DUNEDIN STUDY CONCEPT PAPER FORM

Provisional Paper Title: Beyond the average: An examination of the specificity of intergenerational transmission of parenting

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Please describe your proposal in 2-3 pages with sufficient detail for helpful review.

Objective of the study:

Parenting practices, such as discipline techniques and sensitive caregiving, are vital to human development, and are believed to be passed down the generational line (Kerr & Capaldi, 2019). Although most studies confirm a certain level of stability in parenting across generations, estimates are typically small to modest and tend to vary within and between studies (Conger et al., 2009). Identifying which conditions amplify and dampen intergenerational stability may aid in understanding why some parents with suboptimal parenting histories can overcome these experiences, whereas others can not.

Empirical studies on intergenerational transmission of parenting are often relatively small and homogeneous, and do not allow for subgroup analyses or an examination of multiple moderators of intergenerational transmission of parenting. Consequently, we do not know which parenting dimensions are most likely to be echoed across generations, nor do we understand under which conditions and in which developmental periods intergenerational transmission of parenting is stronger or weaker. By using an Individual Participant Data (IPD) meta-analysis, this study moves beyond average descriptions of intergenerational transmission of parenting.

We recently conducted a traditional meta-analysis to examine the average magnitude of the association between parenting across two generations, as well as to identify factors that may explain why some studies reported larger effect sizes than others. The results confirm that the average correlation between Generation 1 (G1) and Generation 2 (G2) parenting is small, although there is substantial variation (see Figure 1 for a forrest plot; Geeraerts et al., submitted manuscript).

Moderation analyses showed that effect sizes were larger for: G1 parenting in the acceptance domain as opposed to the control domain, G1 mothers or both G1 parents, as opposed to G1 fathers, and measurements of G1 parenting when G2 children were younger, rather than older. Effect sizes were smaller when G1 and G2 parenting were both reported by the G2 participant. However, traditional meta-analyses can only explain these differences with characteristics at the study level, such as the average age or the percentage men/women in the sample. This loss of information results in diminished specificity and statistical power. To examine variation in intergenerational transmission of parenting, and move beyond the average, we need research that combines the specificity of single studies with the large and heterogeneous data that results from a meta-analysis.

This study has the following objectives:

[1] Identify parenting dimensions that are more and less likely to be transmitted across generations

[2] Identify factors that account for the degree of intergenerational continuity and discontinuity in parenting. Specifically, we aim to examine if the following factors potentially strengthen or dampen intergenerational transmission of parenting:

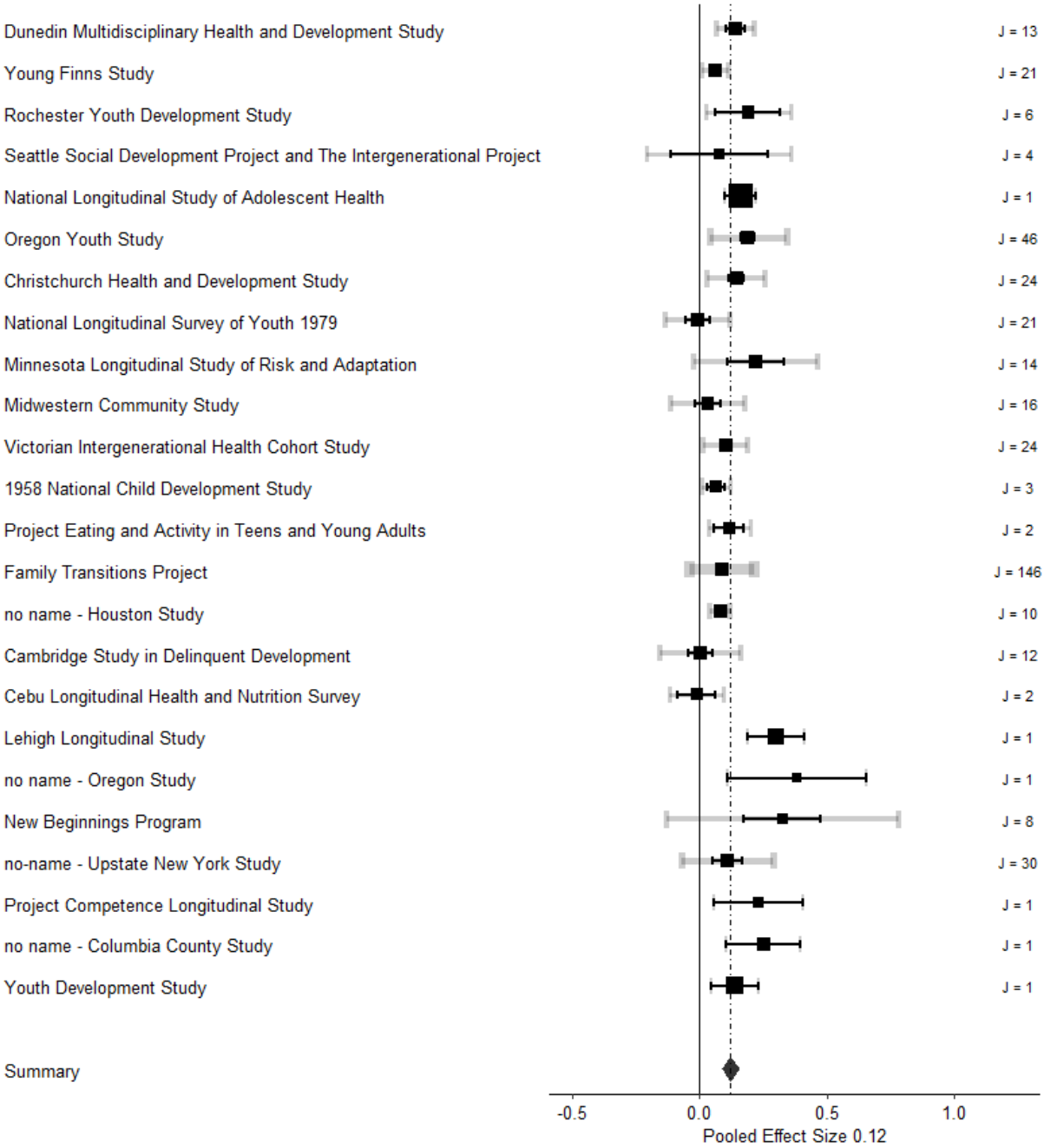
a. Second generation romantic relationship status and quality
b. Second generation substance use (alcohol and cannabis)
c. Socioeconomic status
d. Ethnicity – in consultation with Drs. Joanne Baxter and Bob Hancox
e. Sex (G1, G2, G3)
f. Type of G1 and G2 caregiver (e.g., biological or foster parent)

[3] Add a developmental perspective to models on intergenerational transmission of parenting. Specifically, we aim to examine the moderating role of:

a. G2 children's age during G1 parenting measurement
b. G2 parents' age at the transition to the parenthood and during G2 parenting measurement

Figure 1.

Summary Forest Plot of Included Study Effect Sizes



Note. Forest plots were originally developed for one effect size per study. In order to appropriately visualize multiple effect-sizes per study, separate meta-analyses were performed on each study (Fernández-Castilla et al., 2020). Each black dot represents the meta-analytic study mean, and the black lines represent the 95% Confidence Interval (CI). This CI is affected by the number of effect sizes (J) within a study. The grey CI represents the median precision of one J within a study.

Data analysis methods:

Similar to a traditional meta-analysis, an IPD meta-analysis involves systematically searching and integrating all relevant studies on a certain topic. A list of studies that are considered eligible can be found here (under data documentation – bta overview). In contrast to traditional meta-analyses however, IPD meta-analyses incorporate both study level data and data of individual participants. Consequently, it results in a large and heterogeneous dataset. A benefit of such a harmonized dataset is that it generally results in a larger representation of subgroups that are typically underrepresented in single studies (Hussong et al., 2013).

Data will be checked and harmonized. We will create parenting measures related to positive and negative parenting in the control and acceptance domain using item-level matching, selecting items across studies that theoretically fit similar constructs. We aim to apply statistical harmonization as well, where we test for measurement invariance across studies (McDaniel et al., 2023).

Data will be analyzed using multilevel regression analyses (i.e., a one-stage IPD meta-analysis), to account for study-unique variance. If this proves to be unfeasible, for instance due to large between-study variance or statistical convergence problems, a two-stage approach will be applied. In a two-stage approach, the analyses of interest are first conducted in each separate study, and then harmonized using traditional meta-analytical techniques. Although one-stage IPD meta-analyses are often considered the golden standard, recent research has shown that two-stage procedures often perform equally well and are at times preferred due to their flexibility in dealing with complex datasets such as longitudinal panel studies (e.g., Campos et al., 2023).

Variables needed at which ages:

G1 parenting

In G2 Early childhood- Parental Attitude Research Instrument (at G2 3 and 5 yr)
In G2 Middle childhood – Interview assessing Negative discipline (at G2 7 and 9 yr)
In G2 Adolescence - G2 attachment to G1 (at G2 13 & 15 yr)

G2 parenting for all assessed G3 children

In G3 Early childhood - G2 detachment (three assessments; combined score)
In G3 Early childhood - G2 positive regard (three assessments; combined score)
In G3 Early childhood - G2 negative regard (three assessments; combined score)
In G3 Early childhood - G2 intrusiveness (three assessments; combined score)
In G3 Early childhood - G2 sensitivity(three assessments; combined score)
In G3 Early childhood - G2 stimulation of cognitive development (three assessments; combined score)

In G3 adolescence - Parent/Peer Attachment– adolescent report (Only for those G3 adolescents who reported about G2 study member only (and not about another

parent or involving multiple parents))
In G3 adolescence - Getting Along With My Parent (Piaenta Scale) – adolescent - report; only reports about G2 study member
In G3 adolescence - Child-Parent Relationship Scale Questionnaire – G2 study member report

Information about G1 parents
New Zealand Socioeconomic Index (NZSEI-06) for both G1 parents at G1 parenting assessment (G2 3, 5, 7, 9, 13 & 15 yr)
Type of G1 caregiver (e.g., biological parent, foster parent, stepparent, adoptive parent)
G1 sex (Typically mothers)
G1 age (in years) at birth G2
G1 relationship status, including whether or not in a relationship with other G1 parent (Whenever available at G2 3, 5, 7, 9, 13 & 15 yr)

Information about G2 participants in childhood and as parents
G2 ethnicity – in consultation with Drs. Joanne Baxter and Bob Hancox
G2 age at birth G3 child(ren) in years
G2 age at parenting assessments
G2 sex
G2 Birth-order for each G1 parent of G2 participant when available
Type of G2 caregiver (e.g., biological parent, foster parent, stepparent, adoptive parent)
Ethnicity partner G2 (at assessment G3 3 and 15 yr) – in consultation with Drs. Joanne Baxter and Bob Hancox
During G2 childhood: Measure of G1 involvement (e.g., years spent living with G2, involvement in decision making, custodial arrangements)
Measures of G2 relationship stability (at assessment G3 3 and 15 yr)
Measures of G2 relationship quality (at assessment G3 3 and 15 yr)
New Zealand Socioeconomic Index (NZSEI-06) (at assessment G3 3 and 15 yr)
G2 alcohol and drugs use (At G2 18 21 26 38 45 yr)

Information about G3 children
N G3 children for whom G2 parenting measures are available
Birth order of G3 child(ren) for whom G2 parenting measures are available
G3 age at G2 parenting measurement
G3 sex

Significance of the Study (for theory, research methods or clinical practice):
Research into individual differences in intergenerational transmission of parenting is called for (Conger et al., 2009; Kerr & Capaldi, 2019), but scarce. This project will map individual differences in intergenerational transmission of parenting in a thorough way,

by harnessing the strength of the existing three-generation studies, enabling us to: identify parenting dimensions that are more and less likely to be transmitted across generations; identify factors that account for the degree of intergenerational continuity and discontinuity in parenting; add a developmental perspective to models on intergenerational transmission of parenting; and implement state-of-the-art methodology to examine individual differences to the field of Developmental Psychology. IPD meta-analyses are the golden standard of meta-analyses in biomedical science (Tierney et al., 2015), helping to reach the goal of personalized medicine approaches, but are only occasionally used in social sciences, and even less in the field of developmental psychology. The unique benefit of an IPD meta-analysis lies in much greater statistical power and heterogeneity in participants, which can never be achieved with a single three generation study. IPD meta-analyses also allow to examine subgroups that are typically small in single studies, by combining the data from multiple studies. Overall, IPD meta-analyses come with an extremely high cost-benefit ratio, and should be further implemented in developmental psychology, a field in which researchers often have to work with expensive longitudinal studies. The current study is the first to apply an IPD meta-analysis to examine intergenerational transmission of parenting.

References:

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