Mercy Pregnancy Emotional Wellbeing Study

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What do we know?

KEY QUESTIONS

- Does antenatal and postnatal depression impact on child outcomes and if so how and how much?
- Does maternal depression increase the risk for child mental illness across lifespan?
- Is maternal antidepressant treatment beneficial or a risk for offspring?

WHAT ARE THE CHALLENGES IN ANSWERING THESE QUESTIONS ?

Confounding Variables


Exposure Psychotropic
Genetics and Epigenetics
Maternal Mental illness: Dx and Sx
Fetal Variables and Placental Function
Maternal, Fetal & Child Outcomes
Maternal Stress
Early Caregiving Environment: Attachment, Breastfeeding, Sleep
Nutrition and Physical Health: DM, Vit D, Folate, Obesity
Additional Exposures: Smoking, Alcohol, Illicit Drugs, Other Medications

Prenatal or Postnatal?

(Galbally & Lewis, Curr Op Psychology, 2017)

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Figure 1

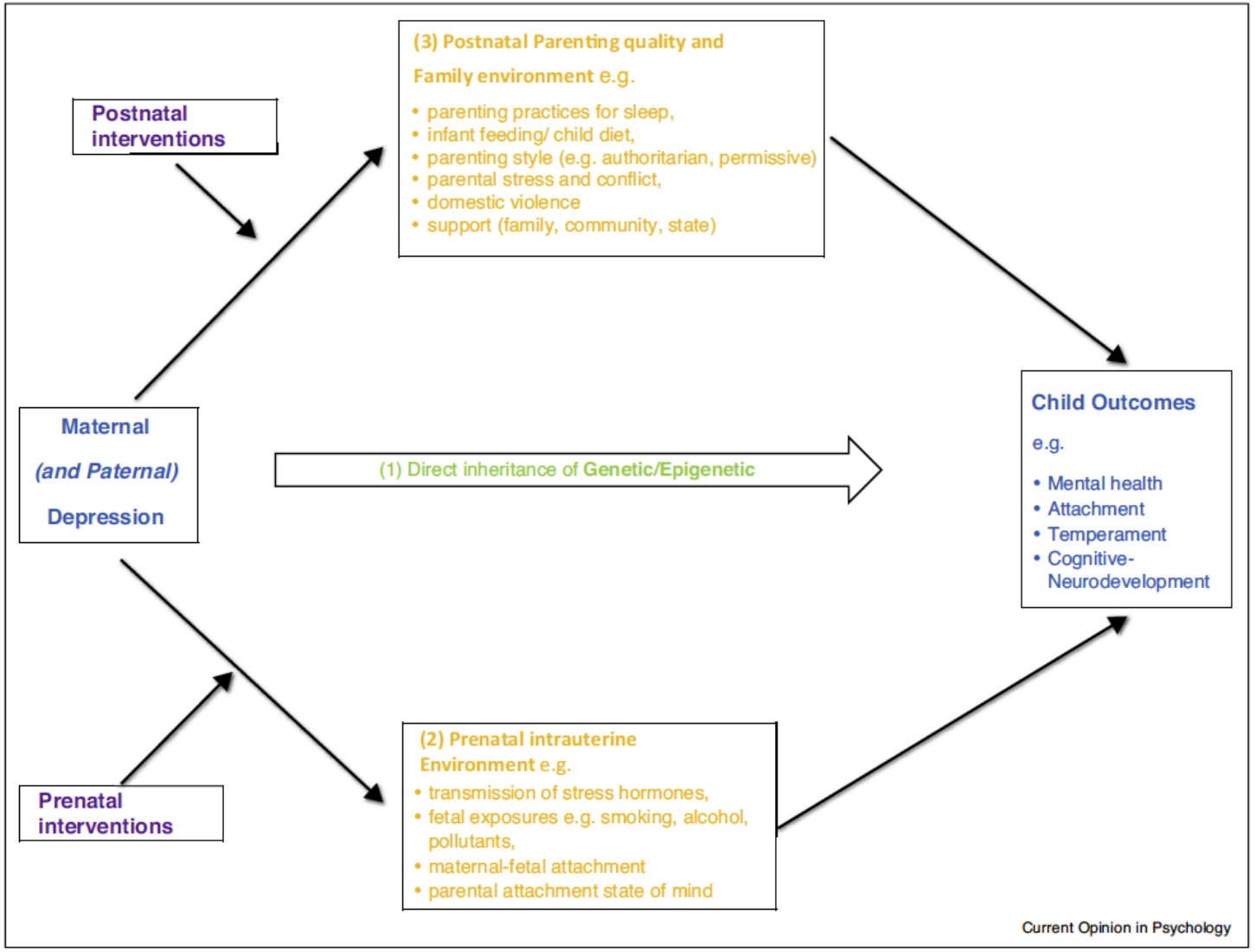

Illustration of potential relationships between parental depression, parenting and child outcomes.

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THEN HOW DO WE START TO ANSWER THESE QUESTIONS USING DIFFERENT METHODOLOGY?

Serotonin discontinuation syndrome following *in utero* exposure to antidepressant medication: prospective controlled study

Megan Galbally, Andrew J. Lewis, Jarrad Lum, Anne Buist

Objectives: The aim of the present study was to examine neonatal symptoms previously reported to be associated with exposure to antidepressant medication in late pregnancy in a group of infants exposed to antidepressants, using a prospective and controlled design.
Method: A prospective case–control study recruited 27 pregnant women taking antidepressant medication and 27 matched controls who were not taking antidepressant medication in pregnancy. Of the 27 women taking medication, 25 remained on medication in the third trimester and, of these, 23 women had complete data available. In pregnancy and after delivery women were assessed with the Beck Depression Inventory-II and a purpose-designed questionnaire. After delivery mothers were asked a set of nine questions pertaining to symptoms of discontinuation in their newborn and questions about pregnancy and delivery complications.
Results: There was an increased risk of discontinuation symptoms in neonates exposed to antidepressant medication in late pregnancy and an association with higher dose medication. The study group were found to be significantly more likely to display behaviour such as crying, jitteriness, tremor, feeding, reflux and sneezing and sleep for <3 h after a feed. They also had significantly higher rates of jaundice and admissions to the special care nursery.
Conclusions: Exposure to antidepressants in late pregnancy is associated with a range of symptoms in the neonate that are consistent with the effects of exposure to antidepressants in late pregnancy. The clusters of symptoms most highly correlated are the gastrointestinal and central nervous system symptoms. These findings help to identify the common symptoms associated with a neonatal serotonin discontinuation syndrome.
Key words: antidepressants, discontinuation, pregnancy, selective serotonin re-uptake inhibitor.

Australian a

Developmental outcomes of children exposed to antidepressants in pregnancy

Megan Galbally, Andrew J. Lewis, Anne Buist

Objective: To examine the developmental outcomes in children exposed to antidepressants *in utero* and compare those to children not exposed to these medications
Method: A prospective case-controlled study of children exposed to antidepressants in pregnancy assessed 22 exposed and 19 not exposed children using the Bayley Scales of Infant Development, third edition. The control group was measured at a mean age of 23.09 (SD 3.82) months and the medicated group at 28.53 months (SD 6.22). Maternal variables were assessed using a purpose-designed questionnaire and the Beck Depression Inventory (II) in pregnancy and at three assessments in the postpartum.
Results: Children exposed to antidepressant medication in pregnancy scored lower on motor subscales in particular on fine motor scores than non-exposed children with a moderate effect size of Cohen's d = 0.47 fine motor and Cohen's d = 0.43 for gross motor. Due to lack of power these findings did not reach conventional criteria for statistical significance. There was no association found between maternal depression and neurodevelopment.
Conclusions: This finding of a possible effect from antidepressant exposure in pregnancy on children's motor development is similar to the findings from a previous study. Future research is needed which assesses children at an older age using specific assessments of motor development.
Key words: antidepressants, child development, pregnancy.

Research

Australian & New Zealand Journal of Psychiatry
1–9
DOI: 10.1177/0004867415569800

Child developmental outcomes in preschool children following antidepressant exposure in pregnancy

Megan Galbally[1,2], Andrew J Lewis[3] and Anne Buist[4]

Abstract

Objective: To examine child developmental outcomes in preschool-aged children exposed to antidepressant medication in pregnancy and compare their outcomes to children not exposed.

Method: A prospective case-controlled study of 20 children exposed to antidepressants in pregnancy and 21 unexposed controls was available from the Victorian Psychotropic Registry. Child development outcomes at 4 years of age were assessed using the Wechsler Preschool and Primary Scale of Intelligence, third edition; the Movement Assessment Battery for Children; Behaviour Rating Inventory of Executive Functioning–Preschool; and the Child Behavior Checklist (1.5–5 years). Maternal depression was assessed using the Beck Depression Inventory-II in pregnancy and at four time

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Received: 26 August 2016 | Revised: 13 November 2016 | Accepted: 1 December 2016

DOI 10.1002/mpr.1558

WILEY

ORIGINAL ARTICLE

Mercy Pregnancy and Emotional Well-being Study (MPEWS): Understanding maternal mental health, fetal programming and child development. Study design and cohort profile

Megan Galbally[1,2,3] | Marinus van IJzendoorn[4] | Michael Permezel[5] | Richard Saffery[6] | Martha Lappas[7,8] | Joanne Ryan[6,9] | Elisabeth van Rossum[10] | Andrew R. Johnson[11] | Douglas Teti[12] | Andrew J. Lewis[1]

Pregnancy Emotional Wellbeing Study

- **Cohort 1:** 282 Women now 3-4 years pp Victoria
- **Cohort 2**: 204 Women now over 12 months pp Victoria
- **Cohort 3:** WA 200 recruited Metro Perth
- **Cohort 4:** Geraldton, Bunbury and Kalgoorlie
- 3 Groups recruited: Mental Disorders, Antidepressant/Psychotropic Exposed, Control

WHAT HAVE THEY SHOWN US SO FAR?

Biological

Psychoneuroendocrinology 90 (2018) 1–8

Contents lists available at ScienceDirect

Psychoneuroendocrinology

journal homepage: www.elsevier.com/locate/psyneuen

Maternal depression, antidepressant use and placental oxytocin receptor DNA methylation: Findings from the MPEWS study

Megan Galbally[a,b,c,*], Joanne Ryan[d], Marinus van IJzendoorn[e], Stuart J. Watson[a,b], Olav Spigset[f,g], Martha Lappas[h,i], Richard Saffery[d], Ron de Kloet[j], Andrew James Lewis[a]

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[g] Department of Laboratory Medicine, Children's and Women's Health, Norwegian University of Science and Technology, Trondheim, Norway
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[j] Department of Internal Medicine, Leiden University Medical Center, Leiden, The Netherlands

Psychoneuroendocrinology 109 (2019) 104374

Contents lists available at ScienceDirect

Psychoneuroendocrinology

journal homepage: www.elsevier.com/locate/psyneuen

Trans-generational stress regulation: Mother-infant cortisol and maternal mental health across the perinatal period

Megan Galbally[a,b,c,*], Elisabeth F.C. van Rossum[d], Stuart J. Watson[a,b], Edo Ronald de Kloet[e], Andrew J. Lewis[a]

[a] School of Psychology and Exercise Science, Murdoch University, Australia
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[e] Department of Medicine, Division of Endocrinology, Leiden University Medical Center, Leiden, the Netherlands

Articles | Clinical Investigation

nature publishing group

Neonatal adaptation following intrauterine antidepressant exposure: assessment, drug assay levels, and infant development outcomes

Megan Galbally[1], Olav Spigset[2], Andrew R. Johnson[3], Rolland Kohan[4], Martha Lappas[5] and Andrew J. Lewis[1]

Psychological

Journal of Affective Disorders 238 (2018) 218–225

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research paper

Perinatal maternal depression, antidepressant use and infant sleep outcomes: Exploring cross-lagged associations in a pregnancy cohort study

Megan Galbally[a,b,c,*], Stuart J. Watson[a,b], Doug Teti[d], Andrew J. Lewis[a]

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Check for updates

Original Research

Breastfeeding, Antidepressants, and Depression in the Mercy Pregnancy and Emotional Well-Being Study

Journal of Human Lactation
1–10

DOI: 10.1177/0890334418758658
journals.sagepub.com/home/jhl

Megan Galbally, MBBS, PhD[1,2,3],
Stuart J. Watson, PhD[1,2], Helen Ball, PhD[4],
and Andrew James Lewis, PhD[1]

Social

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Psychological Medicine

cambridge.org/psm

Original Article

Cite this article: Galbally M, Watson SJ, Permezel M, Lewis AJ (2018). Depression across pregnancy and the postpartum, antidepressant use and the association with female sexual function. *Psychological Medicine* 1–10. https://doi.org/10.1017/S0033291718002040

Received: 13 April 2018
Revised: 5 July 2018
Accepted: 16 July 2018

Key words:
Antidepressants; depression; pregnancy;

Depression across pregnancy and the postpartum, antidepressant use and the association with female sexual function

Megan Galbally[1,2,3], Stuart J. Watson[1,2], Michael Permezel[4] and Andrew J. Lewis[1]

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Abstract

Background. There is an established relationship between depression and sexual functioning in women. However, there is limited research examining the relationship between perinatal depression and sexual functioning.

Methods. This study draws on the Mercy Pregnancy and Emotional Wellbeing Study and reports on 211 women recruited in early pregnancy and followed to 12 months postpartum. Women were assessed for depression using the Structured Clinical Interview for the DSM-IV, repeated measurement of depressive symptoms using the Edinburgh Postnatal Depression

Journal of Psychosomatic Research 111 (2018) 91–99

Contents lists available at ScienceDirect

Journal of Psychosomatic Research

journal homepage: www.elsevier.com/locate/jpsychores

Exercise frequency and maternal mental health: Parallel process modelling across the perinatal period in an Australian pregnancy cohort

Stuart J. Watson[a,b], Andrew J. Lewis[a], Philip Boyce[c], Megan Galbally[a,b,d,*]

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[b] School of Medicine, University of Notre Dame, Australia
[c] Westmead Clinical School, Sydney Medical School, University of Sydney, Australia
[d] King Edward Memorial Hospital, Australia

Original Article

The role of trauma and partner support in perinatal depression and parenting stress: An Australian pregnancy cohort study

Megan Galbally[1,2,3], Stuart J Watson[1,2], Philip Boyce[4] and Andrew J Lewis[1]

I|J|S|P

International Journal of Social Psychiatry
2019, Vol. 65(3) 225–234

DOI: 10.1177/0020764019838307
journals.sagepub.com/home/isp
SAGE

Is the Mother-Infant Relationship Relevant?

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- "unique without parallel, established unalterably for a whole lifetime as the first and strongest love object and as a prototype for all later love relations" *S.Freud*

Proc. Natl. Acad. Sci. USA
Vol. 93, pp. 705–708, January 1996
Medical Sciences

Male fetal progenitor cells persist in maternal blood for as long as 27 years postpartum

(pregnancy/chimerism/CD34/CD38)

DIANA W. BIANCHI*†‡, GRETCHEN K. ZICKWOLF*†, GARY J. WEIL*†, SHELLEY SYLVESTER*, AND MARY ANN DEMARIA†

Nature Reviews Neuroscience | AOP, published online 12 December 2008; doi:10.1038/nrn2280

REVIEWS

The expectant brain: adapting for motherhood

Paula J. Brunton & John A. Russell

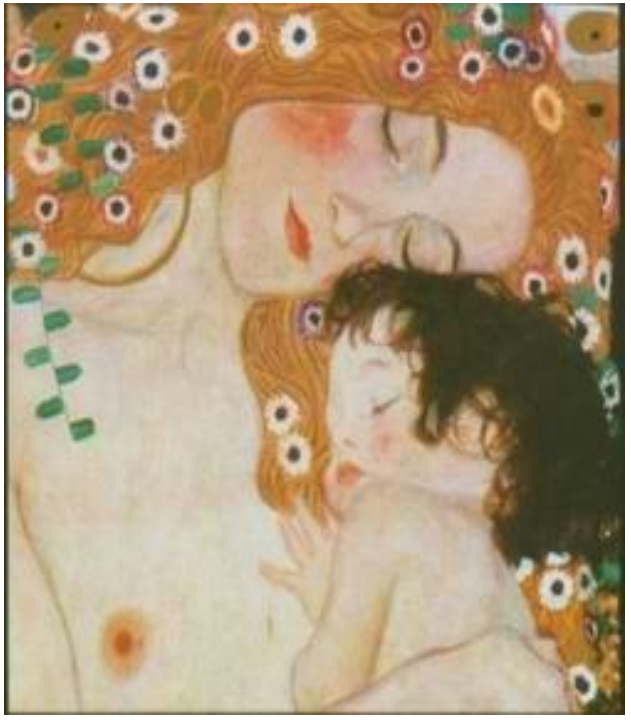
nature neuroscience

ARTICLES

Pregnancy leads to long-lasting changes in human brain structure

Elseline Hoekzema[1–3,8], Erika Barba-Müller[1,8], Cristina Pozzobon[4], Marisol Picado[1], Florencio Lucco[4], David García-García[5], Juan Carlos Soliva[1], Adolf Tobeña[1], Manuel Desco[5], Eveline A Crone[2,3], Agustín Ballesteros[4], Susanna Carmona[1,5,6,9] & Oscar Vilarroya[1,7,9]

IF SO, HOW DO WE MEASURE THIS RELATIONSHIP?



Available online at www.sciencedirect.com

ScienceDirect

Current Opinion in Psychology

ELSEVIER

Depression and parenting: the need for improved intervention models

Megan Galbally[1,2,3,4] and Andrew J Lewis[1,4]

The impact of maternal depression on parenting is well established and there is a clear interaction between maternal depression and parenting that is predictive of child outcomes. The research on paternal depression is more limited but suggests the father's mental health may be an independent risk factor for both parenting and child outcomes. There is insufficient evidence that treatment of depression alone – be it through pharmacological or psychological interventions – is able to substantially reduce the impact of depression on child outcomes. The evidence of interventions aimed at parenting and/or child outcomes in the context of depression is limited and the findings that are available are mixed.

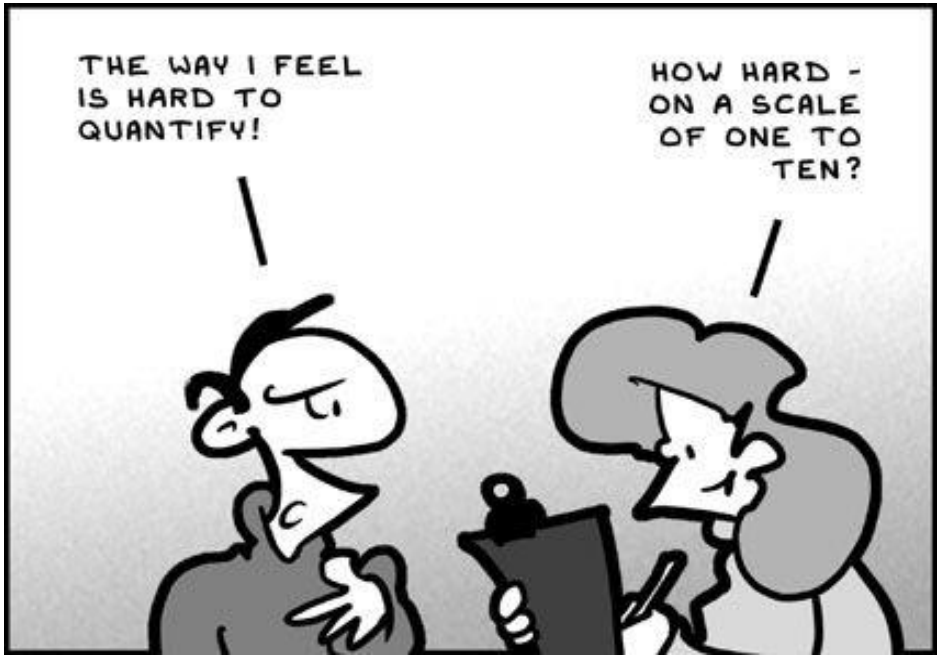
offspring, second, the effect of maternal depression in pregnancy through fetal programming and, third, the effect of maternal and paternal depression on parenting behavior, the parent–child relationship and general family functioning [2]. Investigating this third point on the role of parenting can itself be divided into three areas of focus:

1. Parenting experience such as parenting stress
2. Parenting behaviors and practices
3. Quality of the parent-child relationship including attachment security.

1. Parenting experience such as parenting stress
2. Parenting behaviors and practices
3. Quality of the parent-child relationship including attachment security.

Measuring Mother-Infant Relationship In MPEWS

- Maternal Self-Report Attachment, Bonding, Support, Parenting Stress



- 6 month video tapes

- 12 month SSP

Reference:
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HOW CENTRAL IS THE MOTHER-INFANT RELATIONSHIP IN TREATING WOMEN WITH PERINATAL MENTAL HEALTH DISORDERS?

How to assess the mother-infant relationship

Self report measures:

- Cost effective and timely.
- How well placed is a mother to provide accurate information about the relationship with her infant?
  - What about women with mental health problems?

What other options are available to assess the mother-infant relationship?

Observational measure: Emotional Availability Scales

Emotional availability provides the framework for assessing the quality of a mother-infant interaction.

The Emotional Availability Scales (Biringen, 2008) is a widely applied observational measure.

- Global assessment.
- Emotional connection.
- Relational assessment.
- Space for positive and negative emotions.

Application of the Emotional Availability Scales

- Recommended length of interaction:
  - 30 – 40 minutes.
  - 20 minutes for valid and reliable sample.
- However, what you can see in the EA literature:
  - Interactions 1 – 5 minutes: almost 10%.
  - Interactions 6 – 10 minutes: 20%.
  - Interactions 11 – 19 minutes: 22%.

Think about the mothers and infants that you have worked with – how has your assessment of the relationship changed over time?

Let’s watch a mother and her infant together

Let’s watch a mother and her infant together

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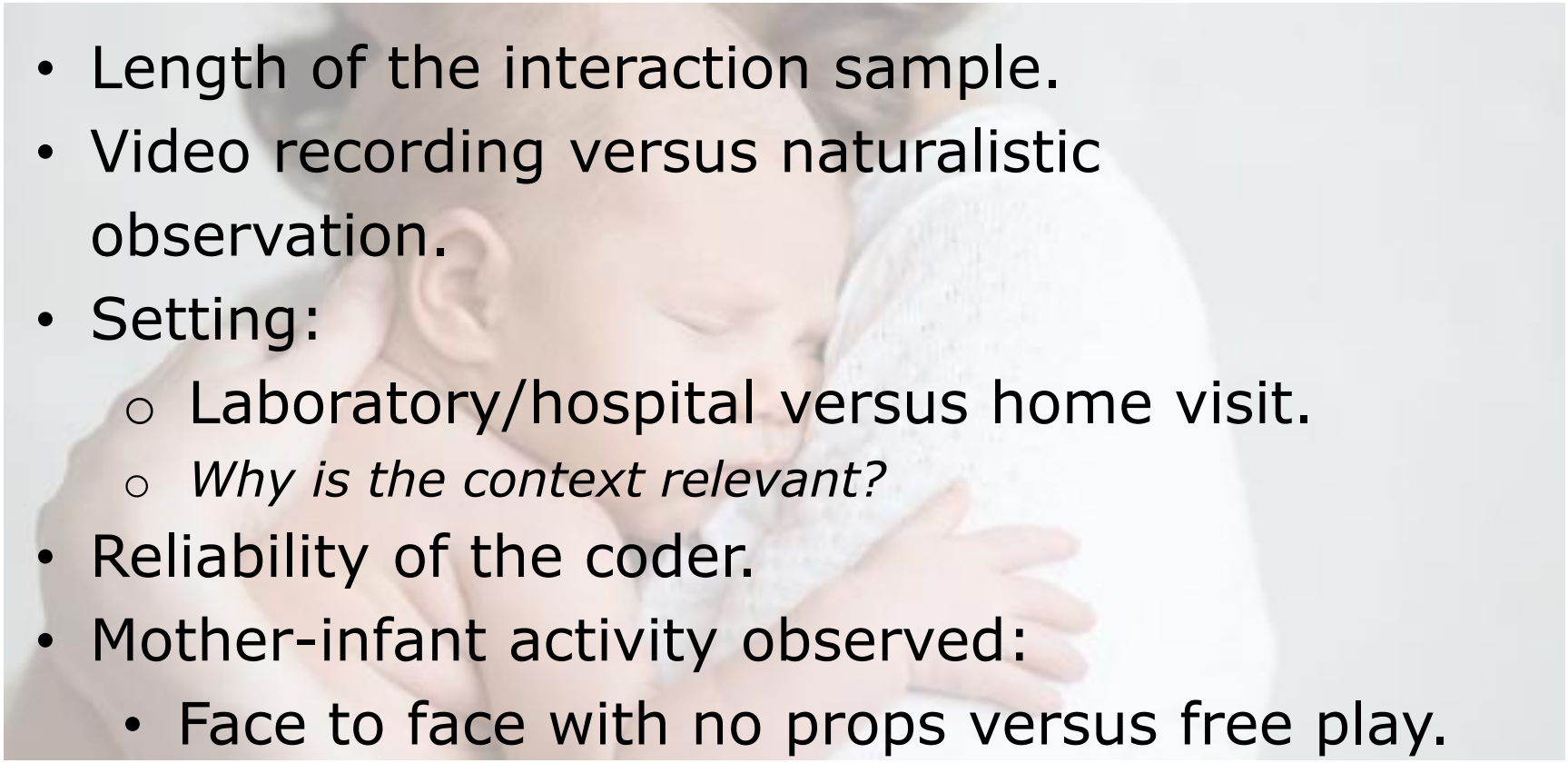
WHAT INFORMATION COULD YOU EXTRACT FROM THAT INTERACTION AND WHAT MIGHT YOU MISS?

Coding challenges to consider



- Length of the interaction sample.
- Video recording versus naturalistic observation.
- Setting:
  - Laboratory/hospital versus home visit.
  - *Why is the context relevant?*
- Reliability of the coder.
- Mother-infant activity observed:
  - Face to face with no props versus free play.

How might these details impact on the mother-infant assessment?

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WHAT ABOUT THE POSSIBILITY OF NEW DISCOVERIES IN MOTHER-INFANT BEHAVIOUR?

Pacifier use in the mother-infant interaction

What we observed:

- Maternal use of the pacifier during a mother-infant interaction for non-sleep settling purposes.

What we investigated:

- Maternal psychosocial predictors of pacifier use.
  - Maternal trauma, depression & emotional availability.

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WHAT HAPPENS WHEN WE DO NOT FIND IN OUR RESEARCH WHAT WE WERE EXPECTING TO SEE?

Maternal depression and the mother-infant relationship

Literature cites the negative effect of maternal depression on mother-infant interactions:

- Increased negative affect;
- Reduced maternal responsiveness;
- Reduced verbal involvement of infant and mother;
- Reduced shared gaze activity;
- Reduced touch.

What we saw when we looked more closely at the literature

- The variety of ways the quality of the interaction was measured.
- Who comprised the 'depressed' women?
  - How is depression conceptualized:
    - Symptomatically;
    - Diagnostically.
- Timing of measurement:
  - e.g., 8 weeks postpartum versus 6 months postpartum.
- Benefit of longitudinal measurement:
  - Importance of the antenatal and postnatal period.

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IS OUR FINDING THAT MATERNAL DEPRESSION WAS NOT A STRONG PREDICTOR OF MATERNAL EMOTIONAL AVAILABILITY SURPRISING?

Treatment of the mother and the mother-infant dyad

- Evidence of limited improvement in the mother-infant relationship when the mother's mental health is treated in isolation.
- Consider triggers for women's mental health during the perinatal period:
  - How can these be managed without working with the dyad?
- Long-term outcomes for the mother and the infant.

Dual treatment model.

HOW DO YOU ASSESS THE MOTHER-INFANT DYAD IN CLINICAL PRACTICE?

Translation of a research tool to clinical practice

- Emotional Availability Scales:
  - Time and financial cost.
  - Training required for reliability.
  - Information the scale provides.
    - Application to clinical intervention.
- What is the alternative?
  - Self report.
  - Another observational measure.
  - Working with the mother alone?

Dual treatment model

- Assessment of:
  - The mother's mental health.
  - What is observed between the dyad e.g., using the Emotional Availability Scales.
  - The maternal representations of the relationship. For example – observed maternal intrusiveness:
    - May represent a mother's desire for her child to achieve and be independent; or
    - May be driven by a need of the mother to prove that she is wanted by her child and show the child's dependence.

***Very different implications for clinical treatment depending on the information that we have*.**

So let's return to our first question:

HOW CENTRAL IS THE MOTHER-INFANT RELATIONSHIP IN THE TREATMENT OF PERINATAL MENTAL HEALTH DISORDERS?

Child Development, Mental Disorders, Antidepressants and Maternal Mental Health

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Do we really know as much as we think we do?

The Good, the Bad and the Ugly in this Research field

(a.k.a. what we learnt doing systematic reviews and then undertaking our own research in this area)

Most scientists regarded the new streamlined peer-review process as "quite an improvement."

WHAT DO WOMEN WITH PERINATAL DEPRESSION WANT TO KNOW?

Child Outcomes

Perinatal depression associated with adverse child outcomes across domains

- Complex, evolving information
- Research methodology crucial for interpreting results
- In general, effect sizes are small
- Not inevitable

What is a helpful approach for parents?

WHAT MAKES A USEFUL OUTCOME MEASURE?

Child outcomes

Measurable and meaningful

- What is meaningful in terms of child outcomes?
  - To parents, to governments, to schools, to researchers
  - The role of a diagnosis
- When is the ideal time to identify a child who is vulnerable?
  - As early as possible for intervention
  - Risk of misidentification of cases
- When is the ideal time to measure an outcome?

WHAT MIGHT INDICATE THAT A CHILD IS ON A VULNERABLE DEVELOPMENTAL TRAJECTORY?

Outcomes and Vulnerability

How can these be measured?

- Parent report
- Objective assessment
- Validated tool

At what age?

Is there an effective intervention?

Psychological	Internalising Externalising
Social	Adjustment to school
Cognitive	Language Development delays
Behavioural	Aggression Withdrawal

Executive Function

What is it?

An evolving concept in early childhood

- Overlap with temperament research

Suite of cognitive functions that regulate behaviour

- Inhibit impulses
- Delay gratification
- Control attention
- Hold and manipulate relevant information

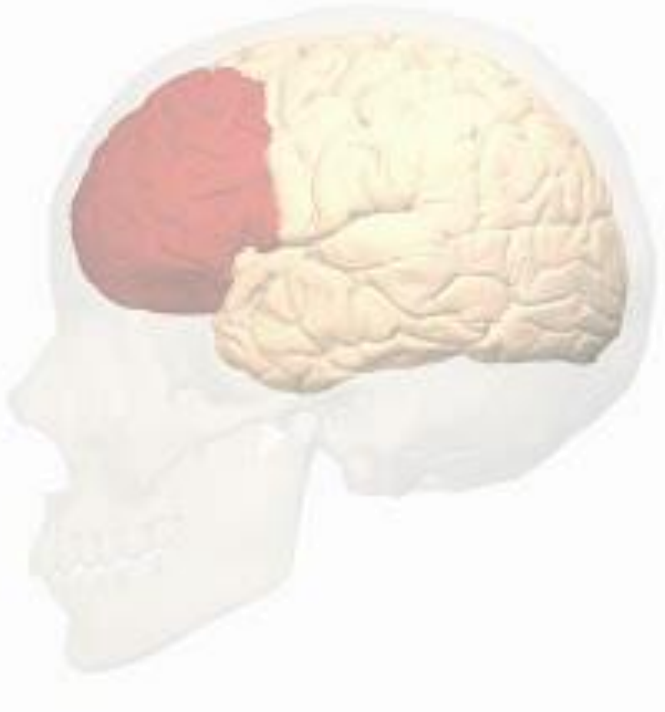
Executive Function

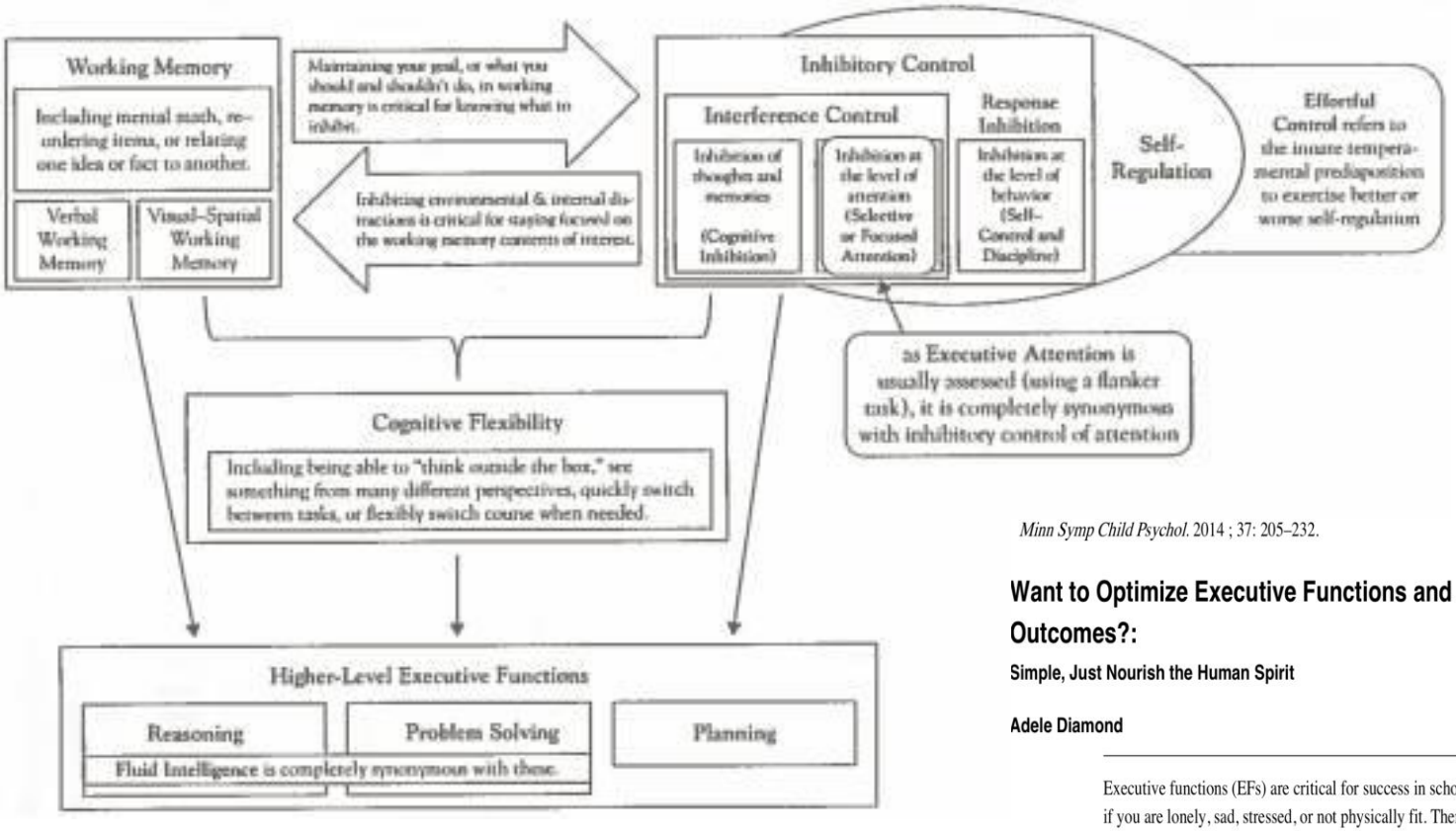
In adults

- Unity and diversity model (Miyake, 2000) most widely, though not universally, accepted

- Core functions:
  - Working memory
  - Cognitive flexibility (shifting)
  - Inhibition

- Deficits in a range of disorders





Minn Symp Child Psychol. 2014 ; 37: 205–232.

Want to Optimize Executive Functions and Academic Outcomes?:

Simple, Just Nourish the Human Spirit

Adele Diamond

Executive functions (EFs) are critical for success in school, on the job, and in life. EFs suffer if you are lonely, sad, stressed, or not physically fit. Therefore, if we care about academic outcomes, we should care that students feel they are in a supportive community they can count on, that they are happy (even joyful), and that their bodies are strong and healthy. A school curriculum that ignores children's emotional, social, or physical needs is likely to find that those unmet needs will work against achieving the academic goals.

Executive Function

May be different during early development

Infancy and Preschool

- Attentional control observed in infancy
- Unitary EF factor found in early childhood
- At some stage of development, around age 3, separable functions can be measured

IS EXECUTIVE A GOOD CANDIDATE OUTCOME MEASURE?

Executive Function

In early development

- Thought until relatively recently that executive function didn't emerge until later in development
  - Now understood that EF emerges relatively early
  - Matures over a prolonged period
  - First 5 years may be particularly important (Garon et al. 2008)
- Stable individual differences, yet EF development is malleable
  - Develops as the underlying brain processes adapt to the environment
  - Concept of neuroplasticity, modifiable through experience
  - Early childhood is a period of relative plasticity
  - Very prolonged development
- We grow our brains by using them

Executive Function

Is this a meaningful measure?

- Predicts key developmental outcomes

  Self and social understanding

  School readiness (early mathematics and reading)*(Blair & Razza, 2012)*

- Executive function in childhood predicts outcomes at age 32

  Physical health, drug dependence , socioeconomic status, criminal convictions when controlling for socioeconomic status and IQ in childhood *(Moffitt et al. 2011)*

- Associated with child psychopathology

  Conduct Disorder, Autism Spectrum Disorder, ADHD
  Problem behaviours such as aggression

Executive Function

How does it relate to behaviour in children?

Behavioural control

Inhibition

Consider consequences

Shifting tasks

Stopping a preferred activity

Emotional control

Reactivity to stimulation

Regulation of reaction

Cognitive control

Working memory

Planning tasks

Organisation

Intitiation of tasks

Executive Fucntion Deficit

What might this look like in children?

- Emotional dysregulation
- Difficulty adjusting to more structured environments
- Behavioural disturbances
- Diagnosis of ADHD, ODD

Executive Function: Potentially Modifiable?

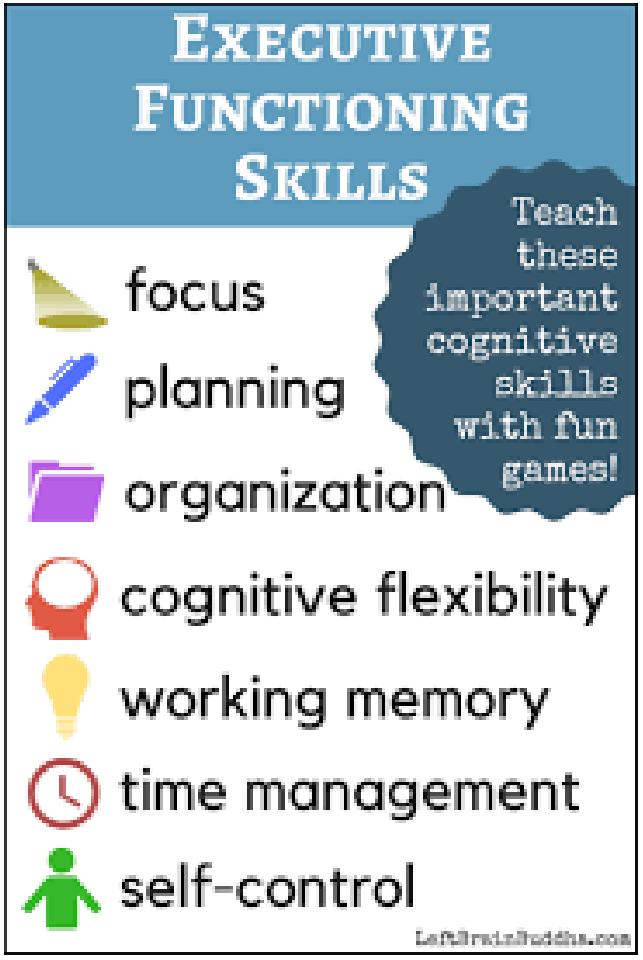
Research supports this (Diamond, 2012)

- School-based programs
- Parent training

Improvements with non-specific interventions

- Yoga, mindfulness

Those most disadvantaged appear to benefit most



HOW IS EXECUTIVE FUNCTION MEASURED IN CHILDREN?

Measurement of Executive Function

Self-report:

- Parents
- Teachers
- BRIEF-P (Behaviour Rating Inventory of Executive Function – Parent version)

Objective measures:

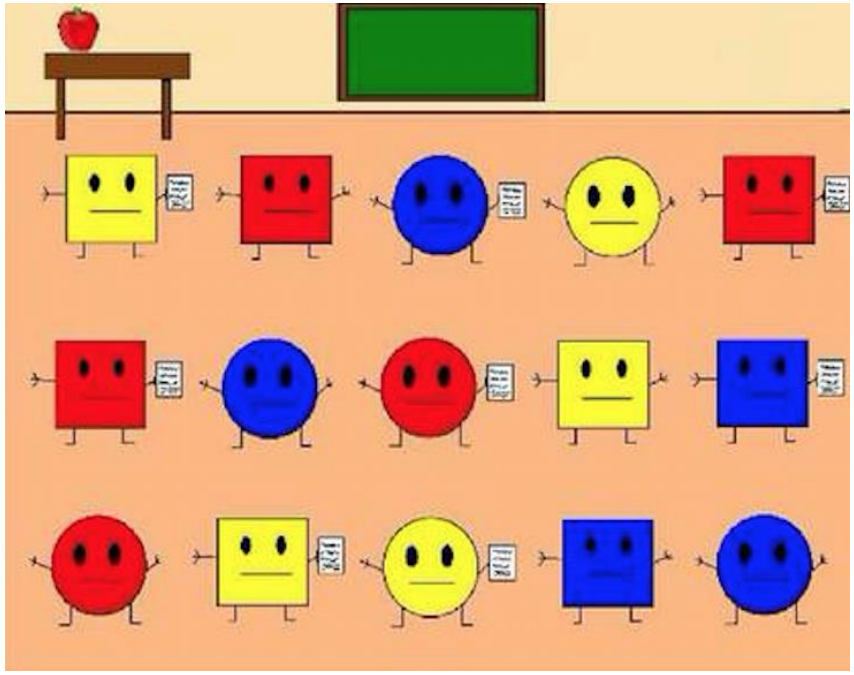
- Many used in this age group
- Few have established reliability
- NEPSY-II
- Shape School

Child Executive Function

Shape School

(Espy, 1997)

- Test of inhibition and shifting
- Validated for use in children from age 3.5 years
- Four tasks of increasing complexity
- Time to complete tasks and errors recorded, although,
- Validated against other neuropsychological tests of executive function
- Performance has been associated with future academic performance



NEPSY-II

Developmental Neuropsychological Assessment-II

(Korkman et al. 2007)

- Set of normed neuropsychological tests
- Validated in clinical populations
- Normed in 1200 children at all age brackets
- Children aged 3 to 16 years

- Six domains
  - Attention and executive function
  - Language
  - Sensorimotor
  - Visuospatial
  - Learning and memory
  - Social perception

Executive function measures

- Statue task
  - Test of executive function under 5 years
- Memory for designs task
- Measurement of working memory

Control measures

- Speeded naming

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WHAT ARE THE POTENTIAL ISSUES WITH MEASURING EXECUTIVE FUNCTION IN THIS AGE GROUP?

Issues with Measurement

- Conceptual problems
  - Executive function in young children is a relatively new concept
- Timing of measurement
  - Accounting for normative developmental trajectories
- Highly dependent on other cognitive processes
  - Language, sensory processing
- Testing in this age group is highly dependent on environmental factors
  - Fatigue
  - Hunger
  - Distress
  - Separation issues

DOES THE LITERATURE REPORT AN ASSOCIATION BETWEEN PERINATAL DEPRESSION AND CHILD EXECUTIVE FUNCTION?

Executive Function

Review of the literature

22 studies examined executive function outcomes following measurement of maternal depressive symptoms across the perinatal period

- Great variation in measurement of exposure, outcome and covariates
- Many drew from the same pools of longitudinal studies
- Mixed findings
- Insufficient to determine with certainty
- Greater consistency with use of reliable measures required

HOW COULD PERINATAL DEPRESSION AFFECT DEVELOPMENT OF EXECUTIVE FUNCTION?

Maternal Depression and EF

Effect on maternal behaviour

- Reading time?
- Screen time?
- Language exposure?
- Social engagement and enrichment?

Effect on mother-child relationship

Access to social supports

Vygotsky

- Zone of proximal development

Maternal Depression

Murdoch UNIVERSITY

What might be most important about depression?

- Timing of exposure to depression?
  - At what point in the lifespan
  - Definition of perinatal period
  - Antenatal or postnatal exposure, or both?
  - Different mediating pathways are involved

- Trajectory of depression?
  - Acute, single-episode, chronic, relapsing?
  - These may have different effects
  - Many studies are cross-sectional

Potential mechanisms in MPEWS?

Mothers in Cohort 2 of MPEWS

- A past history of depression was associated with reduced number of days of at least 15 minutes reading time at 6 months postpartum
- Current depression showed lower average reading time, but not statistically significant
- Differences in screen time not significant
- Objective measure of depression
- Self-report of screen time and reading time
- Data analysed by Dr Grace Cowderoy

Observation of mother-infant interaction

- EAS?

The Overall MPEWS Team…

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Thanks to MPEWS team who are not here…

And the Mothers and Children who participate in our study

And the funding bodies; Beyond Blue, NHMRC, Spinnaker Foundation, Perth Children's Hospital Research Foundation and WACHS