

# Preparing for Life and Child Gender

## The Differential Effects of Infant Gender and Early Childhood Intervention

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# Overview of Study

- Effect of child gender on early childhood intervention
  - Literature: Gender Difference, Impact on parenting, Home visiting intervention outcomes
  - Examine *PFL* 6 month data for gender/treatment interaction in areas of child development and parenting
  - Discuss the pattern of interaction effects



# Literature Review: Gender Difference

- Gender differences are part biological, part socially constructed (Halpern, 1997)
- Male advantage in spatial ability is not evident in low SES groups (Levine, Vasilyeva, Lourenco, Newcombe & Huttenlocher, 2005)
- It is unclear what the impact of SES is on gender differences, little research on this area.



# Literature Review: Gender Theory

- **Social Learning Theory**
- **Social Cognitive Theory**
- **Gender Socialisation and Parental Influence**
- **Gender differences tend to become more amplified as children age** (Campbell & Eaton, 1999)



# Literature Review: Gender & Parenting

- Parental expectations affect child development, i.e. different traits/skills are reinforced in boys and girls (Field et al, 1980, Frome & Eccles, 1998; Halpern, 1997, Ma, 2007)
- Mothers underestimate 6 month old girls' motor skills and overestimate boys' (Mondschein, Adolph & Tamis-LeMonda, 2000)
  - Therefore, boys are encouraged to move more and get more praise for it (Campbell & Eaton, 1999; Mondschein et al, 2000).
- Parents provide different environments for boys and girls (Pomerleau, 1990, Zosuls et al, 2009)



# Literature Review: Gender & Early Childhood Intervention

- In the long term, females tend to benefit more than males
- Areas of cognitive skills, education, early employment and criminal behaviour (Anderson, 2008; Campbell et al, 2002; Heckman et al. 2010)
- Little research on the earliest emergence of gender difference in early intervention outcomes



# Hypothesis

- Six month old infants are treated differently by their parents, according to their gender.
- Gender differences may be altered by early childhood intervention, but it is unclear in what direction.



# The Present Study

## 1. Gender and treatment effects on Child Development

- ASQ Ages and Stages Questionnaire

## 2. Gender and treatment effects on Parenting characteristics

- Parental Locus of Control (PLOC)
- Condon Maternal Attachment Scale (CMAS)
- Parental Attitudes and Cognitions Toward Child Scale (PACOTIS)
- Parental Stress Index (PSI)
- HOME-SHIF
- Parental Health behaviours for their child.





# Methodology

- Measures were parental self-report, as part of 6 month interview

	Low Treatment	High Treatment
Boys	33 (36%)	42 (51%)
Girls	57 (64%)	41 (49%)
	90	83

- Created interaction terms based on treatment group and gender
  - Low Treatment Boy
  - High Treatment Boy
  - Low Treatment Girl
  - High Treatment Girl



# Methodology: Regression with Interaction term

- Regression comparing each of the 4 interaction terms to each other.
- Gender differentiated treatment
  - Treatment Effect for BOYS Low Treatment Boys = High Treatment Boys
  - Treatment Effect for GIRLS Low Treatment Girls = High Treatment Girls
- Gender difference pattern by group
  - Gender difference in Low Treatment group Boys = Girls
  - Gender difference in High Treatment group Boys = Girls



# Results: Child Variables

	Low Treatment		High Treatment		Treatment Effect		Within Groups	
	Boy	Girl	Boy	Girl	LT Boy = HT Boy	LT Girl= HT Girl	HT Boy= HT Girl	LT Boy= LT Girl
	Mean	Mean	Mean	Mean	p	p	p	p
	SE	SE	SE	SE				
ASQ Communication	50.60 (10.05)	52.45 (7.44)	52.97 (8.48)	53.17 (7.22)	0.21	0.67	0.91	0.30
ASQ Gross Motor Skill	38.33 (13.67)	38.59 (12.70)	41.54 (12.37)	40.00 (11.56)	0.27	0.58	0.57	0.92
ASQ Fine Motor Skill	50.30 (10.67)	52.01 (9.90)	49.04 (10.77)	52.56 (7.67)	0.58	0.78	0.10	0.42
ASQ Problem Solving	51.96 (10.30)	52.89 (9.77)	53.69 (7.73)	50.00 (10.60)	0.44	0.14	0.08	0.66
ASQ Personal Social	43.48 (12.59)	47.36 (14.01)	45.35 (11.86)	48.04 (12.34)	0.53	0.79	0.34	0.16
ASQ Social-Emotional	15.45 (11.61)	15.00 (14.94)	14.52 (11.57)	15.00 (9.81)	0.74	1.00	0.86	0.86
Difficult Temperament	11.87 (5.64)	12.40 (5.45)	10.85 (5.74)	12.56 (5.61)	0.43	0.89	0.16	0.66

None of these measures were significant

# Results: Parenting Variables

- Non Significant variables include:

<b>Health Behaviours</b>	Eat Often Tried breastfeeding	Leaving the baby to cry out	Reported crying to be a problem	Reported waking to be a problem
<b>PLOC</b>	Child control's parental fate	Parental belief in fate	Control of child's behaviour	Efficacy
<b>CMAS (ALL)</b>	Absence of hostility	Pleasure in interaction	Interaction	
<b>PSI (ALL)</b>	Difficult child	Parenting distress	Parent-child dysfunctional interaction	Total stress
<b>PACOTIS</b>	Hostile-Reactive Behaviours	Warmth	Self- Efficacy	Perceived impact on Child Development
<b>HOME</b>	Responsivity	Learning Materials	Daily Routines	Play- Interaction
	Acceptance	Involvement	Organisation	Outings

- Twenty-five percent (12 of 48) however were significant.

# Parenting: Table 1

	Low Treatment		High treatment		Treatment Effect		Within Group	
	Boy	Girl	Boy	Girl	LT Boy = HT Boy	LT Girl= HT Girl	HT Boy= HT Girl	LT Boy= LT Girl
	Mean	Mean	Mean	Mean				
	SD	SD	SD	SD	p	p	p	p
Immunizations at 4 months	0.78 (0.41)	0.92 (0.25)	0.95 (0.21)	0.97 (0.15)	0.01	0.40	0.68	0.01
Immunizations at 6 months	0.18 (0.39)	0.38 (0.49)	0.39 (0.49)	0.31 (0.47)	0.05	0.47	0.48	0.04
Age Stopped Exclusively breastfeeding (weeks)	1.16 (2.40)	4.27 (5.94)	1.08 (1.50)	8.48 (10.21)	0.97	0.11	0.01	0.28
Eat Right	0.84 (0.36)	0.71 (0.45)	0.83 (0.37)	0.90 (0.30)	0.86	0.02	0.41	0.12
PLOC Parental Responsibility <i>(negative outcome)</i>	11.87 (3.23)	13.42 (2.75)	12.88 (3.47)	12.24 (2.85)	0.16	0.06	0.34	0.02
PACOTIS- overprotective <i>(negative outcome)</i>	6.41 (2.11)	5.98 (1.90)	5.60 (2.29)	6.77 (1.91)	0.08	0.06	0.01	0.33

# Parenting: Table 2

	Low Treatment		High Treatment		Treatment Effect		Within Group	
	Boy	Girl	Boy	Girl	LT Boy = HT Boy	LT Girl = HT Girl	HT Boy = HT Girl	LT Boy = LT Girl
	Mean	Mean	Mean	Mean	p	p	p	p
	SD	SD	SD	SD				
HOME variety	2.87 (1.07)	3.22 (0.96)	3.42 (1.10)	3.67 (1.14)	0.03	0.04	0.29	0.13
HOME childcare	3.81 (0.64)	3.99 (0.91)	4.17 (0.59)	4.20 (0.60)	0.03	0.16	0.87	0.26
HOME toys	7.03 (2.13)	7.42 (1.59)	7.87 (2.00)	7.70 (1.43)	0.04	0.44	0.65	0.32
HOME physical environment	6.00 (1.07)	6.32 (1.25)	6.57 (1.07)	6.41 (1.27)	0.04	0.71	0.56	0.22
HOME not	5.99 (.02)	5.97 (0.13)	5.99 (.02)	5.92 (0.22)	0.99	0.07	0.03	0.64

# Discussion

- At 6 month there are no gender differences in infant characteristics
- There are some differences in how parents treat boys and girls



# Discussion

- Gender Differences in group
  - 3 in Low Treatment group: Immunisation and parental sense of responsibility
  - 3 in High Treatment group: Breastfeeding, parental over-protectiveness, HOME
- Treatment effects
  - 5 for Boys: Immunisation and HOME
  - 2 for Girls: Eating and HOME
- YET no differences in Parental stress, Maternal attachment, c<sup>1</sup> for Locus of Control , PACOTIS





# Future work

- More data: Child and parent characteristics at 12 and 18 months
  - Examine whether *PFL* has a gender differentiated treatment effect
  - Consider the pattern of gender differences in the Low Treatment group and compare to the High Treatment group.



Thanks for Listening.

Any Questions?

Comments?

Suggestions?

