

Paired samples t-tests were used to investigate the differences across time for each of the groups. As shown in Table 3o, the mean change in child responsiveness scores was not statistically significant for the TAU condition, but it was statistically significant for the IPT-MC condition. The IPT-MC condition appears to have started at a lower mean level, and has ‘caught up’ with the control condition over time.

Table 3o.

Changes over time for mother-child observational data.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Treatment as usual</th>
<th>IPT Mother – Child</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean difference (Time 3 – Time 1)</td>
<td>Mean difference (Time 3 – Time 1)</td>
</tr>
<tr>
<td></td>
<td>Estimate</td>
<td>95% CI</td>
</tr>
<tr>
<td>Child responsiveness</td>
<td>0.81</td>
<td>0.23, 1.84</td>
</tr>
</tbody>
</table>

A GLM predicting Time 3 (follow-up) outcomes from group and Time 1 scores was fitted. Table 3i gives the estimates of the mean difference (TAU – IPT-MC), with P-values and confidence intervals. It also provides the regression coefficient. For every one point of change in the Time 1 value, the regression coefficient shows the change in predicted Time 3 values. There is no statistically significant difference between the mean scores for the treatment groups once Time 1 scores are taken into account.
Table 31.

Comparison of groups at T3: mother-child observational data.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Comparison of means (TAU – IPT-MC)</th>
<th>Regression coefficient for time 1 measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate 95% CI P-value</td>
<td>Estimate 95% CI P-value</td>
</tr>
<tr>
<td>Child responsiveness</td>
<td>-0.12 -0.90, 0.67 0.756</td>
<td>-0.10 -0.39, 0.37 0.956</td>
</tr>
</tbody>
</table>

Hypothesis 6: Risk status change in mother-child relationship variables.

Finally, a more functional outcome of the EAS coding was addressed. This is in line with an attempt to determine the efficacy of the treatment in terms of categorical or individual participant change. The EA dimension scores were used to categorise interactions into one of three zones of clinical risk devised by Vliegen et al. (2009). The clinical screener contains descriptive zones rather than risk zones. The published range of scores for maternal sensitivity and child responsiveness are listed in Table 32.

Table 32.

Published risk zones for EAS subscales.

<table>
<thead>
<tr>
<th>Zone</th>
<th>Maternal Sensitivity</th>
<th>Child Responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Score</td>
<td>Risk 5.5–6.5</td>
<td>Risk 1–3</td>
</tr>
<tr>
<td></td>
<td>Nonrisk 7–9</td>
<td>Nonrisk 3.5–4.5</td>
</tr>
<tr>
<td></td>
<td>Optimal 1–5</td>
<td>Optimal 5–7</td>
</tr>
</tbody>
</table>

Figure 16 shows the change in risk levels of the mothers’ behaviours over time. This includes those who dropped out, meaning that there are higher numbers of participants at Time 1. For maternal sensitivity, most participants start out in the risk zone, showing significant deficits in their ability to gauge their child’s needs. For the treatment-as-usual participants, the number of participants staying in this zone remains at a majority. For the IPT-MC participants, some of them were able to improve their functioning to the non-risk (although not the optimal) zone.
Figure 16. Changes in maternal sensitivity risk categories across time.

Due to the small sample size, a Fisher’s exact test was used to determine any difference between cell numbers at each timepoint. There was no significant difference in the percentage of women over or above cutoff at Time 1 (N=26, p=0.262), Time 2 (N=22, p=0.333), or Time 3 (N=22, p=0.165).

The respective changes in the child responsiveness variable are shown at Figure 17. Infants commenced the study varied across risk levels, as may be theorised by the research which states that children vary their attachment style during their first few years of life (Cassidy & Shaver, 1999). Some infants in each condition shifted towards lower risk categories across time. However, in the IPT-MC condition, this was more pronounced.
Figure 17. Changes in child responsiveness risk categories across time.

A Fisher’s exact test indicated no significant difference in the percentage of women over or above cutoff at Time 1 (N=26, p=0.625). No test was able to be performed at Time 3 as all dyads were in the non-risk category.
Summary, inferences, and conclusions of the thesis

This study investigated the opportunities and limitations associated with a therapy containing multiple treatment targets. For a long time this has been the domain of the substance use treatment field (Klott & Jongsma, 2015); however, it is now increasingly acknowledged in the wider mental health literature that clinical populations commonly present with more than one mental health condition or problem (Barlow et al., 2011). To view one disorder in isolation from the surrounding ecology of its development – such as the exacerbating factors that reduce treatment efficacy, barriers to care, or the social implications for family members – is now recognised as a limiting perspective. For example, the current psychotherapy literature focusses on working with adults with bipolar disorder and neurocognitive impairment (Demmo et al., 2017), or in the treatment of formal PTSD and anger issues (Taft, Creech, & Kachadourian, 2012), or in treating depressive disorders in parents of children demonstrating ASD symptoms (Da Paz & Wallander, 2017). More inclusive perspective is pertinent in the treatment of postnatal depression and its potential concomitant disturbance of the relationship between the parent (in this case, the mother) and the child. It is an under-researched field and this study provides useful guidance on future research and clinical practice directions, as well as some observations with regards to the treatment of perinatal disorder in the community setting.

Specifically, the study investigated the possibility of adapting a current evidence-based therapy for depression (IPT) to incorporate a focus on the mother-child relationship. The mechanism of change for the PND remained the same as theorised in IPT: improved communication and relationship management with significant (adult) others. The mechanism of change for the mother-child relationship was theorised as improved maternal sensitivity, which was theorised to be a behavioural demonstration of improved communication with an infant or child. Most treatment trials looking at child or mother-child outcomes in postnatal depression have used attachment therapies as the main treatment protocol (Poobalan et al., 2007). This is sometimes due to the assumption that psychodynamic principles underlie the attachment treatments. Given the evidence that psychodynamic therapy can treat depression, an assumption is made that the parent will naturally benefit in terms of their mood. However there is a difference between the use of psychodynamic therapy for depression and the use of attachment-based principles in the treatment of the mother-child dyad. An approach which mistakenly equates the two discounts any useful knowledge gained in the mood disturbance literature. A strength of this study is that it builds a treatment around the understanding that the treatment of mood disorders is a well-established, evidence-rich field – that is, we know what works to improve maternal mood dysfunction. It then built on that mood treatment to incorporate attachment principles.

This chapter provides an overview of the key findings of the study before discussing each in further depth. The findings are placed in the context of previous studies with a focus on the strengths that this study offers to practice and knowledge, as well as its limitations.
It then offers directions for future clinical practice with depressed new mothers, both for therapists and for nurses in primary health care. The wide range of future research options is summarised.

**Key findings**

The overarching aim was to investigate the ability of an adaptation of IPT with a mother-child component (IPT-MC) to improve the *relationship between a mother and her child*, without disturbing the ability of the treatment to address mood disturbance. As this requires a focus to both the maternal mood and relationship variables and the mother and child variables, it was broken into a number of hypotheses. The hypotheses were designed to work in combination to build evidence about whether such a therapy was capable of achieving its aim, as detailed in Figure 18.

**Figure 18. Structural design of the study hypotheses.**
Hypothesis 1: That the modifications required to developed IPT-MC would not reduce its ability to improve maternal mood. A sub-hypothesis was that anxiety variables would not be adversely affected as well. Although anxiety is not a diagnostic criteria for depression, many mothers report mixed episodes of depression—that is, the DSM-5 diagnosis of Major Depressive Disorder with the specifier with anxious distress (Matthey, Barnett, Howie, & Kavanagh, 2003). This hypothesis was only partially supported. It appears that most women in the study improved their depression (and anxiety) scores, and the majority of women moved from the more severe into the mild or minimal categories of depression. This pattern was seen with anxiety symptoms as well. However, women in both the treatment and control groups improved. There was no significant group difference between the changes in depression or anxiety scores across time, meaning that the improvement cannot be attributed to the function of the IPT-MC therapy.

Hypothesis 2: That the modifications required to developed IPT-MC would not reduce its ability to improve maternal social functioning. This hypothesis was only partially supported. As with the mood and anxiety results, women in the study overall had a positive trajectory of improvement in social functioning. However again, this cannot be attributed to group membership and in fact, women in the control condition improved at a more rapid rate than those in the treatment group.

Hypothesis 3: That IPT-MC is better able to reduce the impact of PND on self-reported mother-child relationship disturbance, compared to no attachment or interpersonal therapy. This hypothesis was not supported. For the more global measures of relationship, there was no significant change across time for maternal attachment scores or overall parental stress in either group. For the measures more specific to maternal sensitivity, there was a significant reduction in parenting stress, parent-child dysfunction, and report of difficult or unpredictable child for all women, regardless of group membership.

Hypothesis 4: That IPT-MC is better able to reduce any negative impact of PND on maternal variables in the observed mother-child relationship, compared to no attachment or interpersonal therapy. This hypothesis was supported. Maternal sensitivity scores for both groups improved significantly, but there was a statistical difference in the change. However, the overall Clinical Screener scores (an estimate of the global relationship) showed a differential change across time, with women in the treatment group showing a significant change from Time 1 to Time 3. This change was not significantly different across time for the TAU group.

Hypothesis 5: That IPT-MC is better able to reduce any negative impact of PND on child variables in the mother-child relationship disturbance, compared to no attachment or interpersonal therapy. This hypothesis was not supported. Although all children experienced a change in responsiveness and involvement in the relationship across the six months of the study, there were no significant differences between change in scores for women across conditions.

Hypothesis 6: That IPT-MC is better able to effect functional change, in terms of reducing relationship risk status, compared to a TAU condition. This hypothesis was partially supported. There was a difference in change between the two conditions.
Discussion of study implications

This thesis covers new ground in a number of areas. It is the first to theoretically address the common ground between interpersonal therapies and attachment-based therapies, and propose a practical way in which these commonalities can help in the parenting space. It provides an applied empirical study of a sample within the general population which provides a realistic understanding of the difficulties of providing treatment to new mothers. Finally, it provides a small-scale empirical evaluation of a combined therapy aimed at treating both mood disturbance and the immediate outcome of mood disturbance in mothers. It provides information on a number of options for future work.

Feasibility of the dual-target approach

Much of this study provides pilot information about the feasibility of the modified therapy intervention. The definition of a pilot study is that it provides a test of the feasibility of the methods and procedures of a study for use in a later large-scale trial (Thabane et al., 2010). Use of a small sample size does not equate to a pilot study, and a pilot usually has no theoretical hypotheses, focussing on issues related to either process (eg recruitment), resources (eg. budget), management (eg. data), or scientific aspects (eg. treatment safety) (van Teijlingen & Hundley, 2002). This study therefore incorporated a wider scope than a pilot study; however, as part of the development process, it did provide a useful test of the feasibility of implementing the modified therapy, which had not been done before.

An encouraging finding as outlined in the journal article in Chapter 3 is that women in the IPT-MC groups responded well to the modified content and were able to relate to it in a way that is consistent with interpersonal therapy. For example, in this therapy, all four IPT problem areas (role transition, interpersonal conflict, interpersonal deficit, grief/loss) were covered, but role transitions was emphasised and covered in more depth. Interpersonal therapies focussed on post-natal depression commonly place emphasis on the role transition to motherhood (Klier, Muzik, Rosenblum, & Lenz, 2001; Zlotnick, Johnson, Miller, Pearlstein, & Howard, 2001). (Levenson et al., 2010) studied the progress of 182 patients treated with IPT for depression – in which the patient and therapist jointly chose the primary problem area. They found that role transition-focussed IPT increased the speed of recovery compared to the other three problem areas, although the recovery rates (percentage of patients who no longer met criteria) were equal.

Figure 19 contains the ‘role transition to motherhood’ diagram that was completed during one of the groups in this study. This diagram is completed during one session of IPT-MC. The content reflects a standard pattern of material reported in previous IPT for PND studies, in which mothers with depression are able to describe many positive aspects of life ‘before baby’ and negative aspects of life ‘after baby’. Depressed mothers commonly have more trouble thinking of the positives associated with the role transition, or why they decided to have a baby in the first place (Reay et al., 2010).
<table>
<thead>
<tr>
<th>POSITIVE ASPECTS</th>
<th>BEFORE CHILDREN (AND PARTNER)</th>
<th>AFTER CHILDREN (AND PARTNER)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(things that were comforting, rewarding, enjoyable meaningful, productive, felt good about myself)</td>
<td>- Sleeping (in)! - Hobbies - Leisure activities - Able to ‘not think’ at times - Work (gives something to do, money that was my own to spend, a reason to get dressed up, effort was appreciated by someone) - Could go out when I wanted - Not tied to a routine - Free to socialise with who I wanted, go where I wanted, do what I wanted - No family commitments or family decision making</td>
<td>- Watching a little human being grow, learn, experience - Watching how baby makes other people happy (I made that!) - Something that I ACHIEVED - Gained some confidence in myself</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NEGATIVE ASPECTS</th>
<th>BEFORE CHILDREN (AND PARTNER)</th>
<th>AFTER CHILDREN (AND PARTNER)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(challenging, frustrating, saddening, or difficult)</td>
<td>- Lacking direction or fulfilment? - Lacking ‘something to love’ or ‘something that was mine alone’</td>
<td>- No sleep - Hard work and relentless (constant) work, no control over what I have to do - Monotony (same thing every day) - Always the ‘go-to’ or ‘fix-it’ person if baby is upset, doesn’t sleep, or other problems - Lost some confidence in myself - Isolation from other people (even other mums as hard to find mutually convenient times to be together) - Can’t understand what baby wants sometimes - No independence (have to do everything for baby’s survival)</td>
</tr>
</tbody>
</table>

Figure 19. Excerpt from a study group ‘transition to motherhood’ exercise.

The adaptation of the protocol in the Emotional Wellbeing for Mothers study involved maintaining the role transition focus and adding material related to the role transition of the baby, for reasons described in Chapter 3. Figure 20 contains the ‘role transition to the world’ that was completed by mothers in the same group. What became apparent to mothers was that the baby may possibly have had a similar experience: many positives to life ‘before birth’ and many negatives ‘after birth’.
It was theorised that the addition of the role transition from baby’s perspective would allow for the development of greater reflective function in mothers ([Grienenberger et al., 2005] which would lead to a more dyadic interaction between mother and baby – a key component of maternal sensitivity (Shin et al., 2008). The groups appear to have responded in exactly that way, with mothers actively discussing attempts to be sensitive to baby’s “frustrations” in later sessions.

Whilst this is only anecdotal material supporting the efficacy of the intervention on the mechanism of change, it provides some context to the feasibility of the modified material to seamlessly join the other relationship materials provided.

It appears that the development of IPT-MC to address both maternal mood and mother-child relationship functioning is theoretically and practically possible. In the journal article included in Chapter 3, this concept has demonstrated peer-reviewed support. The delivery of the therapy groups provides practical evidence of the feasibility of a dual-target intervention. It may be that the IPT-MC presented here requires further refinement to achieve its full ability to impact both targets. However, this study has shown a demonstrated trend towards IPT-MC or something similar being able to do so.
Effect of the intervention as a mood treatment

Positively, 50% of the women who scored above cut-off for depression on the BDI-II (Wan Mahmud, Awang, Herman, & Mohamed, 2004) no longer met cut-off after the trial. This suggests no negative effect of the treatment. However, so did 55% of the participants in the treatment-as-usual group, which suggests that the treatment was not having any significantly greater effect than other options. This is of concern, as there is strong efficacy that IPT conducted effectively, works in a group format for women with postnatal depression (Mulcahy et al., 2010). A recent meta-review of all RCT conducted for depressed women with children under 12 months found that any type of therapy is more effective than a waitlist control condition (Stephens, Ford, Paudyal, & Smith, 2016). Some considerations of why this effect occurred will be made here.

Differential resilience rather than recovery effect. Recovery from depression is known to occur naturally in the first three months (Coryell et al., 1994) without any longer-term impact. That is, it is possible that women in the TAU condition recovered naturally from their depression but did not build any resilience to future episodes. Major depressive episode is known to be a recurrent condition (Furukawa et al., 2008), which means that building resilience to future episodes should be a key target of treatment. It may be that the women in the therapy group do not benefit in the short-term from the treatment, but do so in the long-term. This would be consistent with treatment studies showing IPT is superior to placebo, medication, and other therapy forms in reduction of remission rates following major depressive episode (Frank et al., 1990; Zobel et al., 2011).

Disruption of the effect on social functioning due to the mother-child focus. Major depressive episode affects social functioning significantly (O’Hara, 2009a). IPT has been lauded as an evidence-based treatment of mood symptoms which is also capable of addressing social functioning, because that exists as its mechanism of change. This study therefore included social functioning as an outcome measure, anticipating greater gains in the IPT-MC group. However, the social functioning of the group was not shown to improve at a different rate to the control condition. This is both a weakness of the study and a suggestion for why the treatment effect on depression was not strong.

The first possibility for this lack of social functioning effect of IPT-MC is that the inclusion of a focus on the mother-child relationship intruded on the participants’ ability to improve their adult relationship functioning. The mother-child focus took up much of the early stages of the therapy, which may have set the scene for the focus of the women across those ten weeks. It is known that child-rearing takes significant emotional effort, and mothers often complain of their inability to focus on other tasks during the early stages of childrearing (Craig, 2016). Focussing discussion on their child is a natural occurrence and it may be that conducting a group, with infants in attendance, attended by new mothers struggling with this period, has led to the treatment of the group as an ‘extended mothers group’ and distracted from the therapeutic focus. It may also be that the short-term nature of the therapy (10 weeks) combined with a number of weeks focussed on the relationship with the child, meant that not sufficient therapeutic attention was paid to the adult relationships which exacerbate the participants’ depressive episode, as theorised in IPT.
(Stuart & Clark, 2008). An analysis of this is difficult to make. A decision was made to place aspects of the child relationship in the early weeks of the therapy, due to the lag in time theorised between addressing child relationship variables in therapy and the mothers’ ability to process these and put them into practice. However, this may also occur within adult relationships. It is known that IPT has a ‘lag’ in its effectiveness compared to more immediate therapies such as CBT – the immediate post-program outcomes are better for CBT but over six months following treatment, the two therapies become equally effective (Cuijpers et al., 2013). This builds evidence for the need to provide equal focus for both adult and child relationship variables.

The second possibility for the lack of effect of IPT-MC on social functioning is that the SAS-SR is a difficult scale to interpret. McKnight and Kashdan (2009) make this point, stating that the SAS-SR is similar to many other social outcome measures in that it is a summary of a non-unidimensional score and thus is difficult to interpret and unpredictable. In this study, the SAS-SR scores were averaged across all domains that the participant chose to answer in regards to. This leads to an average functioning score that ignores the non-relevant or non-participatory domains. It would also, however, discount the participant picking up additional areas of involvement, for example, starting work again as well as caring for her child, which for some could be construed as an increase in social functioning. The SAS-SR would negate this by averaging out the scores across the two domains (work and home). This may also stop the results from being directly comparable. It appears that there may not be a better social functioning measure at this stage. This argument does not account for the consistent use of the scale in IPT research and its ability to demonstrate significant outcomes in that work eg. (Furukawa, Azuma, Takeuchi, Kitamura, & Takahashi, 2010; Hirschfeld et al., 2002; Weissman, Klerman, Prusoff, Sholomskas, & Padian, 1981).

A third possibility is that, in mothers who are struggling with the adjustment to parenthood, focussing on their relationship with their child emphasises themes of guilt. Guilt is a characteristic symptom of depression, and in PND is often focussed on guilt over fulfilling the role of a mother (O’Hara, 2009a). Whilst the intervention promises change, it may have also heightened symptoms and reduce the ability of mothers to effectively process material. This would be a complex effect to determine. However, in support of the idea, one recent study found that videofeedback interfered with any improvements in parenting self-efficacy in an in-patient population (Bilszta, Buist, Wang, & Rusydina Zulkefli, 2012).

The third possibility for the lack of effect on social functioning is simply that the low numbers involved in this trial reduced the ability of any significant result, or for a trend to be apparent.

Effectiveness of the TAU condition as a treatment. A more optimistic perspective is possible with regards to the lack of difference between the treatment and control conditions. This is related to the fact that the control condition was not a “no treatment” or “waitlist control” group. The study design included a “treatment as usual” group incorporating the current ‘best practice’ standard care for women in Victoria. The Maternal and Child Health Nurse (MCHN) was free to provide any referral option to the women that would normally have been provided, with the exception of in-patient treatment or attachment-
based therapies. Women identified as needing and being able to access in-patient or attachment-based treatments were provided with them and excluded from the research study. All other women were included in the study, including women referred for individual psychotherapy. Most women referred to the study by their MCHN had received a recommendation from the MCHN to seek psychological counselling via a visit to their General Practitioner. A number of women had been referred to a “sleep school” parenting centre during the trial, such as the Tweddle Child and Family Health Service 5-day residential stay program for new parents (not-for-profit service), or the Masada Private Hospital Mother-Baby unit residential program (private service).

Gillham and Wittkowski (2015) reviewed the literature for outcomes from admissions to mother-baby units worldwide. They found 23 studies: nine assessed mother–infant and maternal outcomes, eight assessed only mother–infant outcomes, and six assessed only maternal outcomes. Studies varied widely in robustness of design and measures used, but many studies showed some improvement in maternal mood scores and mother–child relationship variables. In reality, only about 0.1% of women meet criteria for admission to a public in-patient treatment setting (Gillham & Wittkowski, 2015) and the number of beds in public hospitals in Victoria is limited (Buist et al., 2004). One study on a mother-baby inpatient service found that the service had no effect on child sleep quantity but did affect maternal perception of mother–child bonding and maternal perception of child temperament (Perrow, 2014). Therefore, although no TAU participants were exposed to a targeted attachment intervention, there may have been some interventions which allowed them to experience growth in the mother-baby relationship as a by-product.

Attachment-based therapies are also very rare within the general community, and very few are government-provided. Whilst a number of perinatal psychologists within Victoria work within an attachment-based model (Galbally et al., 2006), these are private psychologists. Some mother-baby units offer psychiatric services incorporating attachment-based therapy groups, but again, these are rare (Buist et al., 2004). The Tuning into Toddlers program (Lauw, Havighurst, Wilson, Harley, & Northam, 2014), which only has preliminary research on its effectiveness, and only at the toddler age, not earlier, is commonly referred to by Victorian MCHN. This is run intermittently by private and not-for-profit organisations. The Circle of Security program is also intermittently available in limited locations, run by private and not-for-profit organisations such as MacKillop Family Services (2015). For women with time constraints, travel constraints, poor partner support, low mood, low motivation, financial issues, or a combination of those, accessing attachment-based services is the exception rather than the rule. Therefore there were no women referred to the study for whom referral to another attachment-based program outside of a private psychologist was viable.

However, many participants in this study reported their MCHN as a supportive person in their life. Nurse involvement at the early stage of parenthood can assist with early intervention for depressive episode (Segre, O’Hara, Arndt, & Beck, 2010; Zauderer, 2009) and help mothers adjust to parenting (Mercer, 2006). The role of the MCHN in Victoria incorporates participation in screening for depressive episode in mothers (DEECD, 2009). It is possible that a MCHN is capable of providing individualised care and referral and that those who had better working relationships with their MCHN were also those more likely to be referred to the program. In this context, the treatment-as-usual group may have been
receiving a “better than no treatment” treatment and therefore the differential effect on maternal mood and mother-child relationship would have been reduced. It is interesting to note that the MCHN effect meant reduced difference in maternal functioning scores but did not affect the mother-child relationship variables as much.

Effect of the intervention as a mother-child relationship treatment

Despite limited numbers, difficulty in the evaluation of effectiveness, and the confounds of conducting a trial within a naturalistic, community-based setting, there were effects of the intervention demonstrated for the mother-child relationship. The use of videotaped observation material to demonstrate this was helpful. Changes in scores on the observational material correlated with changes on the relevant PSI and ICQ subscales. This suggests that mothers are able to report on their maternal sensitivity via questionnaire material. It is surprising that a self-report questionnaire of maternal sensitivity has not yet been developed, and that the most-used methods rely on the use of lengthy interviews. A screening scale, for use within setting where women identify as having symptoms of depression, would allow for referral to support services that also address the developing mother-child relationship. As discussed in Chapter 2, it is known from the evidence that this type of early intervention is critical for the child (Klucznik et al., 2016).

At the commencement of the trial, the focus was on the use of the EAS ‘maternal sensitivity’ subscale, as this was the theorised mechanism of change for the treatment. It appears that changes in maternal sensitivity correlate with changes in the overall EAS scores, as has been acknowledged by the author (Biringen, 2000). However, less is known about how maternal sensitivity interventions impact on the child’s perception of – or participation in – the relationship. A strength of this study is that it looked at the change in relationship from the infant’s perspective via the use of observed child measures within the videotape material. This shows that some of the child’s responses to the changed behaviours are almost immediately observable.

Recruitment experiences

Recruitment experiences – Phase 1. Simple advertisement at MCHN meetings was not highly successful, despite MCHN reporting limited referral options and long waitlists for services. We therefore chose to work intensively with one Council site where MCHN indicated an interest in upskilling in mental health care. The following activities increased referral rates:

- Presentation by researcher at professional development sessions.
- Individual supervision regarding psychosocial aspects of MCHN care.
- MCHN were provided support for mental health care questions.

For MCHN who did not receive this collaboration, referral rates were low. There were 85 women referred across a two-year period by their MCHN. Based on the Council birth rate, there should be an expected rate of 91 new mothers experiencing depressive symptoms each year (Australian Bureau of Statistics, 2016). Our rate of 84 women across two years
means we captured about half of this potential population. It is possible that, despite offering the universal service, some women choose not to visit their MCHN and therefore would not have been available for referral from the MCHN to the study. High rates of participation in universal screening are rare. In 2009, the WA Auditor General’s office estimated that 99% of newborns had an initial home-visit check, but only 30% of 18 month olds and 9% of three year-olds attended their universal screening appointment.

Recruitment experiences – Phase 2. In the second year of the study we incorporated researcher-led screening. Psychologists, provisional psychologists, and trained medical students attended centres and administered measures to all women who attended that day. Centres were attended randomly. Women who could not read in English were offered a verbal screen. Women with mental health concerns who were not eligible for the study were offered alternative referrals.

This part of the recruitment effort screened 72 women at an average of four women per day. The rate of women above the EPDS cut-off was approximately 10%, consistent with the literature (O’Mahen et al., 2015). As identified in Figure 8, ten women potentially meeting criteria for the study (high EPDS score, appropriate English skills, child <12 months) agreed to continue to assessment. This is a recruitment rate of 13.8%.

Recruitment and retention. Of those assessed for eligibility, 36.4% enrolled into the study. A large number (44.2%) did not meet eligibility criteria. The number not meeting criteria increased towards the latter stages of the study as MCHN began to refer women at a lower threshold for depression, perhaps as they began to value the study.

Only a small number of women stated they did not wish to participate in a randomised trial, and a small number did not wish to be videotaped, which was a central study measure. However we had 100% retention during the follow-up period, consistent with prior studies (Maloni, Przeworski, & Damato, 2013). Visiting women in their homes to establish a relationship may have contributed to engagement in assessments and randomisation.

Our experience is that MCHN have limited time to incorporate mental health checks within their current tasks, but are willing to accommodate ways to assist in universal screening. This suggests the possibility to complement MCHN services within the mental health space.

Limitations of the study

Population limitations

This trial made specific attempts to include women suffering from postnatal depression in a realistic manner ie. in not excluding other mental health diagnoses as much as was possible for the setting of the therapy. It is estimated that between 40-70% of individuals who present for treatment in clinical practice settings are excluded from RCT because they do not meet restrictive criteria required by RCT designs (Shean, 2014). In this trial a
decision was made to include those completing other types of treatment including medication for mood disturbance, and individual psychological or psychiatric support (if the treating practitioner agreed). However, it is also acknowledged that there is a natural selection bias in therapeutic intervention studies in which higher functioning individuals are more likely to participate in therapy trials (Stiles-Shields, Goldschmidt, Lock, & Le Grange, 2013). The majority of women in the trial came from a middle-class background, with limited variability. All women also had to have sufficient grasp of English to participate in a group. The results of this research may not be generalisable to a non-English speaking, culturally diverse or lower socio-economic group.

The trial also sought to reduce any bias introduced due to the use of a cluster randomisation process (Brierley, Brabyn, Torgerson, & Watson, 2012). The use of cluster randomisation was essential, due to the slow recruitment rates of the trial, so that women were not on the waitlist for entry to the trial for an extended period of time. We also ensured women were recruited into the trial prior to cluster randomisation.

Borschmann, Patterson, Poovendran, Wilson, and Weaver (2014) indicated the relationship between researchers and gatekeeping clinicians is essential in successful recruitment to studies; Watson, Lumley, Rayner, and Potter (2008) provide an example of this in the post-partum period.

Lack of a video-feedback element

A limitation of the study was the decision not to use a video-feedback element in the design. In the literature review regarding the effectiveness of maternal sensitivity interventions, video-feedback is identified as an effective way of creating changes in maternal sensitivity scores (Bakermans-Kranenburg et al., 2003). From the review, there are a number of ways in which maternal sensitivity can be addressed. This study design attempted to use the strengths of an interpersonal model including reflection by participants on their part in relationship patterns, brainstorming of ideas and feedback from other group participants, and weighted analysis of benefits and drawbacks of certain communication styles. It also attempted to enhance reflective function in mothers in an attempt to increase their intuitive use of maternal sensitivity behaviours. The drawbacks of using video feedback within this model were: that it would be inconsistent with work completed in the adult relationships section; it would take significant amounts of time in a short-term therapy group; and it would involve additional intrusion on participants’ privacy within the group (having to show a video in front of other group members).

However, there are arguments that this decision could be revised. Firstly, the use of an ‘example’ video in Week 4 was also not consistent with other sections of interpersonal therapy, and it was not well understood by the participants. Secondly, when women bring examples of their own conflicts with partners or significant others to therapy, and role-play those examples, this is a pseudo-playback model in which the group participants ‘observe’ the interaction and provide feedback on it. An IPT role play focussing on an adult relationship is designed to allow a participant to reflect on their behaviours in that interaction (Stuart & Robertson, 2012). The purpose of video-feedback work is to increase this insight in the mother (O’Hara et al., 2016). In this way, the use of video material to
describe the interaction between mother and child may be appropriate. It is difficult to ‘role-play’ a young child and the use of a video of the event may be a more relevant way for a mother to reflect on her performance during the task. This may have made use of an effective technique to strengthen the mother-child relational work.

Recruitment limitations and sample size

Participants were recruited in lower numbers than anticipated for the study, involving a change in data analysis techniques to measure the hypotheses, and lower effect sizes for those calculations. This limits the ability of this study to make conclusions about the effectiveness of the treatment in both the mood and relationship domains. An examination of the recruitment success rate and associated factors was made.

Unfortunately, the experience of many women remains that PND is under-recognised or under-treated (Buist et al., 2005). This is often due to barriers to care (Baker, Kanke, O’Hara, & Stuart, 2009). Barriers can include inadequate screening or engagement. (O’Mahen et al., 2015) They can also be more practical including distance to care, inadequate treatment facilities, maternal childcare responsibilities, the stigma of being a mother who ‘cannot cope’, and negative treatment experiences (Wisner, Scholle, & Stein, 2008). Yet the longer treatment for PND is delayed, the greater the risks to mother and child (Haga et al., 2012). Reviewing the literature, it appears our experience in recruiting women for this study is consistent with those internationally.

In this review, we define the term participation rate as the percentage of women who agree to participate in the study divided by the total number of women identified as potential participants (met initial screening criteria). Even in non-pregnant depressed women, willingness to participate in research studies is low. A study recruiting low-SES women compared different categories of recruitment and found GP databases offered the highest rate of identification of suitable women. The authors achieved a participation rate of 15.7% (van der Waerden, Hoefnagels, Jansen, & Hosman, 2010). Recruitment into antenatal programs for at-risk women has the benefit of developing rapport before women encounter difficulties. A study which screened women presenting for routine ultrasound achieved a 12.2% participation rate from those identified as potential participants (Carter, Carter, Luty, Wilson, & Frampton, 2006). Another study identified 507 potential participants through prenatal care team records and approached them in third trimester for a preventive intervention, achieving a 21% participation rate (McKee, Zayas, Fletcher, Boyd, & Nam, 2006). A perinatal depression treatment trial of omega-3 fatty acids achieved a 26.5% participation rate (Rees, Austin, & Parker, 2008). An international study recruited mothers across sites in the U.S. and Mexico through prenatal care clinics (Lara, Navarro, Navarrete, & Le, 2010). There were 8386 potential participants, and 7.1% agreed to be randomised. The authors also reviewed the literature and found eight intervention studies of perinatal depression reporting retention rates. Most studies had a high retention rate (59.2-94.5%) but a high degree of variability in course attendance rates.

A screening and recruitment registry of women attending obstetric clinics in the U.S. captured data on all pregnant women and requested consent to contact them for research studies (Allbaugh, Marcus, Ford, & Flynn, 2015). Of 4745 women who returned a screening
form, they enrolled 630 into research studies, a participation rate of 21.1% of women who agreed to participate in the registry. In a comprehensive screening and assertive follow-up, mothers were visited whilst in the postnatal ward (Stanley, Murray, & Stein, 2004). Of women in a 12-month period who consented and were mailed 6-week screening measures, they had a recruitment rate of 93.5% of women who met PND criteria. The study does not provide the number identified as potentially eligible via screening, but the rate of women participating divided by the total number screened at the hospital is 9.93%. In a web-based survey of women with depressive symptoms following high-risk pregnancy, 149 women responded to internet-based recruitment, a participation rate of 35.5% (Maloni et al., 2013).

As stated above, the rates achieved in this study were about half what would be expected given the birth rates in the relevant Councils and the population statistics on PND. The literature review above shows that this may be partially attributed to the difficulties associated with recruitment of new mothers, especially those with depression, into research or treatment, and this is an area that should be further researched. However, another contributor is that this was a small-scale study with a limited number of researchers involved. This meant that the number of people who could be allocated to screening sessions was limited. The results of the screening sessions indicate some promise in future that greater numbers could be achieved. Studies that have recruited women in-house i.e. the study has been conducted by a maternity service or an in-patient mental health service have had better recruitment rates (Milgrom et al., 2015).

Further research using the concurrent IPT-MC treatment in this study, but with a larger sample size, would provide more conclusive results.

_Inability to assess causation_

Given the decision to include women receiving individual psychiatric or psychological care, it was not possible to determine whether the treatment had an impact on major depressive episode. Women in the treatment group who recovered from their depressive episode may have done so via the psychological input from their individual psychologist, via their use of antidepressant medication, or the episode may have spontaneously resolved. Anecdotal evidence from women in the study is that most women who used antidepressant medication had used it intermittently throughout their lives. In many cases antidepressants had not previously resolved their depression. There were mixed reports of the effectiveness of individual therapy. Many women involved in the trial who were referred to an individual psychologist either did not see the psychologist at all, or attended a very small number of sessions before choosing to terminate. However, these are anecdotal findings only. It remains possible that the IPT-MC treatment did not work as effectively as IPT on the depressive episode. This is especially true in light of the finding which showed that the difference in depression scores at Time 3 was not significantly different between IPT-MC and TAU groups.

_In Unknown effect of development on relationship improvements_
Another potential confounding variable is that of time. The study adequately addressed individual (mother or mother-child dyad) changes across time with the use of the Time 1 measures as a covariate. However, it did not account for the possible developmental changes in mother-child relationship over time. It is acknowledged that in a healthy developmental process, the mother-child relationship will improve and move to a more secure attachment across the child’s first few years (Biringen, Brown, et al., 2000; Egeland & Farber, 1984). It is possible that the increase in EA Scales represents this developmental change in the relationship, and some of the maternal self-report scales of the relationship may have been influenced by that change. Both groups showed this developmental increase. Change in scores on maternal self-report of the relationship did not show significant differences between the IPT-MC and TAU groups. This limitation can be tempered by the finding that maternal sensitivity gains in the IPT-MC group outstripped those of the TAU group, suggesting some effect of the intervention. Some research suggests that in children at-risk of dysfunctional (anxious) attachment, the relationship can be characterised by initial adequate caregiving. In these dyads prolonged interaction with aggressive maternal mood will disrupt this relationship over time (Egeland & Farber, 1984; Steinberg, Lambourn, Darling, Mounts, & Dornbusch, 1994). This is another case for intervening even in adequate caregiving relationship that show some risk, including the mother suffering from depressive episode.

Confounding effect of antidepressant use

Eight women in the study, including participants in both the TAU and IPT-MC conditions, reported use of antidepressant medication during the trial. Overwhelmingly, women reported use of various selective serotonin reuptake inhibitor (SSRI) and serotonin-norepinephrine reuptake inhibitor (SNRI) medication. Most of these were prescribed by a General Practitioner, although some were prescribed by a Psychiatrist. These self-reports were not confirmed by a medical practitioner, as medication use was not a focus of this study. A number of (but not all) women prescribed antidepressant medication reported adherence to the prescribed medication. A number of women reported long-term antidepressant use, either continuously for a number of years, or prior use followed by a resumption of use at the onset of the current episode.

Molyneaux, Howard, McGeown, Karia, and Trevillon (2014) reviewed the evidence on antidepressant use in PND. Whilst they found conclusive evidence that SSRI are significantly more effective than placebo, there was inconclusive evidence to determine whether, and for whom, antidepressant or psychological treatments are more effective. Anecdotally, few women in this study indicated a strength of belief in antidepressant medication and no women indicated they were using it as their sole means of addressing their depressive episode. This does not mean that all women had identified other sources of assistance, but that they felt medication alone would not assist them.

There is good evidence in the literature that SSRI medication is equally effective for depressive episode in the general adult population in the short term, but that patients receiving psychotherapy have better long-term effects (Imel, Malterer, McKay, & Wampold, 2008). However, some new evidence suggests that there are differential responses to psychotherapy or pharmacotherapy for depression depending on the social
context of the depression (Nemeroff et al., 2003). There is also some suggestion from RCTs that even high antidepressant use in a control group still does not mask treatment effects of therapy for depression (Honey et al., 2002; Morrell et al., 2009). Given the numbers of women reporting SSRI/SNRI use and the equivocal evidence about whether that may interfere with recovery, there remains the possibility that women in both the TAU and IPT-MC conditions recovered from their depressive episode via their pharmacotherapy treatment. This may account for the recovery rate in the TAU condition. It also means that it is not possible to attribute the recovery rates in the IPT-MC group to the treatment therapy, and further controlled trials which exclude women using antidepressants may have to occur.

Confounding effect of the length of individual psychotherapy

No women reported a course of CBT, IPT, or psychodynamic therapy treatment during the trial, although this is based on self-report of the women and their psychologists were not asked about their treatment. It is interesting to note that of the nine women who reported use of a counsellor or psychologist, all reported sporadic use of their referred therapist. None of the women reported consistently maintaining a relationship with a psychologist throughout the trial. It should be noted that as individual therapy was not an exclusion criterion or a focus of this study, these self-reports were not verified and no information was requested of the therapist as to the adherence to individual treatment of the women. We simply note the sporadic use reported and the lack of reported understanding from women of evidence-based ways to treat their depression.

In contrast, all women who attended the first two weeks of a group continued on to complete the therapy group and the follow-up assessment. It may be possible that the group setting has advantages in enhancing adherence to treatment that an individual referral does not. The consequence of that would be that a group therapy has potential for impact that individual work, despite its ability to focus solely on one person, does not. It may simply be that length of the treatment was an issue. This was a short timeframe group of 10 weeks, including mother-child work. This is based on the positive results achieved by (Mulcahy et al., 2010) in their eight-week IPT for PND treatment. However, the recommended course for IPT may be longer than this. Shapiro et al. (1994) found that for those with moderate depression, there was no different effect between eight weeks and sixteen weeks of IPT, and both were effective. However, for more severely depressed participants, a sixteen week course did show greater improvement than the shorter course. In the current study, both maternal and child variables showed improvement over time, with the IPT-MC group improving at a more rapid rate, and this may have been extended if the treatment continued for longer. This is consistent with attachment theory that supposes the relationship between mother and child improves over time, as they get to know each other and can anticipated needs and expectations more easily (Biringen, 2000). It is also consistent with information that early gains in this relationship can have large effects later on in the trajectory (Belsky & Fearon, 2002).

Limited follow-up period
The above issues related to therapy timeframe also confound the issue of follow-up period. For a short-term therapy, and for a small-scale study, we chose a reduced follow-up period of three months. Many trials of IPT have used up to 12 months as a follow-up period to demonstrate lasting effects (Forman et al., 2007; Lemmens et al., 2015). Steinart, Hofmann, Kruse, and Leichsenring (2014) found there are very few psychotherapy trials with a follow-up period longer than two years, and concludes this is a shortcoming of their evaluation.

Adding to the difficulty of a short follow-up period is the fact that the exclusion criteria for the study did not include women who were taking antidepressant medication or receiving individual therapy. It suggests that the IPT, antidepressants, and/or individual therapy, are not effecting any change on this group of women at a faster rate than natural progress of the disorder. The average course of an untreated depressive episode is between 6 and 8 months with much of the improvement occurring in the first 3 months (Coryell et al., 1994). This makes a study with a three-month treatment phase and a three-month follow-up phase difficult to assess. A longer-term follow-up may have provided different results for each group. Many women in the study consented to being contacted and asked again in six months to complete measures, so this is a possible follow-up option.

Unproven reliability of the intervention protocol

This was the first attempt at using the IPT-MC intervention. It was used across four groups and five interventions with three different facilitators. Whilst this thesis did make an attempt to assess the stability of a manualised version of IPT-MC, further work is required in this field to ensure that differences in facilitator style or content were not unseen biases in the study. Therapy manuals are important therapeutic tools across most interventions. Town et al. (2012) fact, found the use of research-specific instruments such as therapy manuals increased the efficacy of psychodynamic therapies in the follow-up phase. It may also be that some of the content of the manualised therapy could be reviewed – for example, the use of a piece of video footage instead of video-feedback material or other type of “role play” exercise, in the mother-child component.

Implications for clinical practice

A difficult question addressed in this study was that of whether it is possible to address additional needs of women with postnatal depression in the current Australian environment. There is current public focus on women in the perinatal period with significant Government spending being allocated to the area. At the present time, that funding addresses various layers of the problem. Major amounts go to mental health literacy and the reduction of stigma in the space. Self-stigma and societal stigma of mental health disorder, perinatal depression, and a woman “not bonding” with her baby have been shown in the literature to be barriers to a woman receiving care (Anderson et al., 2006). Other barriers include misconceptions and a general lack of knowledge about the effects of antidepressant medication on in-utero babies, or breastmilk, and lack of trust of mental health providers (Bilszta, Ericksen, Buist, & Milgrom, 2010). Additional funding has been provided for screening programs to attempt to initiate universal screening of women in the post-partum period (beyondblue, 2011). Some research has occurred into small-scale
preventive or early intervention services for mothers deemed ‘at-risk’ of poor maternal or child outcomes (Nicolson et al., 2013).

However, there has been less focus on the development of intervention programs which work to address pathways to care for women suffering postnatal depression. Yet it is known that health promotion only work if there are ways that people can access treatment options they feel comfortable with and believe that they can get help from – at the time that those options are relevant (Bandura, 2004). One important finding from the retention in this study is that mothers are amenable to a group therapy as overcoming a number of barriers to care surrounding stigma and belief in efficacy. Very recent work has started to address this. de Camps Meschino, Philipp, Israel, and Vigod (2016) developed a 12-week group intervention for thirteen depressed Canadian mothers incorporating mindfulness, psychotherapy, attachment therapy, and dyadic-led infant play aimed at reflective functioning. That intervention is similar to the program developed in the current study, except that the former’s mood intervention appears to be psychodynamic in focus, and there was no control group used. It is therefore unsurprising that the results were similar to this study – reduction in depression (measured only by EPDS) and anxiety (BAI) scores, and small but non-significant changes in parenting stress (PSI) scores. Again, it is difficult to determine the efficacy of such a treatment on maternal mental health without the use of a control group. A strength of the current study is that it included a similar size control group with the same level of severity of depression. This has demonstrated that the positive effects of these interventions cannot be decisively concluded based on participants’ data alone.

Identification of women suitable for a combined therapy

The use of a treatment-as-usual group also provides context to the inclusion criteria for such a group. Some women will recover naturally or with help from more simple interventions such as medication, and this can remit some of the poor relationship trajectory. It may be that selection into the group via not only mothers’ mental health, but also mother-child relationship health, is warranted. Mothers who do not have disrupted relationships with their children may not require a combined mood-relationship treatment, especially one that has the capacity (as seen in this study) to weaken the effectiveness of the mood treatment. Hye Ha (2006) developed a CBT group treatment for depressed mothers of children with behavioural problems. In their conclusions, they emphasise the importance of employing appropriate therapeutic interventions that meet the needs of the client. This means not to ‘fit’ the client to the manual, but to ensure the treatment is designed to ‘fit’ the client. Caution should be taken here – Cuijpers, Ebert, Acarturk, Andersson, and Cristea (2016) conducted a meta-analysis of treatments for depression and concluded that it may be impossible to collect enough data to match type of therapy with the target depressed group in an evidence-based way. In addition, it is often difficult for primary health care providers to detect disrupted mother-child relationships in short-timeframe visits and with very young babies (Duggan, Berlin, Cassidy, Burrell, & Tandon, 2009). However, a strength of this study is that it shows that some brief screening tools, such as the PSI, are able to demonstrate disrupted mother-child relationships very early in the infant’s life. Again, the breakdown of scores suggests
that women who had difficult relationships with their children at the commencement of therapy were not necessarily benefitting in a differential way from other women.

Collaboration with Maternal and Child Health services

The impact of this study suggests that early intervention in the mother-child relationship can have short-term effects, but that an environment needs to be created in which that intervention can occur. The use of MCHN to identify women who may benefit was shown to be powerful. This study also has implications for the clinical practice of health professionals, including MCHN.

An IPT-MC intervention is relatively simple but it does require trained facilitators, potentially a psychologist or trained therapist. The therapist needs to be cross-trained in interpersonal approaches and attachment theory. It also requires additional time to the normal MCHN consultation. There is some suggestion that the group environment may be a useful motivation factor, if not a contributor to therapy adherence. However, the collaboration between the therapists and the MCHN service had a powerful effect on retention rates in the study and provide room for the therapy to be effective. MCHN were also able to provide ongoing support to the women during their participation. It is recommended that further investigations occur into the embedding of psychosocial services into the MCHN setting.

In addition, the study demonstrates that it is possible to screen using paper-and-pencil questionnaires, for risk of mother-child relationship disturbance. This means that there is potential for maternal and child health centres to screen for this risk in addition to a standard depression risk. Focus should be on not adding to an already large list of MCHN tasks to perform in the key ages and stages visits. Corrigan, Kwasky, and Groh (2015) warn that simple screening may not be enough to detect PND, and many women who would accept help also require assessment of life difficulties post-birth to be identified. There is potential that providing simple additional resources for this early screening could be highly efficient.

The MCHN is also well-placed to support and guide the early mother-child relationship. The journal article in this Chapter provides anecdotal feedback from MCHN that they are prepared to engage in this teaching service, but lack training in provision of this type of care within their consult. Further training for MCHN may allow for more accurate identification of problems and referral to mother-child relationship services. It may also allow MCHN to encourage subtle changes for those women who are not prepared to seek mental health support for their relationship with their child. This study – and many others – have shown that small changes in maternal sensitivity can influence the trajectory of the relationship.

Training in interpersonal approaches for depressive episode

At present the number of therapists who identify as using interpersonal psychotherapy approaches to treatment in Australia is limited (Robertson, Rushton, & Wurm, 2008). IPT
is often incorporated into the ‘interpersonal’ therapies including psychodynamic therapies within research categorisations, and there are many therapists in Victoria and in Australia who use this theoretical perspective. However the current study suggests that for some women, the use of a specific IPT approach instead of a general psychodynamic approach would be useful. Studies to date that have used a psychodynamic approach to affect maternal mood and the mother-child relationship have involved either long timeframes or a complex combination of therapies (Clark et al., 2008b). IPT-MC has been demonstrated here to be an intuitive and simple add-on to the common material covered in IPT. It may be appropriate for more therapists who work with a perinatal population to receive training in IPT approaches.

**Future research**

This study was designed as an applied research piece, aimed at leading to an intervention that is applicable within a community setting and one that reduces barriers to care for mothers. Despite the limitations of the research and the need for further empirical research on its outcomes and mechanisms of change, this aim has been partially fulfilled. This is a short-term, reasonably simple therapy that practitioners with a basic understanding of IPT and attachment theory could apply. There is a suggestion from these results that it may have longer-term effects on resilience against depression and/or mother-child relationship variables.

Future studies interested in using IPT-MC would need to further investigate its utility in a number of ways. Firstly, a trial of the manualised version and ability of different IPT-trained therapists to adhere to treatment efficacy would be required. Whilst an intuitive therapy, it requires training in both the IPT model and an understanding of attachment principles and attachment-based interventions in order to effectively utilise both. Secondly, further robust trials of the ability of the combined therapy to effectively treat depression is required before it is used as a first-line treatment for depressive episode. The inability of the treatment to affect social functioning variables needs to be addressed. Thirdly, continued review of its effect on the mother-child relationship with longer-term follow-up (starting with one-year post-treatment), and potentially incorporating the use of an attachment categorisation rather than simply maternal sensitivity, are advised. Maternal sensitivity is seen as the behavioural means through which child attachment style is influenced (Laranjo et al., 2008), and therefore a study incorporating an assessment of the child’s attachment style at follow-up would have more rigor.

**General conclusions**

The aims of this work were originally to add to the scant body of research investigating how to jointly make use of the strengths of two important therapeutic approaches. The first was the solid body of evidence which demonstrates effective ways to address depressive episode and build resilience to future episodes. The second was the emerging psychotherapy evidence about how to affectively address behavioural and emotional aspects of the emerging parent-child relationship – one which is known to have wide-
ranging and long-term ramifications. As an initial study, it provided a number of interesting findings for research and practice in this area. The conclusions can be summarised as:

1. There is preliminary evidence identifying a modified interpersonal psychotherapy as a viable way of concurrently addressing depressive episode and mother-child relationship variables.
2. A therapy that jointly addresses both mother-child and maternal mood variables has continuing effect on the mother-child relationship at three-month follow-up.
3. IPT is capable of flexibly addressing a variety of life problems in conjunction with mental health disorders.
4. Attachment-based interventions are able to be used to enhance interpersonal therapy when working with very young (infant) clients.
5. Care must be taken not to disrupt the effect on mood disturbance when addressing mother-child relational dysfunction in depressed mothers.

During the course of the study, a number of interesting findings not related to the original aims were discovered. These related to the embedding of mental health research and treatment services into a primary health care system. Some conclusions that could be drawn from this research are:

1. Maternal and child health nurses are capable of identifying women at risk of maternal mood disorder and, potentially, mother-child relational disturbance, if properly supported by professional staff to do so.
2. The use of the Parenting Stress Index or the Infant Characteristic Questionnaire is a potentially viable screening mechanism for identifying mother-child relational disturbance.
3. Mental health services that are embedded into the maternal and child health service may be more attractive and increase pathways to care for vulnerable women.

The limitations of the study affected the ability to draw definite conclusions about the effectiveness of the therapy. These are capable of being addressed in further trials if they have the capacity to recruit larger numbers of women and/or have longer-term follow-up options. This does not discount the ability of therapists to incorporate elements from this modified therapy into a standard IPT treatment of depressive episode, if it were considered relevant to the individual client. None of the incorporated material is inconsistent with an interpersonal therapy approach to the treatment of depression. Care must be taken, however, given the inability of the study to significantly improve depression scores over and above the treatment as usual group.

The impact of depressive episode in the perinatal period is now widely known. Stigma-reducing and mental health literacy programs in regards to postnatal depression abound. However, new and innovative treatments aimed at addressing identified barriers to care for women are rarer, and treatment aimed at improving the mother-child relationship are still not a priority in postnatal care. A modified IPT-MC is offered for the use of health practitioners interested in supporting the holistic context of mother-child vulnerability.


programme, supporting young mothers (aged 14-25) in the first 2 years of their baby’s life: study protocol for a randomised controlled trial. *Trials, 17*(1), 486-486.


and exploration during solitary play at 36 months. *Attachment & Human Development, 5*(2).


185


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Wan Mahmud, W. M., Awang, A., Herman, I., & Mohamed, M. N. (2004). Analysis of the Psychometric Properties of the Malay Version of Beck Depression Inventory II (BDI-


Appendix A: Presentations at meetings arising from this work


Appendix B: Publications arising from this work


Appendix C: IPT Manual

Interpersonal Therapy treatment for Postnatal Depression and Mother-Child Relationship [IPT-MC]

Manual Development – Dr Carolyn Deans

This manual will elaborate on the session content, preparation, and facilitator training required.

Interpersonal Therapy

While IPT recognises the important role of biological, psychological and social experiences in the development and maintenance of psychiatric difficulties, treatment focuses on the patient’s key interpersonal relationships and social support network. It does not target or attempt to alter an individual’s attachment style, personality, cognitions or defences, although an awareness of these characteristics is used to enrich the therapist’s understanding of the patient, his or her functioning in relationships and the selection of appropriate techniques and strategies (Reay et al, 2010). The tactics of IPT include the structure of therapy, Interpersonal Inventory, Interpersonal Formulation and specific IPT problem areas.

This manual was developed primarily as a tool for therapists experienced in IPT who are being trained in the protocol for the RCT of IPT-MB. Clinicians conducting this therapy will be familiar with individual IPT, as well as working with families affected by mental health disorders in the perinatal period.

Group Composition and Inclusion/Exclusion

- Groups must consist of between 7-8 participants
- Inclusion criteria are women with a child under 12 months (any birth order), who currently meet DSM-IV-TR diagnostic criteria for Major Depressive Episode.
- Exclusion criteria are women with psychosis, requiring in-patient treatment, or not available to attend all sessions.
- Groups will be of 90 minutes each week.

Considerations for Facilitators

Co-Facilitation Issues

- IPT-G is run by two experienced group facilitators
- Co-facilitators need a strong level of trust, be able to share and collaborate both in and out of the group. The members’ ability to share, deal with conflict and interpersonal issues is directly related to how effective the co-facilitators are at this.
- Co-facilitators should be able or willing to allow and invite differences in perception, style and approach as long as there is agreement about the purpose.
- Co-facilitators should be clear and in agreement about the purpose of the group
- Co-facilitators need to have an understanding of each others different style
- Need to fully understand each others role and expectations
- Agree before the group begins whether one person is the main facilitator or whether they will take turns facilitating
- Be aware of and value the contribution of the other worker
- Before starting the group facilitators need to discover differences between each other and try to resolve any issues.

Group Composition and Stage Issues (from Wilfley et al, 2000)

Engagement: The group is initially united by common focus and common goals and there is the
establishment of a collaborative approach. The therapists need to establish a structure that encourages appropriate self disclosure and facilitates effective communication.

Differentiation: individual differences become apparent, conflicts emerge, group roles develop, subsystems evolve and aspects of the group as a closed system e.g. alliances, subsystems become apparent. The therapists help members to understand their reactions in the context of their outside relationships.

Interpersonal work: Each group member’s individual focus is addressed and interventions occur. The mechanisms of change included the processes of modeling and social reinforcement from therapist and group members. Therapists facilitate connections among members as they share their work with each other and encourage the acquisition of newly acquired skills.

Ending of therapy: As in the individual model there is a sense of loss and grieving reactions as well as the possible emergence of symptoms. The therapists help members to consolidate their work and to assist them in the grieving of the loss of the group.

Pre-Group Session

Objectives:

- To ensure that individuals meet inclusion and exclusion criteria
- To allow for biopsychosocial assessment
- To allow for clarification about the study goals and requirements.
- To prepare members for the group process.
- To gain informed consent to participate in the study.
- To collect pre-group measures.

Tasks:

Research
- Discuss the purpose of the research study and answer any questions.
- Explain what the participant will be asked to do.
- Conduct pre-group pencil and paper assessment.
- Conduct pre-group videotape measures.

Therapy
- Discuss the participant’s signs and symptoms
- Review their history of symptoms
- Identify the symptoms as depression
- Reassure the client about positive prognosis
- Provide an interpersonal formulation for their problems
- Explain IPT and its basic assumptions
- Complete an interpersonal inventory
- Relate the depression to the interpersonal context
- Identify the interpersonal difficulties in one or more principle problem areas
- Explain the theory and techniques of interpersonal psychotherapy
- Summarise your general understanding of the client’s IPT problem areas, and interpersonal goals, seeking feedback
- Collaborate on a contract regarding the treatment goals.
- Provide a written interpersonal formulation and group goals; provide reading material on the therapy processes, dates, times and agreements.
- Discuss the group structure (size of group, duration of meetings and time boundaries).
- Discuss the importance of attending all sessions and being on time
- Discuss confidentiality
- Explain the roles of the therapists and the participants
• Describe the group as a laboratory, that is, a place to work on relationship difficulties, learn from other group members, recognise and accept the opinions, feelings and needs of other members, discover that general learning comes from active involvement in the group.

• Discuss the importance of transferring newly learned skills. Explain that the influence of early childhood experiences and attachments is recognised as significant, but that the treatment is focused on the client’s current social life.

• Explain that the group will gradually shift from direct interaction with the therapist to learning from the group.

• Discuss the possibility that some participants may want to drop out within the first few sessions and explain that it is important to talk about such feelings with the group because others may be feeling the same way.

Session 1. Psychoeducation and group contract

Session 1 involves the development of group dynamics and the setting of group rules and norms and the initial education phase about the focus of the group and what participants will be expected to do. The additional focus on attachment will be incorporated into the regular information about IPT being a focus on relationships and communication within those relationships. Participants will be told that there will also be a focus on the relationship with the baby and how communication works in that relationship.

• Welcome and introductions.

Example: Hello, and welcome to Week 1 of the group. My name is XXX, this is YYY and we are the group facilitators. We are keen to get to know all of you better over the next 10 weeks. I would like to tell you a little about myself – I am a psychologist and have been working in the counselling field for XX years. In the past years I have specialised in working with mothers and families, and I enjoy work focussing on dealing with relationships.

Exercise (icebreaker): The first thing we would like to do is get to know a bit more about everybody. What we would like you to do now is turn to the person sitting to the left of you and spend a few minutes getting to know them. Then we will get you to introduce your partner to the group.

• Overview of today’s session.

Example: today will be the ‘Welcome and Education’ session, which may include a lot of us as facilitators talking. We want to talk to you about depression and why we focus on relationships in this type of therapy. The week is also about the group getting to feel more comfortable around each other, and so we will try to allow plenty of time for that. Please ask us any questions as we go through.

• Information about the group including expectations and agreements.

Things to mention:

- why the group was developed (including need for PND treatments, need for mother-baby treatments, and need to test some of those combinations of treatments)
- length of group (10 weeks, 90 minutes each week, and a small 10 minute break each session)
- group structure (check-in, body of group, and wrap-up)
- phases of group (goal setting, actively working as individuals and with the group, consolidating changes, relapse prevention)
- partners session
- expectations (commit to all sessions, be on time actively participate, here and now relationships, express feelings, no extra-group contact)

• Education about PND and the recovery process.
Example: Let’s talk about the experience of postnatal depression. I will use this diagram of a woman to write your ideas on the board. What are some of the signs and symptoms you have experienced? In doing this, think about some of the similarities and differences between your experience of symptoms.

- Education about IPT including rationale and focus on relationships and the here-and-now.
- Education about focussing on the relationship with baby, amongst others as group members would like.

Example: The word ‘interpersonal’ means within relationships. That is, the relationships you have with significant people in your life: partners, friends, extended family, bosses, helpers, and of course, your children. These relationships are an important part of our mental health and well-being. It seems that in order to enjoy good mental health, we need the right amount of social and emotional support from people in our lives. Think about how it makes you feel when someone remembers your birthday, apologises for hurting your feelings, does a load of washing for you, or offers to help out in some way? How do you feel when you look at your smiling baby? Think about how you feel when you can’t get your partner to work out what you need, or when your mother keeps saying things that leave you feeling cross, a relative who never offers to help out, or your friends stop coming to visit? How do you feel when your baby is cranky and won’t settle?

Research has shown that women are at increased risk of developing mental health problems during the time when they have new babies, and that a large part of the increased risk can be explained by the changes to her relationships.

Our research also shows us that if women do not have the resources to cope with the new or extra demands parenting put on them, their risk of mental health problems increases. In turn, baby can be affected when mother is struggling to cope.

Interpersonal therapy works by addressing many of these relationship issues. We have worked with each of you to ‘flesh-out’ some of the relationships which may be associated with your depression. In our experience, working toward your specific relationship goals will help you to feel better and enjoy your relationships again.

- Sharing of treatment goals

Example: I’d like you to begin talking about what brings you here and what you would like to get out of this group. Have a closer look at the goals we have handed to you. Spend some time thinking about whether these fit for you. We will be using your comments to modify your goals so they express what you would like to achieve in this group. Would anyone like to comment on their goals?

- Wrap up

Example: The final task for today is to go around the group, giving each of you just a few minutes to say how you found the group today. Who would like to start?

Session 2. Role Transitions

Session 2 covers the IPT topic of role transitions. It focuses specifically on the transition for the participants to being a mother. It focuses on the change in relationships and social support needs due to this transition, and the mixed emotional reactions that new mothers have. There is a small section which asks the participants to consider things from the baby’s point of view – the role transition for the baby. This is to start the mothers reflecting on their baby’s internal cognitions/emotions. However, there will not be any educational element in relation to attachment at this point. The main goal at this early stage of the treatment is to focus on supporting the mother, allowing her to explain her experience of the transition to being a mother, and allow her to clarify and elaborate on her instrument and emotional support needs.

- Check in
Example: Welcome to the 2nd week. Let’s start by finding out how you have been going in your relationships this week. Also, we have handed your goals back to you, so have a look at them and let us know if they reflect what you want to achieve in the group.

We’d like to reiterate a few things about your role as group members. It will be important that you feel comfortable to raise the important issues that are going on in your relationships. We will be active over the weeks in giving the group structure; however, it is up to you to decide what the important issues are that you would like to focus on. We will also be encouraging you to get in touch with your feelings about those relationships, both positive and negative, even your feelings about being in the group. We will need to know if you are struggling or having trouble understanding what is said. While we don’t spend a lot of time in the group talking about symptoms, we are interested in how being in the group and working on your goals is affecting your symptoms.

- Old role – sharing positive and negative aspects of the old role (preparenthood).
- New role – sharing positive and negative aspects of the new role.
- Psychoeducation. People find role transitions difficult when the old role was valued and had many positives, and the new role is perceived as unappreciated and challenging, when expectations about the new role turn out to be unrealistic, and when the perception is distorted (negatives of old role are forgotten, positives of new role are overlooked).

Example: For the rest of the session today we are going to be talking about role transitions. A role transition can refer to any life change that might be difficult. Role transitions can be difficult if they occur rapidly, when there are lots of them, or when they involve a change in your social support. When we enter a role transition like motherhood, it is common for us to be focussed on the many new challenges facing us. However, sometimes we are preoccupied with missing or noticing the absence of things we valued about the old role. I’d like you to think for a little while about the Positive and the Negative aspects of your role “before children”. Then I would like us to talk as a group about some of those – I will write them onto the board.

Example: Sometimes, when it feels that your baby is very difficult and the relationship between the two of you is not going well, this impacts on our mood. Sometimes being depressed impacts on the strength you have to build your relationship with your baby. Most women tell us that they would like to develop a good relationship with their baby.

Now let’s think about it from baby’s perspective! What do you think are the transitions that baby has made coming into the world? What do you imagine it is like for baby?

- Wrap up

Example: How did you find the group today? What has it been like for you to discuss the experience of your role transition to motherhood?

Session 3. Role Transitions

Session 3 continues the IPT topic of role transitions. By this session the mothers should be more confident in setting the agenda for discussion, so long as it is focussed on this topic. They should have reflected on their role transition during the week and come to the session with ‘stumbling blocks’ ready for brainstorming with the group.

- Check in

Facilitator summarises the content of last session and any progress members have made. Members are asked to share information about their week in terms of their relationships and progress towards goals.

- Ways of combining things from the old role that were important to you with the new role, especially the social support that you previously had.

Example: Last week we explored your role transition to motherhood (and other transitions that happened around that time). We discussed many of the things that you miss and don’t like about both roles, as well as the aspects of motherhood which you find frustrating, anxiety provoking, overwhelming, and enjoyable. We also discussed what this
role transition to ‘life’ might be like for your baby to have experienced. Today we want to brainstorm ways that you might be able to combine some of the things from pre-motherhood that were important to you, with things from your new role which are also important. Can we have a general discussion about the important pre-motherhood things that we valued? Can we have a brainstorm about how we could access them now?

Could we brainstorm some of the things that we thought baby was having difficulty dealing with in their ‘role transition’ and ways that we have so far been successful in helping them?

- Detailed brainstorm focussed on one individual.

One person discusses in detail their issues with relation to role transitions – group uses communication analysis, brainstorming, communication training, and role-play to explore.

- Wrap up

2-3 minutes each to discuss what new insights they have developed from this session and what they will be doing in the next week to progress towards their goals.

**Session 4. Communicating with Baby**

Session 4 covers the new area of communicating with baby. The main aim in this first session is about introducing the concept of a baby trying to communicate, even though he/she cannot talk, and about communicating with your baby even though you are not having a conversation.

- Check in

Facilitator summarises the content of last session and any progress members have made. Members are asked to share information about their week in terms of their relationships and progress towards goals.

- Psychoeducation with an attachment focus in regards to how a baby communicates his/her needs to mother and what an infant’s needs might be.

This week we wanted to focus specifically on your relationship with your baby. During the past weeks we have been talking about many relationships in our lives, and we will come back to some of those other relationships – but we wanted to pause here and talk about baby for this week and next week.

We have already discussed (last week) a little about how baby might be adjusting to their ‘role transition to life’ and some of the challenges they might be facing. In pairs, have a small discussion about how your baby communicates those challenges, or other needs that he/she has, to you. Then we will come back and present some of those ideas to the group.

If some things are missing, facilitator can provide psycho-education on attachment needs in an infant/toddler at this point.

- Exploring how we communicate with baby, process and content affect, communication of emotion.

- Exploring responding to baby’s cues and providing baby joy, understanding, comfort and emotional guidance.

Let’s think about the communication that goes back the other way. Let’s do that exercise again in pairs, but this time, brainstorm ways in which you communicate with your child – what signs you might give to your child about how you are feeling, what you are doing, etc.

Facilitator to provide basic psychoeducation on the importance of four things: experiencing joy with the baby; trying to understand what baby is saying; trying to provide comfort if baby is upset; and trying to provide emotional guidance about when to be upset/feel calm.
• Participants identify times when they have enjoyed, and times when they have not enjoyed, being with baby.

Exercise: Developing a relationship with your baby is not an instantaneous thing. It takes time and a little effort on your part. It may seem like there are so many ‘practical’ things that baby demands from you, that working on your relationship is not really something you have time for. In addition, it is not something that we get a lot of guidance on. Can someone give me an example of a time in which they enjoyed being with their baby? Can someone give me an example of a time where they did not enjoy being with their baby?

Session may include education (potentially in the form of a video) on relationship with baby, including the importance of attempting to discover what the baby is communicating. Discussion of looking at what the baby is looking at, attempting to answer subtle requests for attention, comfort, holding, exploration, and discovery.

• Wrap up

2-3 minutes each to discuss what new insights they have developed from this session and what they will be doing in the next week to progress towards their goals.

Session 5. Communicating with Baby

Session 5 continues the new area of communicating with baby. In this session the focus is on the mothers exploring difficult times with baby and thinking about other ways of being with baby.

• Check in

Facilitator summarises the content of last session and any progress members have made. Members are asked to share information about their week in terms of their relationships and progress towards goals.

• Interpersonal incident focussed on a difficulty communicating with baby and communication analysis and brainstorming within the group about the process.

Today we will continue to talk about our relationship with our baby (next week we will move back to other relationships). We hope that one or more of you will be open to sharing how you have reflected on your communication with your baby during the week. Let’s start with asking people if they were able to identify a time in which it was difficult to communicate with your child?

Can someone identify a time when they have tried to change some of the ways in which you relate to your baby during the week – it doesn’t have to have been successful! We are interested in knowing how easy or difficult it was.

Note to facilitator: This is essentially an IPT Interpersonal Incident focussed on a difficulty communicating with baby. Need to encourage communication analysis and brainstorming within the group about the process.

• Wrap up

2-3 minutes each to discuss what new insights they have developed from this session and what they will be doing in the next week to progress towards their goals.

Session 6. Communicating with partners

Session 6 covers the IPT topic of interpersonal disputes.

• Check in
Facilitator summarises the content of last session and any progress members have made. Members are asked to share information about their week in terms of their relationships and progress towards goals.

- Detailed understanding of a specific dispute (women share with the group)

*Example:* Conflicts and disputes are a common part of life. The arrival of a baby can create conflicts over roles and responsibilities, money and intimacy. There is often less time to talk about issues and little guidance on how to resolve some of these conflicts. Sometimes the conflict contributes to your low mood, at other times your mood can impact on your ability to communicate – when you are irritable, withdrawn, or fatigued, for examples. Despite this, we have found that there are ways to improve your communication skills and resolve disputes. When women are given time to reflect and support to problem-solve, they are usually able to come up with solutions.

Take a moment to think about an important conflict with someone in your life. Make some notes for yourself – who is the dispute with? What are the issues? What are your expectations of the person? What do you think their expectations are? What things have been tried to resolve it?

- Psychoeducation

Facilitator to provide education on the three main ways of resolving disputes: lowering expectations, communicating your needs better, or gathering resources to help. Relate these back to some of the typical examples participants have raised.

Modifying expectations: may involve being more realistic about what you can expect from the other party. Communicating needs: Includes what is said (content), how it is said (delivery), and when it is said (timing). Gathering resources: other resources which might be able to help meet the needs, apart from the other party in the dispute.

- Individual participant’s example.

*Example:* Could we have a volunteer who can talk about a specific dispute and allow us to try to apply some of those resolving tactics to the dispute? We will come up with a number of options, you don’t have to try them all but perhaps some of them would be useful.

Facilitator to encourage group to use communication analysis, brainstorming, role play and communication training in relation to the tactics.

- Wrap up

*Example:* What insights have you had today and as a result what will you be doing differently in your life this week?

**Session 7. Communicating with partners**

Session 7 continues the IPT topic of interpersonal disputes.

- Check in

Facilitator summarises the content of last session and any progress members have made. Members are asked to share information about their week in terms of their relationships and progress towards goals.

- Psychoeducation

*Example:* Today we are going to be looking more closely at the disputes you have identified in your life, in order to help you move closer to resolving some.

Facilitator to reinforce education from last week on lowering expectations, communicating needs, and gathering resources.
Individual work

Example: We would like one person to identify a dispute and what they have been doing during the week to work towards resolving it. Who has a dispute that they were able to successfully resolve this week?

Who has a dispute that they tried but had difficulty resolving?

Facilitator to encourage brainstorming ideas for resolving disputes, problem-solving, role-play, and using the three resolution processes: modifying expectations, communicating needs, and gathering other resources.

Wrap up

2-3 minutes each to discuss what new insights they have developed from this session and what they will be doing in the next week to progress towards their goals.

Session 8. Patterns in relationships

Session 8 covers what use to be considered an area of IPT focus, the area of interpersonal sensitivity. This is no longer an area chosen for specific focus in work, but has been subsumed within the general work and aims of the therapy. In order to maintain comparability with the Reay et al design, this session will be maintained. It also allows for a discussion of attachment issues in terms of intergenerational transmission of parenting styles, within an IPT-appropriate context.

Check in

Facilitator summarises the content of last session and any progress members have made. Members are asked to share information about their week in terms of their relationships and progress towards goals.

Psychoeducation on patterns in relationships (coloured glasses metaphor for perceptions)

We want to talk today about why some impasses in relationships occur. Often when we are out there trying to improve our relationships, we come across entrenched obstacles. Sometimes this is because of the behaviour of the other person, and sometimes it is due to our own perceptions and expectations of people.

In psychology we believe that as people grow up from childhood they build up a set of expectations about what to expect from the people we are close to. We start to automatically predict what to expect from others. The problem is that this means we might read into others’ behaviour or responses, what we are expecting, rather than what is actually there. In order to develop some insight into those patterns of expectations, it can help to look at different conflicts that we have in our life and compare them.

Here are some questions to ask yourself to help you identify any patterns in your expectations. Think about various disputes in your life:

- How do these disputes make me feel? Do I feel very strongly about certain disputes?
- Which relationship from my past does this remind me of? Is my current behaviour or feelings in relationships similar to how I have behaved or felt in the past?
- What things do I do in relationships that I KNOW don’t help resolve disputes?

Individual example regards adult relationships

Facilitator to work with one participant to explore and better understand their patterns in and across relationships. At the end of this exercise, gently explore alternative ways participants could behave that might be more adaptive and more able to help resolve conflicts. Remember to do this gently and acknowledge how hard it would be to do that.
Individual example regards patterns in parenting

Example: Those patterns in expectations and ways of behaving can be developed in our relationship with our child, as well. Sometimes we see how others respond to babies and we develop expectations about those being the right ways of being. Sometimes, when we have consistent experiences of being rejected, or hurt, or ignored, we might expect our baby to respond to us in this way as well. We wanted to talk about any experiences you have in that regard for a few minutes before we finish up today.

Facilitator to work with one or more participants to explore and better understand the expectations they have developed about parenting. At the end of this exercise, gently explore alternative ways of being with their child, reinforcing the four ideas of childhood needs (joy, understanding, comfort, and guidance).

Wrap up

2-3 minutes each to discuss what new insights they have developed from this session and what they will be doing in the next week to progress towards their goals.

Partner Session

Introductions: Introduce yourself and allow all women to introduce their partner. Discuss how helpful it generally is to include the partner and what a difference their involvement can make to her recovery.

Overview of session:
- an opportunity to find out a bit more about postnatal depression, its symptoms and contributing factors, and treatments available
- discuss in general terms what types of things your partner finds helpful and useful, and find out ways that you might be able to better support your partner
- answer any questions partner might have about progress and treatment

Education: Ask each partner in turn:

- What has been the impact of the role transition to parenthood on your partner
- What have been some of the impacts of this transition on your relationship?
- What signs did you notice in your partner that something was wrong?

- PND is the most common postpartum complication
- Legitimate medical illness
- The onset is usually gradual (Buist, 1995)
- Untreated depression can persist for a year or longer (Cox, 1989)
- It can be very difficult for women to access and accept help

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<thead>
<tr>
<th>Diagnostic criteria for MDE - 5+ of:</th>
<th>Additional symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>- persistent depressed or low mood</td>
<td>- decreased desire for physical contact</td>
</tr>
<tr>
<td>- lack of interest or pleasure in things</td>
<td>- feeling inadequate / inability to cope</td>
</tr>
<tr>
<td>- feeling worthless or inappropriately guilty</td>
<td>- feeling extremely angry</td>
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<tr>
<td>- exhaustion and loss of energy</td>
<td>- fear for or of the infant</td>
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<tr>
<td>- poor concentration or memory</td>
<td>- fear of being alone with the infant</td>
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<tr>
<td>- sleep/ appetite disturbance</td>
<td>- fear of being rejected by partner</td>
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<td>- marked weight loss or gain</td>
<td>- fear of harm or death of partner</td>
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<tr>
<td>- repeated thoughts about death or suicide</td>
<td>- distressing thoughts of leaving</td>
</tr>
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</table>

- What thoughts do you have about what factors contributed to the development of your partners depression?

- Personal or family history of depression
- Current antenatal depression
- Maternal age <18 or >32 years
• Poor relationship with ones partner, no partner,
• Poor social supports
• Obstetric problems or complications
• Unwanted, unplanned pregnancy
• History of termination, miscarriage or stillbirth
• Personality type: perfectionist, anxious or obsessional
• Baby’s health, temperament & behaviour

About Interpersonal psychotherapy
• Focus on improving relationships
• Shown to be effective with individual mothers (Stuart and O’Hara, 2000)
• Relieve symptoms of depression
• Improve their ability to cope with role transitions
• Improve their ability to communicate more effectively
  - What things have you noticed about your partner that she has changed since attending sessions?
  - What are some of the things that you do for your partner that she finds helpful
  - What are some of the things that your partner currently does that you find helpful?
  - Are there any helpful behaviours that you would like to see him do more of?
  - Are there any other behaviours that you would both like to see more of that would make a difference to the difficulties that you are facing?

• close, confiding relationship
• supportive network
• listening and understanding
• self care behaviours
• planned regular time away from the baby
• “Smooching”
• information and material on PND
• self help and therapeutic groups

Partners survival tips:
• Support: Accept all reasonable offers of help. Stay in close contact with family and friends
• Balance and moderation: Reduce your outside interests but don’t stop them all together
• Pleasant social activities: Make time for you and your partner. Go out without the children
• Listen: try to listen and understand your partners concerns
• Expression: Encourage your partner to put their feelings into words
• Timing: Talk about sensitive issues when you are both calm
• Remain positive in front of your partner

Questions and discussion

Session 9. Consolidating progress

Session 9 allows member to review areas of difficulty.

• Check in

  Example: These are the last two group sessions. Today is a chance to review and consolidate your progress. Take a look at your goals and let us know what progress you feel you are making and if there is anything you would like to specifically focus on today in the group.

• Review of progress
Facilitator notes: Use of information in the check-in to determine priorities for the session, facilitating group discussion around these areas. Focus on the last week of exploring patterns in relationships, but allow for discussion on any topics that have been brought up during the weeks.

- **Wrap up**

  *Example: Next week is our last group together. While this will be the last time the group meets, it does not mean it is the last time you work on these issues. Next week we will address the issue of continuing your work after the group finishes, but in this wrap-up, I would like to hear how everyone is feeling about the group ending next week.*

---

**Session 10. Concluding Session**

Session 10 is the termination session.

- **Check in**

  *Example: This is our final group. Today is a chance to review your progress, remind yourself of the model we use in this therapy, look at future difficulties, and say good bye. How have you been feeling in the past week and what has been happening in your relationships?*

- **Review of progress from each group member**

  Facilitator asks each group member to individually talk about their goals and how they have progressed through those goals during the sessions.

- **Review of group**

  Facilitator reviews contents of group: communicating with baby, communicating with partner, patterns in relationships.

- **Maintaining gains and planning for contingencies**

  *Example: We have only had a short time together and working on communicating with your partner, baby, family, and others is a long process. Some setbacks are common and it is important to keep an eye on your mental health and what you are doing to help yourself cope. I would like to ask the group about the following:*

  - What are the signs that tell you things are going well?
  - What are the signs that things are not going well?
  - What are the things you will take from this group to do to help yourself stay well?
  - What are the other resources you will be able to use if you aren’t feeling well?

- **Wrap up / goodbyes**

  Facilitator to allow for at least half an hour for goodbyes. Each participant to be encouraged to talk about their feelings about the group in general and about it ending and their moving on.
Appendix D: Recruitment Protocol

MCHN identifies potential participant; asks permission to provide telephone number

- permission granted
  - MCHN emails number; researcher makes phone call; completes spreadsheet
- permission not granted
  - MCHN provides flyer on study and encourages mother to contact study

Introductory phone call asking permission to meet at MCHC or client’s home

- permission not granted
  - researcher makes appointment date; confirm any access or safety issues at the house
  - initial assessment
    - refer to home visit protocol
- permission granted
  - researcher makes appointment date; confirm any access or safety issues at the house

client not suitable for study
  - discuss with client; inform MCHN; complete details on client spreadsheet
client suitable for study
  - offer study to client
client accepts study
  - complete home visit protocol; conduct randomisation
  - randomised to TAU
    - inform client
    - complete T2 measures 10 weeks after randomisation
    - complete follow-up 3 months after T2
  - randomised to IPT-G
    - inform client and arrange pre-group session
    - client completes group
    - complete T2 measures at end of group
    - complete follow-up 3 months after end of group
    - client fails to complete group
    - complete T2 measures at 10-weeks post group start
    - complete follow-up 3 months after T2 measures
client does not accept study
  - tell client they may re-contact at any time
Recruitment into study: Protocol for Researchers

Maternal and Child Health Nurses (MCHN) in western Melbourne have been provided information sessions regarding the study. The study should be offered as an additional resource for them to refer mothers to which is in the local area.

MCHN have been asked to screen all women visiting their service with children under 12 months using the EPDS IN ACCORDANCE WITH THEIR CURRENT SCREENING PROTOCOL. If they do not use EPDS then they should be informed that an EPDS score is not required for referral to the study.

MCHN will be identifying potential participants from their client group. However, MCHN will only be required to indicate to participants that a researcher is conducting a research which:
- has been ethically approved by DEECD
- involves a treatment arm so that participants may get the chance to be involved in a free postnatal depression treatment
- does not involve any change in their treatment from the MCHN

MCHN are NOT asked to:

- coerce the participant into providing details
- provide any specific information or professional opinion about the merits of the research study
- change their treatment of the client based on their participation or lack of participation in the study

MCHN will ask permission to provide the potential participant’s contact telephone number to the researcher. This will be provided via email to carolyn.deans@vu.edu.au; or via fax to the VU Psychology Clinic.

Carolyn will nominate a researcher to be responsible for that potential participant’s assessment, including telephone liaison and liaison with the referring MCHN.

Initial telephone call and tasking

Refer to notes for researchers at the end of this document.

Mothers should be contacted by telephone within 3 working days of the referral, and an appointment at the local MACH Centre or the client’s home set up for an assessment interview.

If the client’s home is the assessment setting, let Carolyn know in order to confirm safety arrangements.

The appointment should be made within one week (5 working days) of the initial telephone contact with the client, unless the client indicates they are not available within that timeframe.

Email the MCHN to indicate that an appointment has been made / or client refused the appointment.

Update the client spreadsheet with all available information.

Assessment and tasking
Assessment details are included in the Home Visit Protocol. Refer to notes for researchers at the end of this document. Following the assessment, the mother will agree to participate or not in the study.

For ALL women, mail the MCHN to indicate that the mother is suitable/not suitable, and if suitable, whether she has agreed to participate in the study. For those participating, remind the MCHN that we would appreciate being told if additional treatments are engaged with during the length of the study.

For those not participating, some encouragement to engage with alternate contacts may be provided to the nurse (you may at this stage provide options for treatment if the MCHN requests these). Indicate that the woman may re-engage with the study at any stage while her baby is still under 12 months.

For ALL women, complete the initial assessment report listing all criteria met/not met and relevant details. Place initial assessment report and your notes in an envelope and deliver to Carolyn’s office at VU.

For ALL women, update the client spreadsheet.

For those participating, upload the videotape onto the “PND Study” dropbox folder for Carolyn to provide to the coding staff.

For those participating, contact them within THREE WEEKS of the assessment date to indicate their randomisation condition.

**Randomisation.**

Block-randomisation will be used. Participants will be allocated to groups of 3-5 as they became available for the study. Once a group is comprised, it will be randomly allocated to a treatment or TAU condition. The next group will be allocated to the alternate group. This ensures participants do not stay on a waitlist for extended periods.

For ALL participating women, contact them by telephone to indicate their randomisation condition. Indicate what the next contact will be. For TAU: the T2 measure is next, state that they will be contacted closer to the date. For IPT-G: the pre-group session appointment needs to be made.

For ALL participating women, update the client spreadsheet with the randomisation details.

**T2 and T3 measures.**

T2 measures are to be completed either:

- 10 weeks post-randomisation date for those in the TAU condition
- In the week following the end of therapy for those in the IPT-G condition
- 10 weeks post the commencement of the group, for those in the IPT-G condition who failed to continue with the group

The nominated researcher from the initial assessment is to contact the participant via phone to ask permission to complete T2 and T3 measures. These may be completed at the local MCHC or in the client’s home.

At the T3 measure, indicate that this is the last formal contact for the PND Study. Discuss the continuing care options including the importance of the MCHN visits.
Request permission for the client to be contacted for further follow-up. Complete the separate consent form for this activity.

For ALL participants, update the client spreadsheet.

Notes for the researchers: Recruiting difficult-to-engage families.

Cortis (2012) discusses strategies for engaging hard-to-reach, socially disadvantaged, or other populations which are in need of services but are less likely to engage. Women with newborn children, postnatal depression, and/or lacking social support do not have to be socially or financially disadvantaged to find it difficult to engage in services.

Strategies are recommended in the following areas:

- Overcoming access barriers.
  - Delivering interventions in non-stigmatising ways included not emphasising the “postnatal depression” aspect of the study until there is an opportunity to speak one-on-one with women in a confidential setting, where there is an opportunity to discuss the impact that being ‘diagnosed’ with this condition had.
  - Embedding the interventions in universal services i.e. recruiting women via their maternal and child health nurse, so that the care they receive appears integrated with “normal” maternal and child health community care. Recruitment may also occur through other everyday environments such as childcare centres and medical clinics.
  - Childcare can be provided in the group setting if the participants wish.

- Relationship building.
  - One-to-one contact occurring in the participants’ homes or their normal maternal and child health centre will facilitate the relationship between the participants and the research team. Where possible, the same research team member should continue contact with the participant throughout the study.
  - You may use “text message” contact to engage young women who may be used to communicating in this way, or may not have the capacity to answer telephone calls with young children. Messages can be used to thank the participants for their involvement, refer them to the website which contains basic information about the study, and to confirm appointments.
  - Groups should be held within the local community facilities.

- Networking and partnership.
  - Partnership not only allows for stronger recruitment methods, it increases the legitimacy of involvement for participants. Building partnerships with maternal and child health nurses is therefore a key strategy of recruitment.
  - Staff training, supervision, or case review can be provided to MCHN by the research team if requested.
  - The research team should all be provisional or registered psychologists with specific training in the area of perinatal mental health (this can be provided by the senior researchers where required).


Winkworth et al (2010) lists barriers to care for families with limited social support, and particular attention was paid to avoiding these barriers or engaging with women in ways that would not emphasise them. The researcher should pay attention to any indication of these during the initial phone call and assessment sessions.
These include:

- a sense that they needed to be self-reliant and a lack of family or friends who utilised formal support services;
- feeling shame, judgment, or ‘under surveillance’ when engaging services;
- not being made aware of services; and
- poor customer service or client-liaison experience in engaging a service.

If there is a suggestion that one of these barriers exist, the researcher should openly address this by pausing the assessment and offering the client the opportunity to discuss the barrier further. Some options for overcoming these barriers could be offered.

For example:

- the fact that the IPT-G intervention focuses on building the self-reliance of the participant and increases their engagement with family and friends;
- the fact that the research study information is not going to be provided to anyone else and so the participant can engage without oversight of their participation from anyone;
- an offer to discuss any services that might be appropriate for the client;
- a strong focus on engagement with the participant before anything else.


Notes for the researchers: Assessing risk – to the client and to the baby.

Potential participants in the study are normally referred by the Maternal and Child Health Nurse, who is the primary health care provider and who will have made an assessment of risk to the infant and the mother. The MCHN should be asked for details of any risk issues if they exist prior to the visit, and what has been done to address these.

However, a full clinical assessment with a mother has the potential to uncover risk issues that the MCHN is not aware of. There are two risk issues:

- Risk to the mother, either self-harm or harm from others (especially family violence)
- Risk to the child, either by abuse from the mother or another family member

Mandatory reporting of risk to the child

Psychologists in Victoria have not been mandated under the legislation to report cases of suspected abuse; however, ethical practice means that psychologists continue to use the guidance of the legislation as if they were a mandatory reporter. This obligation relates to a belief that a child is currently experiencing abuse. The obligations described under the legislation are:

<table>
<thead>
<tr>
<th>Type of Reporting</th>
<th>By Whom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory Reporting</td>
<td>Mandatory reporters (to DHS Child Protection)</td>
</tr>
</tbody>
</table>

Mandatory reporters must make a report as soon as practicable if, in the course of practising their profession or carrying out their duties, they form a belief on reasonable grounds that a child or young person is in need of protection, as a result of physical injury or sexual abuse, and the child’s parents are unable or unwilling to protect the child.
### Child in need of protection

Any person may make a report if they believe on reasonable grounds that a child is in need of protection because the child:

- Has been abandoned and there is no other suitable person who is willing and able to care for the child.
- Has parents who are dead or incapacitated and there is no other suitable person who is willing and able to care for the child.
- Has suffered or is likely to suffer significant harm as a result of physical injury and the parents are unable or unwilling to protect the child.
- Has suffered or is likely to suffer significant harm as a result of sexual abuse and their parents are unable or unwilling to protect the child.
- Has suffered or is likely to suffer emotional or psychological harm and the parents are unable or unwilling to protect the child.
- Has physical development or health has been, or is likely to be significantly harmed and the parents are unable/unwilling to provide basic care, or effective medical or other remedial care.

### Child in need of therapeutic treatment

Any person may make a report if they believe on reasonable grounds that a child who is 10 years of age or over, but under 15 years of age, is in need of therapeutic treatment because he or she has exhibited sexually-abusive behaviours.

### Significant concerns about wellbeing of a child

Any person may make a report if they have significant concerns for the wellbeing of a child.

### Phone numbers

DHS Child Protection:

<table>
<thead>
<tr>
<th>Location</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern and western suburban LGAs (includes Brimbank, Melton, Moonee Valley, Wyndham)</td>
<td>1300 664 977</td>
</tr>
</tbody>
</table>

Child FIRST: Child and Family Information, Referral and Support Teams (Child FIRST) have been established across Victoria to provide an entry point into family services or other support services for vulnerable children and families. A referral to Child FIRST may be the best way of connecting vulnerable children, young people and their families to the services they need to protect and promote their healthy development.

<table>
<thead>
<tr>
<th>Location</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brimbank</td>
<td>1300 138 180</td>
</tr>
<tr>
<td>Moonee Valley</td>
<td>1300 775 160</td>
</tr>
<tr>
<td>Melton</td>
<td>1300 138 180</td>
</tr>
<tr>
<td>Wyndham</td>
<td>1300 775 160</td>
</tr>
</tbody>
</table>

Victoria Police:

Sexual Offences and Child Abuse Investigation Teams (SOCITs) are teams of specialist detectives who are trained to investigate the complex crimes of sexual assault and child abuse.

Footscray unit (North-West service): (03) 8398 9860

### Risk to the child (no mandatory reporting applicable)

If the researcher forms the belief that the child may be at risk of abuse but is not currently experiencing the abuse, this is a more difficult issue. The researcher should discuss with the Chief Investigator their concerns (RAs to contact Carolyn; Carolyn to contact Anne if the matter cannot be resolved). This is to determine whether the risk level indicates reporting.

If there is a risk that does not indicate reporting, then a referral is required. The MCHN should be informed of the risk issue as part of the standard protocol of the study. Information on the
Confidentiality aspects relating to reporting to the MCHN should be provided to the potential participant before starting the interview.

The client should be asked permission to make a referral about the issue to their local GP and their treating psychiatrist, psychologist, or social worker as applicable. Confidentiality for the study does not allow for the researcher to avoid making a referral if the client does not provide permission. The purpose of asking permission is to maintain rapport and to allow the potential participant a choice of referring authority if possible.

If there is no specialist or GP involved, the researcher should request that the MCHN refer the matter to the Enhanced Care MCHN, who will make a visit to the client’s home.

The client should also be provided with the following helpline numbers:
- Werribee Mercy mother-baby unit: 9216 8465
- Parent Line: 13 22 89
- Domestic Violence helpline: 1800 015 188
- Relationships Australia (low cost counselling service) Sunshine branch: 9364 9033

**Risk to the mother/potential participant**

As all researchers are psychologists or provisional psychologists, the ethical obligations laid down by legislation and in the APS Code of Conduct apply to the risk of self-harm. The SCID assessment includes compulsory questioning regarding current suicidal ideation, and if this exists, it must be explored. Immediate risk should be addressed as usual, by contacting the CAT Team or Victoria Police (000).

Suicidal ideation with low risk (no active plan and available support) should result in a referral. The MCHN should be informed and the client should be asked permission to make a referral to their local GP and their treating psychiatrist, psychologist, or social worker as applicable. Confidentiality for the study does not allow for the researcher to avoid making a referral if the client does not provide permission. The purpose of asking permission is to maintain rapport and to allow the potential participant a choice of referring authority if possible.

**Risk factors relating to harm to a child (copied from Qld Govt site)**


This list reviews all of the current evidence involving risk factors for parental abuse. Further details on each of the individual risk factors and references to the literature on each is available on the website.

**Risk factors – child under 12 months**
- The child has been the subject child in a notification
- Was the result of an unwanted pregnancy
- Was born prematurely/drug dependent/subject to birth complications/low birth weight
- Has poor sleeping or feeding patterns
- Has an illness or disability, developmental delays, challenging behaviours
- Unsafe sleeping practices (co-sleeping with a parent on medication or drug user, poor bedding or cluttered cot)

**Risk factors – parent**
- has been responsible for harm to a child in the past
- inconsistent explanations, denial or minimisation of harm
- refusing access to the child, or a highly mobile family
• lack of willingness or ability to prioritise the child’s needs over their own
• parental expectations of the child are unrealistic (developmentally inappropriate)
• insecure or disorganised attachment between the parent and child
• young parental age (under 20 years at birth of first child)
• parent’s behaviour is violent or lacks control in other contexts
• parent has an intellectual or physical disability, mental health disorder, substance misuse, or criminal history
• single parent status
• male in household as step-parent or partner of parent (non-biological relationship to child)
• parent has experienced childhood abuse
• domestic and family violence occurring in the household
• family experiencing high stress (separation, financial issues, isolation, health issues, grief)
• physical and social environment is chaotic and hazardous (unhygienic, unsafe, peer group who are involved in criminal or violent behaviours)
• poor social networks and isolation from services
• poverty impacting on employment, housing stability
• cultural context that includes values about gender of children, supervision of children, provision or medical care, or role of children within the family

Phone numbers

The CAT services in the western suburbs of Melbourne are:

The Mental Health “Crisis Assessment and Treatment” (CAT) services assist people who are in crisis with mental problems - including people who are close to suicide.

Mid West Mental Health Service (includes Brimbank and Melton)
18 Withers St Sunshine
ECATT staff located at Sunshine Hospital
MidWest triage: 1300 859 764
Phone Duty worker 24 hours: 9300 8600

South West Mental Health Service (includes Wyndham)
Saltwater Clinic, Floor 1, Footscray Plaza Building, Corner Paisley & Albert St Footscray
ECATT staff located at Western Hospital (Werribee Mercy)
Phone: 9928 7444 or triage 1300 657 259
After hours: 9216 8588

Inner West Mental Health Service (includes Moonee Valley)
Waratah Clinic, Floor 2, 641 Mount Alexander Rd, Moonee Ponds: 9377-3400
After hours: Royal Melbourne Hospital, Psychiatric Triage: 9342-2333

Additional reading


This article describes the main risk factors for a mother physically abusing her child. These include: maternal distress (mental health issues included), social support (inverse relationship with abuse), low empathy for the child, and negative attributions of child behaviour.
Appendix E: Consent forms
INVITATION TO 
MATERNAL & CHILD HEALTH NURSES

You are invited to assist in recruiting women....

Maternal and Child Health Nurses are invited to assist in recruiting women for a study project entitled \textit{Addressing emotional wellbeing and bonding for post-natal women}.

This project is being conducted by \textbf{Dr Carolyn Deans}, College of the Arts, Victoria University, and \textbf{Prof Anne Buist}, Department of Psychiatry, The University of Melbourne. The study is part of Dr Deans' PhD studies.

\textbf{Project explanation}

This study is about emotional wellbeing in women in the perinatal period and the effect this has on the developing relationship between mother and her baby. Current effective perinatal treatments do not often address this potentially disrupted relationship. The aim of this study is to trial a modified therapy which aims to address depression and the mother-baby relationship at the same time. This therapy is based on a gold-standard, evidence-based treatment of depression, Interpersonal Psychotherapy (IPT). Studies already conducted have shown that IPT, as is being run here, is capable of successfully treating depression in new mothers. This study is a randomised controlled trial of the normal care process ("Treatment As Usual") versus the normal care process in addition to the modified IPT.

We would like to ask new mothers who are at risk of poor emotional wellbeing to participate in the trial. If they agree and are suitable for the study, they will be randomised into either the IPT condition (either group or individual therapy) or the TAU condition.

\textbf{What will I be asked to do?}

We would like MCHN to identify at-risk mothers during your normal screening procedure. We consider at-risk mothers to be those who score over 12 on the Edinburgh Postnatal Depression Scale (EPDS) OR those whom you believe show indicators of depressed mood. Once identified, please inform the mothers of the study and ask them if they would be prepared to leave their contact details or to receive our contact details. They can then fill out any details they wish to leave in a register separate from any of your work files. If they choose to simply take our details, please give them one of our study brochures.

If mothers choose to participate in the study we are asking MCHN to provide the "Treatment As Usual" for all mothers, whether in the treatment group or not. This should not differ from your regular care of mothers. However, we ask that MCHN inform us when they refer a woman involved in the study to a GP for possible psychological (therapy) treatment or when the use an intervention outside of the TAU protocol.

If mothers choose to participate in the study we will inform you of whether they are suitable for the study and choose to participate in it.

We will work together with you to develop and write up an agreed “Treatment As Usual” (TAU) protocol. This is an explanation of the current range of treatment options that might be provided to a woman at risk of poor emotional wellbeing, and any definite steps you would take in circumstances of concern. In developing this we may suggest some information lines or options that you could provide to your clients – however, whether these are used is entirely up to you.

Participation for women, even after providing their contact details, is voluntary and they may withdraw from the study at any time.

\textbf{What will I gain from cooperating with this research study?}

Maximum MCHN cooperation will provide valuable information about our ability to treat perinatal difficulties in women, not just in terms of treating the mother, but also looking after the baby who may suffer from the mother’s poor functioning.

In addition, we hope to provide some level of professional development in the management and treatment of perinatal distress. We offer ongoing information sessions about current developments in the field of perinatal research, and can provide professional support for any difficult cases during the course of the study.

\textbf{How will the information be used?}

All data collected in this study will be stored confidentially. Only members of the research team will have access to the data. All data will be coded in a de-identified manner and subsequently analysed and reported in such a way that responses will not be able to be linked to any individual. The data provide will only be used for the specific research purposes of this study.
What are the potential risks of participating in this project?

We believe that we have designed a research study which does not harm any of the potential participants. For women who are identified we will be able to offer them either their standard level of community care, or an additional treatment which has an evidence-base as being effective for their condition – both of which are acceptable forms of treatment.

If participants do become distressed by participation, we will encourage them to discuss this with their MCH Nurse, as the person coordinating their postnatal community care. If they are not comfortable or require further support, then we will provide them with access numbers for support lines.

How will this project be conducted?

If you agree to cooperate, an investigator will contact you to make an appointment in person, to discuss the administrative arrangements of advertising the study, the TAU protocol, and any questions you have.

Women who provide their contact details to be involved in the study will be assessed for inclusion on an ongoing basis. The initial assessment will take up to two hours, and women will also participate in assessments post-group and at 3 month follow-up.

Once 8 women have been assessed and provided consent to be involved, the group will be allocated to one of the two conditions. As this is a randomised trial, women will not be able to choose which group (Therapy or TAU) they are allocated to. This will continue to happen on an ongoing basis until we have collected around 75 participants. We estimate that this will take 18-24 months. Participants will be sourced from four different Melbourne Councils and we expect to run 1-2 therapy groups, some individual therapy, and 1-2 TAU protocol groups in your area.

Confidentiality of sessions will be maintained for the group as per a standard psychological therapy consultation. Material discussed in therapy sessions is usually confidential, except in cases where a risk of self-harm or harm to others (including the children of the participants) is identified by the facilitators. More information on confidentiality in therapy is available from the Australian Psychological Society (www.psychology.org.au). Participants will be given a copy of their “Invitation to Participate” and their signed consent form to keep.

Who is conducting the study?

Dr Carolyn Deans  
Chief Investigator  
College of the Arts  
Victoria University  
St Albans Campus  
PO Box 14428  
Melbourne VIC 8001  
Phone: 9919 2353

Professor Anne Buist  
Department of Psychiatry  
The University of Melbourne  
Melbourne VIC 3010  
Phone: 9496 2940

Any queries about this project may be directed to the Chief Investigator listed above.

Should you have any concerns about the conduct of the project, you are welcome to contact the Manager, Human Research Ethics, The University of Melbourne, on ph: 8344 2073, or fax: 9347 6739.
AGREEMENT ON ‘TREATMENT AS USUAL’ APPROACH
MATERNAL & CHILD HEALTH NURSES

You are invited to participate

Your are invited to assist in recruiting women for a study project entitled Addressing emotional wellbeing and bonding for post-natal women. This project is being conducted by Dr Carolyn Deans, School of Social Sciences and Psychology, Victoria University, and Prof Anne Buist, Department of Psychiatry, The University of Melbourne. The project is part of Dr Deans’ PhD studies.

The details of this study have been provided in the “Invitation to Maternal and Child Health Nurses” for the study with this title.

Your obligations under this agreement

If you agree to cooperate with the study (by signing this agreement form) then you are agreeing to:

• Identify potential participants for the study including:
  - Women who score above 12 on the EPDS
  - Women who otherwise indicate, during your routine care, signs of poor emotional wellbeing: fatigue, insomnia, hypersomnia, unexplained weight loss, unexplained weight gain, lack of concentration, lack of interest in activities, social withdrawal, low mood for multiple days in a row, feelings of worthlessness, hopelessness, or helplessness, or suicidal ideation.

• For all potential participants, provide them with the attached “Invitation to Participate” form to take home and explain to them that there is a trial of a DEECD-approved study being conducted. If they participate it may include the opportunity to be involved in a free “evidence-based therapy focussed on helping them with their emotional wellbeing and their relationships”.

• For all potential participants, ask them if they will provide their contact name and telephone number/email address on the attached “Contact Register” to be provided to the researchers named on the form. For those who do not agree to this, ask them to consider contacting the researchers via the telephone number listed on the form.

• For women under your care who participate in the study, provide treatment in line with the ‘Treatment As Usual’ conditions detailed in this form.

The ‘Treatment As Usual’ conditions

The ‘Treatment As Usual’ condition is an agreement to care based on your usual practice. You provide care for the mothers attending your service based on your clinical judgment as to what is necessary. Here are the treatment options that MCHN have indicated they normally use:

‘Treatment As Usual’ can include:

✓ Assessment and supportive counselling by you, at the centre or in the client’s home.
✓ Any education, advice, or instruction regarding the physical or medical care of children by you.
✓ Referral to any medical practitioner.
✓ Referral to a GP with a suggestion of an individual psychologist for therapy.
✓ Referral to a psychiatrist for assessment or treatment, including medications such as antidepressants.
✓ Referral to a ‘support group’ including PANDA and other postnatal support group services (these are peer support groups as opposed to therapy intervention groups).
✓ Provision of telephone support line numbers including Lifeline 13 11 1 and the beyondblue Info Line 1300 22 46 36.

If there are additional services you refer to, please contact us to inform us that you are including an additional services to a client in the study. We also ask that you inform us of whether you referred the client to the following services:

✓ General Practitioner with a suggestion for a referral to a psychologist for therapy.
✓ Any mother-baby focussed program (including programs such as Tweddle’s mother-baby in-patient service or that at Northpark Private Hospital).

This agreement has been signed by:

Nurse (name): __________________________________________  MACH Centre: __________________________________________

Signature: ___________________________________________  Date: _________________________________

HREC Approval Number: 1238586 (21 April 2013)
ADDRESSING EMOTIONAL WELLBEING AND BONDING FOR POST-NATAL WOMEN: A TRIAL OF A GROUP THERAPY.
Invitation to mothers to participate in a research study.

You are invited to participate

Your are invited to participate in a study project entitled Addressing emotional wellbeing and bonding for post-natal women.

You have been identified as a potential participant for this research because, during your appointment with the Maternal and Child Health Nurse, you either scored highly on the scale of emotional wellbeing for postnatal women, or the Nurse identified clinical symptoms that suggest you have difficulties with your wellbeing.

This project is being conducted by Dr Carolyn Deans, Victoria University, and Prof Anne Buist, The University of Melbourne. The project is part of the PhD studies of Dr Deans.

Project explanation

This study is about women who experience difficulties with their emotional wellbeing after the birth of a child, and the effect this has on their relationship with important others in their life including their baby. There are different types of treatments which try to help mothers with their wellbeing post-birth, and we are trialling a modification of one of these treatments. This is a randomised controlled trial, which means that half of the participants will be involved in the treatment and half of them will continue with the usual care that you are receiving from the Maternal and Child Health Nurse.

What will I be asked to do?

If you are interested, we will telephone you to explain the study further, answer any questions you have, and ask you to come in for an interview. At the interview we will ask you to consent to being involved. Coming to the interview does not mean that you consent to be involved.

If you agree to participate, we need to interview you for about two hours to check on your symptoms, including to determine if your symptoms meet the criteria for depression – and if there are other factors that might make your involvement in the study complicated. We will ask you to fill out a questionnaire asking about your emotional health and your relationships, and the researchers will make a short videotape (10 minutes) of you and your child engaged in simple everyday activities. This videotape is used for data analysis only, it is not used in any feedback in the group or otherwise. After that, if you were still able to be involved, you will be randomly allocated to one of two groups:

- People who receive the normal care that you are getting from your Maternal and Child Health Nurse (the “Treatment As Usual” group); or
- People who receive the normal care from their MACH Nurse, plus come along to a 10-week therapy.

For those who are allocated to the therapy: This will be either group or individual therapy. We ask that you commit to attending a therapy session once per week for two hours, for 10 weeks. Part of this program is a treatment of depressive symptoms which has been shown in research around the world to be very effective in women with young children. Part of this program is focussed on relationships, including your relationship with your partner and your relationship with your baby. You may be in a group with 2-4 other women who are experiencing similar difficulties to yours; and the group will be focussed on addressing these concerns. This therapy will be provided to you free of charge.

For those who are allocated to the ‘Treatment As Usual’ group: We ask that you commit to attending your MACH appointments as per the regular schedule, that you discuss any difficulties you are having with your MACH Nurse, and that you let your MACH Nurse know about any external care you are getting for mental health problems. Monitoring and care from a MACH Nurse has been shown to reduce some post-natal difficulties for women.

For either group, we will ask to be able to check up on your progress after 10 weeks and after 4 months. The second and third interviews should take approximately an hour. Your participation does not exclude you from receiving other services and we encourage you to continue to receive advice from your Maternal and Child Health Nurse on your wellbeing.

What will I gain from participating?

Your participation will provide valuable information about our ability to help mothers in the early stages of parenthood, not just in terms of treating their emotional wellbeing, but also in terms of helping their relationship with others including their baby. Both MACH Nurse care and therapy treatment have been shown to assist women in dealing with difficulties after the birth of their baby.

How will the information be used?

All data collected in this study will be stored confidentially. Only members of the research team will have access to the data. All data will be coded in a de-identified manner and subsequently analysed and reported in such a way that responses will not be able to be linked to any

HREC Approval Number: 1238586 (21 April 2013)
individual. The data provide will only be used for the specific research purposes of this study. If you choose not to participate, the data from the interview with you will be destroyed unless you provide us with permission for it to be included in the study. We may ask you to participate in future research following this study; however if that happens we will provide you with more details about that research and ask for separate consent at that time.

Limits to confidentiality: We are unable to keep confidential any indication that you are at risk of self-harm or harm to others (such as your child). If you reveal this information to us, we may need to inform your General Practitioner or other professionals. We will stop and talk this through with you fully and explain who we are calling before we do so.

What are the potential risks of participating in this project?

We believe that we have designed a research study which does not harm any of the potential participants. If you agree to participate, you will be offered either your standard level of community care, or an additional treatment which has an evidence-base as being effective for your condition – both of which are good forms of treatment.

If you do become distressed at any stage of the study, we encourage you to discuss this with your MACH Nurse, who has access to the community supports available for you. There are other free supports available for you as well:

- Beyondblue has an information line 1300 224 636. Beyondblue is the National Depression Initiative and it has specific information available about postnatal wellbeing.
- Lifeline on 13 11 14 is a free, 24-hour telephone counselling service where you can discuss any distressing life issues.
- Suicide Helpline Victoria on 1300 651 251 is specifically for Victorian residents.

The researchers are available to talk to on the contact details below for the duration of this study, if you feel distressed by the study. If you become distressed, or if you or your child are at risk, then we will refer you to the appropriate services.

How will this project be conducted?

If you agree to be involved, an investigator will contact you to make an appointment to meet in person and explain more about the study and answer any questions.

If you participant in the initial assessment and information session (this is done one-on-one with a psychologist), then you will be informed following that assessment of the condition you have been randomly allocated to.

If you are allocated to the “Treatment As Usual” condition, we will confirm that you have your MACH Nurse contact details and will get your permission to let her know that you are to continue under her monitoring.

If you are allocated to the “Therapy” condition, we will call you to talk to you about the start date of the 10 week therapy and see whether you are available at a time that suits other participants (if in a group).

Who is conducting the study?

Dr Carolyn Deans  
Chief Investigator  
School of Social Sciences and Psychology  
Victoria University  
St Albans Campus  
PO Box 14428  
Melbourne VIC 8001  
Phone: 9919 2334 or 9919 2353

Prof Anne Buist  
Department of Psychiatry  
The University of Melbourne  
Melbourne VIC 3010  
Phone: 9496 2940

Any queries about your participation in this project may be directed to the Chief Investigator listed above. Should you have any concerns about the conduct of the project, you are welcome to contact the Manager, Human Research Ethics, The University of Melbourne, on ph: 8344 2073, or fax: 9347 6739.
CONSENT FORM FOR PARTICIPANTS

Addressing emotional wellbeing and bonding for post-natal women: A trial of a group therapy.

A study conducted by Dr Carolyn Deans (Victoria University) and Prof Anne Buist (University of Melbourne).

Information given to you about the study

This study is about women who experience difficulties with their emotional wellbeing after the birth of a child, and the effect this has on their relationship with important others in their life including their baby. This is a randomised trial of different ways of helping mothers with their wellbeing after birth. The details of this study have been explained to you in the document titled “Invitation to Mothers to Participate in a Research Study” which referred to the study titled Addressing emotional wellbeing and bonding for post-natal women. You have been given a copy of this Invitation document.

My options if I become distressed

If you agree to participate, you will be offered either your standard level of community care, or an additional treatment which has an evidence-base as being effective for your condition – both of which are good forms of treatment. We therefore believe that we have designed a research study which does not harm any of the potential participants. However, if you do become distressed at any stage of the study, please discuss this with your MACH Nurse, who has access to the community supports available for you. There are other free supports available for you as well:

- Beyondblue has an information line 1300 224 636. Beyondblue is the National Depression Initiative and it has specific information available about postnatal wellbeing.
- Lifeline on 13 11 14 is a free, 24-hour telephone counselling service where you can discuss any distressing life issues.
- Suicide Helpline Victoria on 1300 651 251 is specifically for Victorian residents.

The researchers are available throughout the duration of this study for you to talk to if you feel distressed by the study.

Your Consent

I, ..........................................................................................................................................................................

of ..........................................................................................................................................................................

certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the study:

Addressing emotional wellbeing and bonding for post-natal women: A trial of a group therapy.

being conducted by Dr Carolyn Deans (Victoria University) and Professor Anne Buist (The University of Melbourne).

I certify that the objectives of the study and any risks and safeguards associated with the procedures, have been fully explained to me, and that I freely consent to participation involving these procedures:

- Screening assessment
- Therapy participation (if allocated to this condition)
- Continuing care under MACH Nurse

I certify that I have had the opportunity to have any questions answered and that I understand that my participation in this study is voluntary and I can withdraw from the study at any time without any change to my MCHN care.

I have been informed that the information I provide will be kept confidential.

Signed:

Date:

Any queries or complaints about your participation in this project may be directed to the researchers:
Dr Carolyn Deans, Clinical Psychologist
Victoria University
(03) 9919 2534 carolyn.deans@vu.edu.au

Professor Anne Buist, Psychiatrist
The University of Melbourne
(03) 9496 2490 a.buist@unimelb.edu.au

OR to:
The Manager, Human Research Ethics
The University of Melbourne
Ph: 8344 2073 or Fax: 9347 6739

HREC Approval Number: 1238586 (21 April 2013)
CONSENT FORM FOR PARTICIPANTS - VIDEOTAPING CONSENT FORM

Addressing emotional wellbeing and bonding for post-natal women: A trial of a group therapy.

A study conducted by Dr Carolyn Deans (Victoria University) and Prof Anne Buist (University of Melbourne).

Information given to you about the study

This study is about women who have difficulties with emotional wellbeing after the birth of a child, and the effect of this on their relationship with others in their life including their baby. This is a randomised trial of different ways of helping mothers with wellbeing after birth. Details of this study have been given to you in the document titled “Invitation to Mothers to Participate in a Research Study” for the study titled “Addressing emotional wellbeing and bonding for post-natal women”. You were given a copy of this Invitation document.

This consent form is to get your specific agreement to being videotaped in one of two settings:

• During the assessment interview, and during the two follow-up sessions at 10 weeks and 4 months after you start the study.
• If you are allocated to the therapy, during one of the therapy sessions (you will be informed prior to the session starting).

The videotapes will only be made available to the members of the research team who all have undergraduate or further qualifications in psychology or mental health. The videotapes will be maintained under the same confidentiality rules as all other data. Videotapes will be coded to give numerical scores and only this numerical data will be used for publication. They will be destroyed at the conclusion of the project.

My options if I become distressed

If you agree to participate, you will be offered either your standard level of community care, or an additional treatment which has an evidence-base as being effective for your condition – both of which are good forms of treatment. We therefore believe that we have designed a research study which does not harm any of the potential participants. However, if you do become distressed at any stage of the study, please discuss this with your MACH Nurse, who has access to the community supports available for you. There are other free supports available for you as well:

• Beyondblue has an information line 1300 224 636. Beyondblue is the National Depression Initiative and it has specific information available about postnatal wellbeing.
• Lifeline on 13 11 14 is a free, 24-hour telephone counselling service where you can discuss any distressing life issues.
• Suicide Helpline Victoria on 1300 651 251 is specifically for Victorian residents.

The researchers are available throughout the duration of this study for you to talk to if you feel distressed by the study.

Your Consent

I, ................................................................., certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the study: Addressing emotional wellbeing and bonding for post-natal women, being conducted by Dr Carolyn Deans (Victoria University) and Professor Anne Buist (The University of Melbourne).

I consent to videotaping of myself and my child solely for the purposes of data collection for this study. I have been informed of the confidentiality safeguards for the videotape material. If I withdraw from this study I may request for my videotape material to be destroyed immediately.

Signed:

Date:

Any queries or complaints about your participation in this project may be directed to the researchers:
Dr Carolyn Deans, Clinical Psychologist
Victoria University
(03) 9919 2334 carolyn.deans@vu.edu.au

Professor Anne Buist, Psychiatrist
The University of Melbourne
(03) 9496 2490 a.buist@unimelb.edu.au

OR to:
The Manager, Human Research Ethics
The University of Melbourne
Ph: 8344 2073 or Fax: 9347 6739

HREC Approval Number: 1238586 (21 April 2013)
While you are participating in our study, you are welcome to speak to us if you become distressed. The best contact is Dr Carolyn Deans on (03) 9919 2334 or carolyn.deans@vu.edu.au. The following resources are available to all mothers in Victoria, whether you are part of the study or not:

- **Your Maternal & Child Health Nurse** is: .................................. Phone: ........................................
- **Beyondblue** has an information line **1300 224 636**. Beyondblue is the National Depression Initiative and it has specific information available about postnatal wellbeing.
- **Lifeline** on **13 11 14** is a free, 24-hour telephone counselling service where you can discuss any distressing life issues.
- **Suicide Helpline Victoria**, also a telephone counselling service on **1300 651 251**, is specifically for Victorian residents.
Appendix F: Third Party Copyright material


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Author/s:
Deans, Carolyn

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Concurrent treatment of mother-child relationship and mood disturbance within the context of postnatal depression

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