

MELBOURNE INSTITUTE:
Applied Economic & Social Research

Can EYEP be successfully replicated?

Early evidence from 12-months outcomes of the replication trial

Presented by A/Prof. Yi-Ping Tseng

Principal Research Fellow, Melbourne Institute

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Melbourne Institute research team

Yi-Ping Tseng (Project Lead)

Nichola Coombs

Daniel Fischer

Karina Tetkowski

Taylor Ey

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Jane Sheehan

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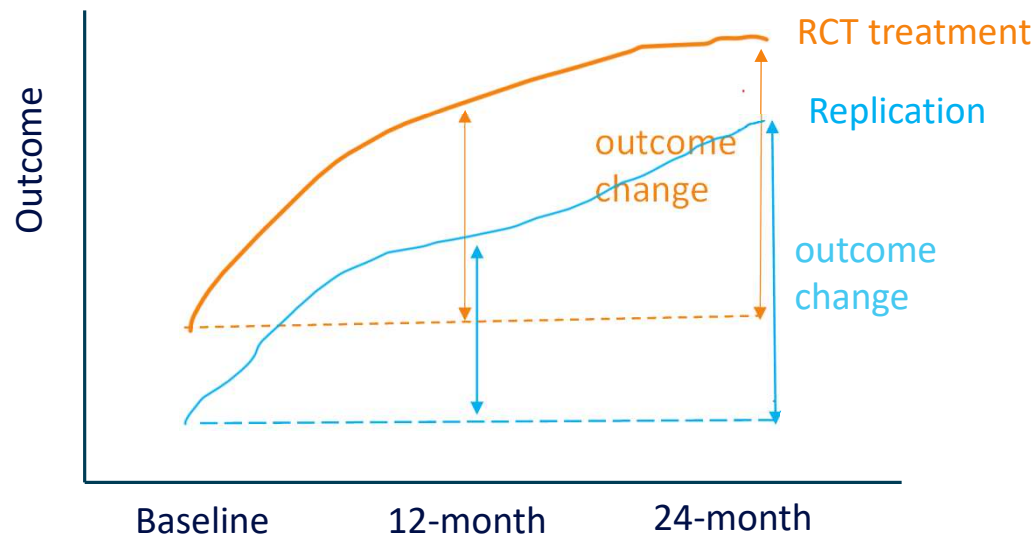
EYEP replication trial participants

Replication trial service providers

Do children in replication trial show similar developmental trajectories compared to children in the treatment group of original RCT?

Method of outcome evaluation:

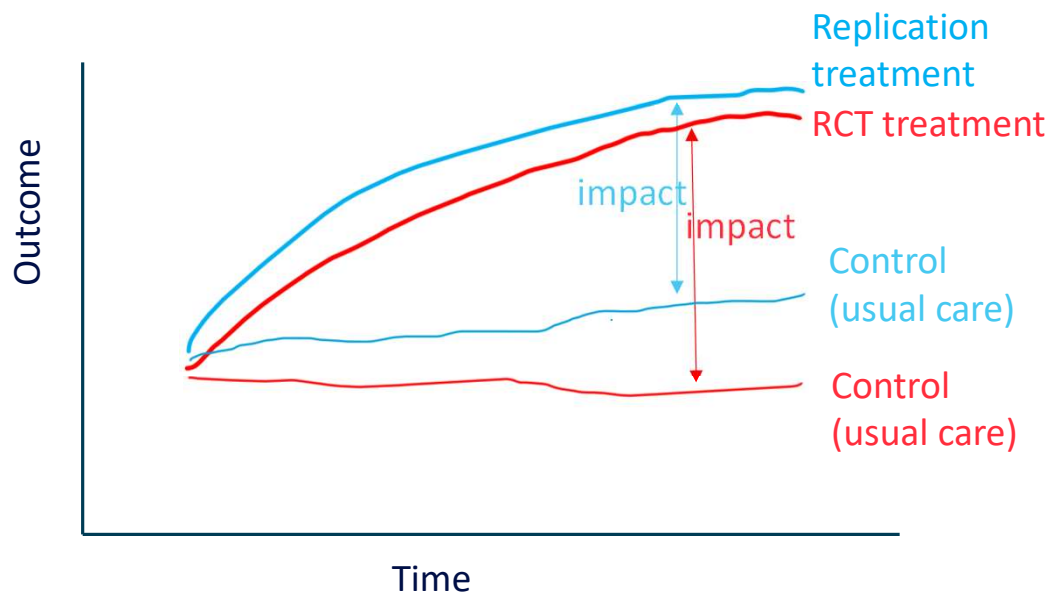
- Focus on “changes”
- Direct comparison — Participants in replication trial v.s. Participants in treatment group of RCT



Note: Hypothetical for illustrative purposes

Method of outcome evaluation:

Usual evaluation of program replication/scaling



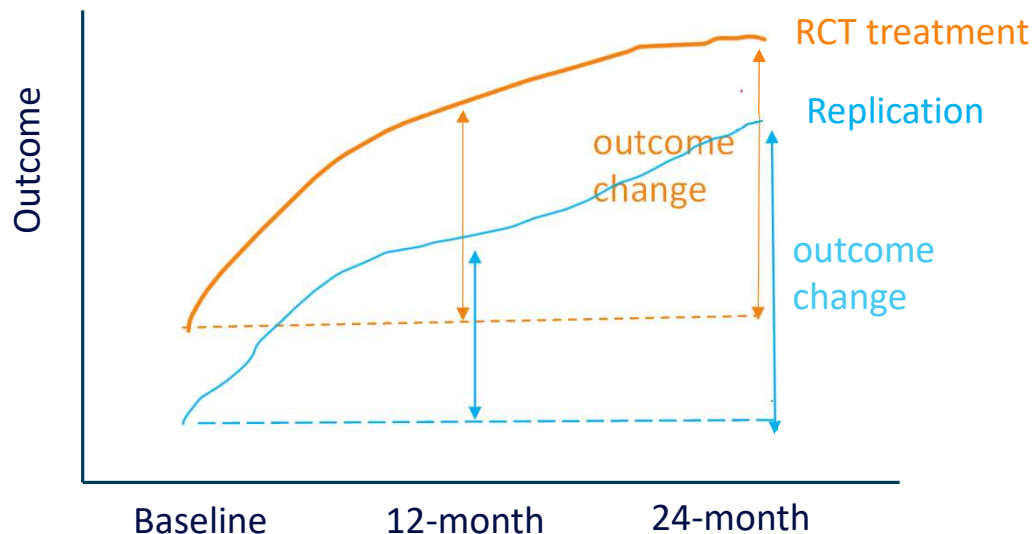
Outcomes of usual care group: affected by service access and quality of services

Differences in impacts cannot be all attributed to how well the program is replicated.

Direct comparison of two treatments — less affected by usual care

Method of outcome evaluation:

- Focus on “changes”
- Direct comparison — Participants in replication trial v.s. Participants in treatment group of RCT



Note: Hypothetical for illustrative purposes

- Rich standardised measures collected by qualified child health professionals (consistent data collection method with RCT)
- Differences in risk factors and family characteristics are adjusted using advanced econometric method — **regression adjusted matching method**
- Varying econometric models to check robustness
- Attrition analyses to inform generalisability

Outcome measures

	Outcomes	Measures
1	IQ <i>(age adjusted standardised score: population mean=100, standard deviation=15)</i>	Bayley Scales of infant and toddler development (BSID-IV); Wechsler preschool and primary scale of intelligence (WPPSI-IV)
2	Language skills <i>(age adjusted standardised score: population mean=100, standard deviation=15)</i>	Bayley Scales of infant and toddler development III (BSID-IV); Weschler preschool and primary scale of intelligence (WPPSI-IV) – Verbal IQ score
3	Total protective factors related to resilience (initiative, self-regulation, attachment/relationships, behavioural concerns) <i>(age adjusted standardised score: population mean=50, standard deviation=10)</i>	Devereux Early Childhood Assessment Program (DECA)
4	Child social-emotional development (problem) <i>In clinical range (below bottom 10% of population norm); In problem range (below bottom 25% of population norm);</i>	Brief infant toddler social emotional assessment (BITSEA); Child behaviour checklist (CBCL)
5	Parenting stress	The parenting daily hassles scale
6	Parent psychological distress	K6 (range 6-30)

Analytic sample

- Analytic sample: participants with both baseline and 12-month follow-up outcomes (all children were still attending at 12-month follow up)

	Replication (REP) Baseline scores	RCT Baseline scores	Analytical sample N (REP/RCT)
IQ	82.9	92.6	43/50
Language	76.0	89.7	43/50
Total protective factor– resilience	40.1	46.5	35/48
Social-emotional development - problem	NA	NA	42/47
<i>Bayley Social-Emotional scores</i>	83.1	93.9	41/44

- Replication trial: NO significant differences between analytical sample and those not in the sample.

Changes in outcomes between baseline and 12-month follow-up



Changes in outcome between baseline and 12-month

Outcomes	Replication	RCT	Unadjusted D-i-D (REP-RCT)	Reg-Match D-i-D (REP-RCT)
IQ (t2-t1)	4.6	6.7**	-2.1	2.9
Language (t2-t1)	7.2**	3.0*	4.2	0.5
Total protective factor related to resilience (t2-t1)	11.3**	0.5	10.8**	14.4**
Social-emotional development in clinical range (t2) (% below bottom 10th percentile population norm)	14%	21%	-7ppt	-5ppt
Social-emotional development in problem range (t2) (% below bottom 25th percentile population norm)	31%	53%	-22ppt**	-51ppt**
Primary carer psychological distress (K6) (t2-t1)	2.4**	0.2	2.1	2.7

Note:

1. Social emotional development does not have comparable measures for baseline, therefore the outcome measures are 12-month outcomes (t2) rather than outcome progress between baseline and 12 month (t2-t1).
2. * denotes significant at 10% level and ** denotes significant at 5%
3. No significant changes in parenting daily hassle detected in both trials.

Robustness of findings and interpretation

Findings are robust using different statistical methods:

- Regression adjusted matching method using alternative model specifications
- Regression adjusted inverse probability reweighting method
- Regression method

Implications of replication trial attrition patterns:

- No significant observable differences between cognitive outcome analytic sample and those who dropped out
- For children still attending the program, families with drug/alcohol issues or with severe psychological distress are less likely to participate in interviews for their child's non-cognitive development assessments.

observed gains in protective factors may not generalise to all children participated in the program.

Encouraging early outcomes for those attended for 12 months

- Relative to children in treatment group of original RCT, children in replication trial have:
 - Comparable progress in average IQ and Language outcomes
 - Superior gain in total protective factor and social-emotional outcomes
- Evaluation 24 months outcomes can offer further insights:
 - Children's timing of improvement may vary – patterns different from RCT
 - Early gains observed in protective factors and social–emotional functioning may represent proximal changes that support later developmental recovery

More supports needed to overcome some challenges

- Sizable high need children increase challenges in program delivery
 - Clear thresholds for additional resourcing is needed.
- Child health professionals were the main source of referrals for replication trial
 - Targeted strategies are needed to support referral pathways from a wider range of services —including child protection and family support — to ensure reaching the full spectrum of vulnerable children
- Retention rates are much lower than RCT for Victorian centers. Likely due to a combination factors (e.g. system, staff capacity and family circumstances)
 - Further investigation is needed to developed a set of strategies

On track for successful replication

Despite greater vulnerability, significant early improvements were observed in participating children's language, protective factors and social-emotional development



Consideration for further scaling

Factor in sufficient resources and realistic timeline for establishment of a new centre

- It takes time to:
 - Set up the centre to meet the model requirement
 - Staff recruitment and training
 - Build trust with local referral agencies
- Not realistic to expect a new centre to be filled up in the first year
 - Children won't be waiting
 - Large number of enrolments at the same time can undermine engagement quality
 - It is a three-year program - more detailed planning is required for optimal pace and strategies to handle demand fluctuation

Next Step

Program implementation:

- Recruitment of research children completed
- Intervention: one centre completed and two centre continues to end of 2026
- Accept new referrals for non-research children (same eligibility criteria) when place is available.

Outcome Evaluation:

Final report to be completed in mid 2027

- 24-month outcome
- Recruitment update (to include all children).
- 12-month outcome update (larger sample)
- more comprehensive analysis on differences across sites where sample size is sufficient

Wish list: Administrative data linkage

- Analyses of attrition: understand the ECEC participation and outcomes for those who disengaged from the program.
- Analyses of outcomes after entering school

Early Years Education Program Randomised Controlled Trial



Early Years Education Program Replication Trial



<https://melbourneinstitute.unimelb.edu.au/research/education/early-years-education>

Melbourne Institute contacts:

- Associate Professor Yi-Ping Tseng y.tseng@unimelb.edu.au
- Dr Nichola Coombs nichola.coombs@unimelb.edu.au

Parkville Institute contacts:

- Associate Professor Brigid Jordan brigid.jordan@parkvilleinstitute.org
- Dr Anne Kennedy anne.kennedy@parkvilleinstitute.org