

Introduction

- Physical activity is strongly linked to lower chronic disease risk, better mental health, and reduced premature mortality.^{1,2,3,4}
- Despite clear benefits, about 1 in 3 adults globally aren't sufficiently active,⁵ and there is a need to identify higher-risk demographic groups.
- Parenthood is a plausible high-risk period.

Objective

- To synthesize and meta-analyze recent evidence on how parenthood relates to moderate-to-vigorous physical activity (MVPA), for both within-person changes across the transition to parenthood and between-group differences between parents with dependent children and age-matched adults without children.

Methods

- The review was registered through PROSPERO (CRD420251028805).
- Literature search was completed April 2025 through five databases: Medline, PsycINFO, Web of Science, CINAHL, ProQuest Dissertations.
- Included: observational studies of adults 18 or older with a dependent child aged up to 18, residing within the house.
- ASReview was used for title and abstract screening,⁶ while Covidence was used for full text screening.⁷
- National Heart, Lung, and Blood Institute (NHLBI) Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies was used to screen for risk of bias (ROB).⁸
- Two researchers completed full-text screening, data extraction, and ROB assessment.
- Two random-effects meta-analyses were conducted to compare both parents vs. adults without children residing in the home, and the pre- to post-transition to parenthood.

References



Results

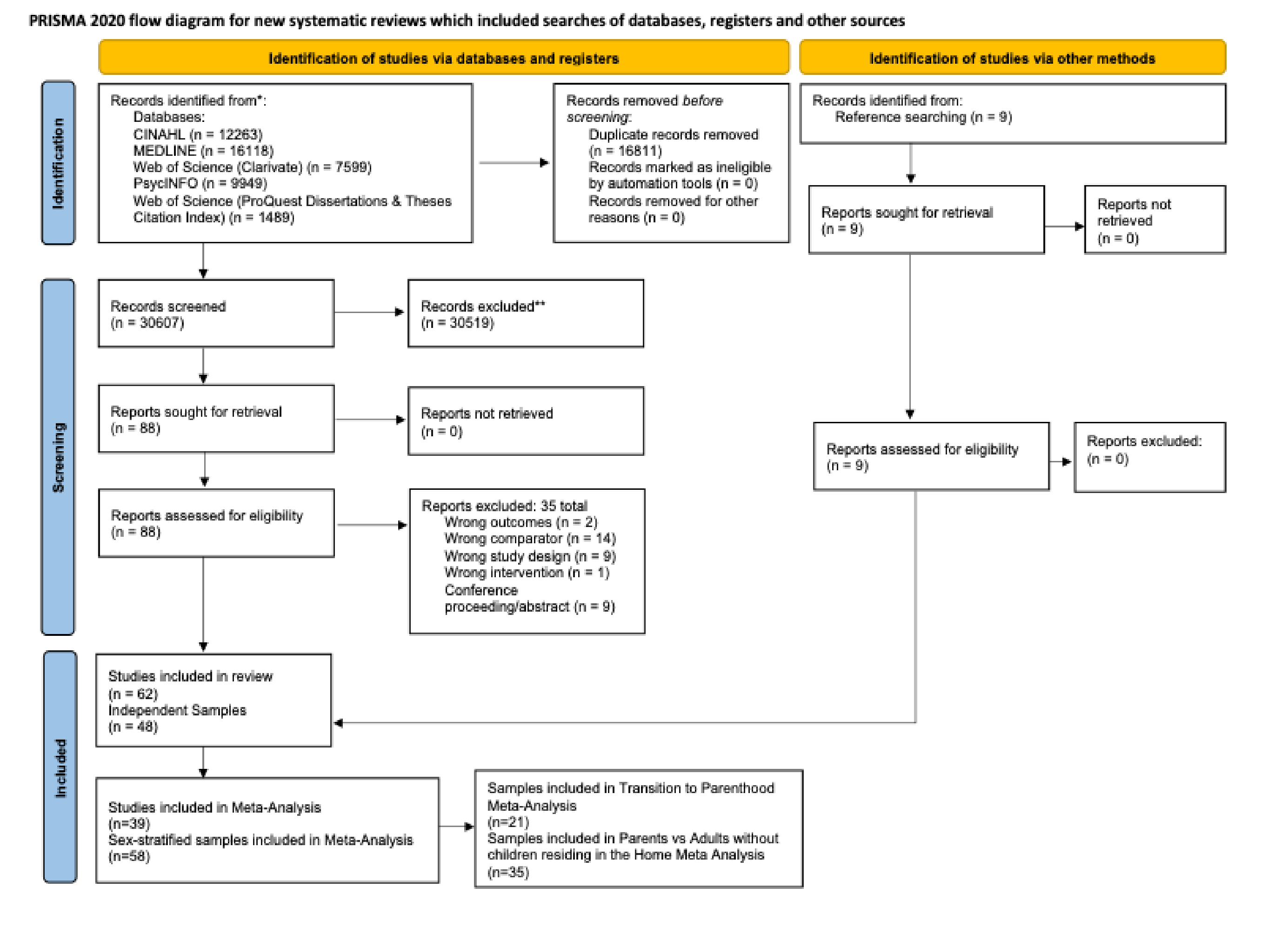


Figure 1. PRISMA flow chart for retrieval and screening of studies.

Parental Status (Between-Participant Differences) Analysis

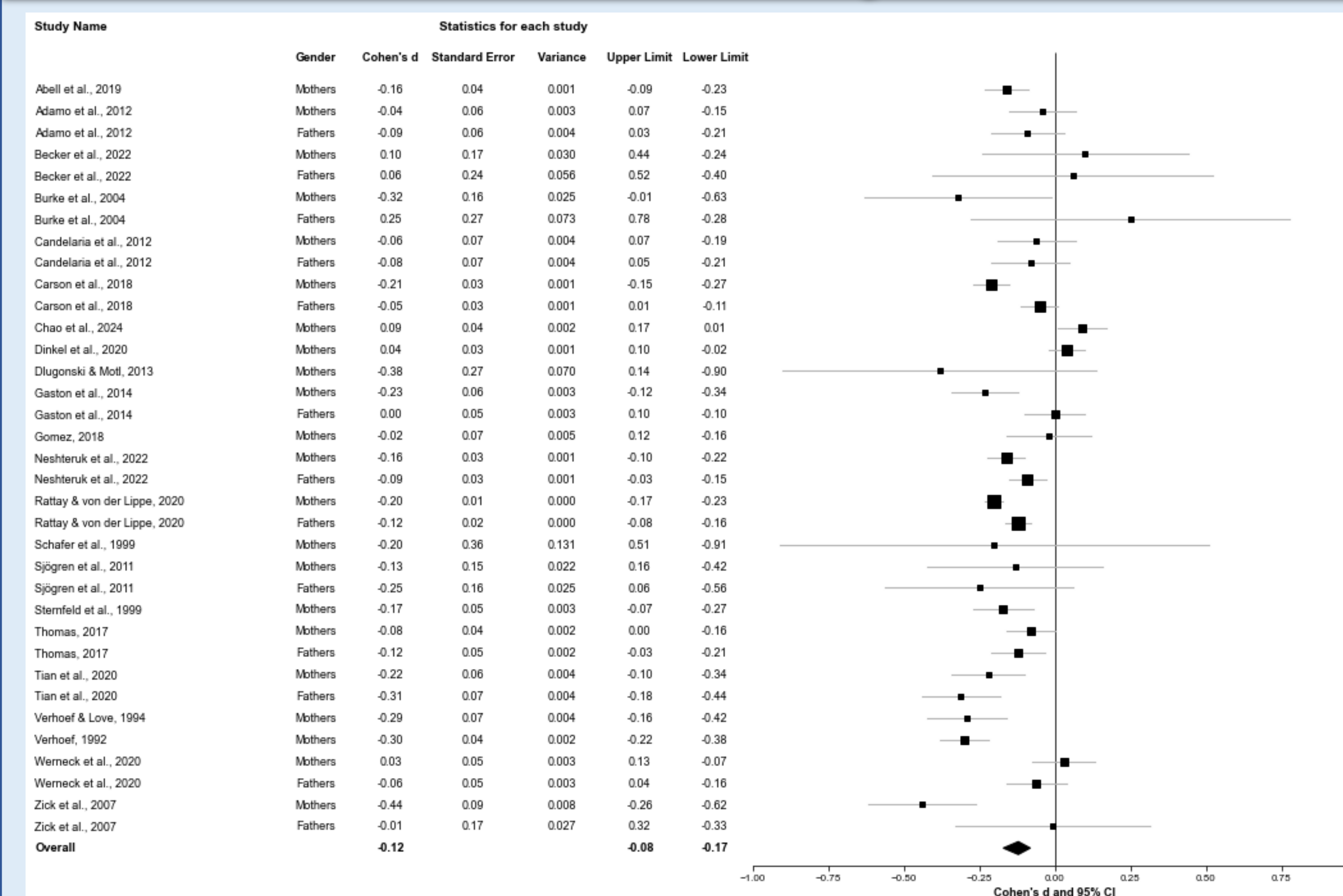


Figure 2. Forest plot of between-participant differences in physical activity comparing parents versus adults without children in the home.

MVPA for Parents vs. Adults Without Children Residing in the Home:

- 35 effect sizes (22 mother samples and 13 father samples) after removing one outlier.
- Resulted in a small negative effect for parents (d = -0.12 [95% CI -0.17 to -0.08]).
- For risk of bias assessment, common limitations were poor reporting of participation rate and not reporting any sample size justification or power estimates.

Moderators:

- No significant moderators to this relationship for this analysis.

Transition to Parenthood (Within-Participant Differences) Analysis

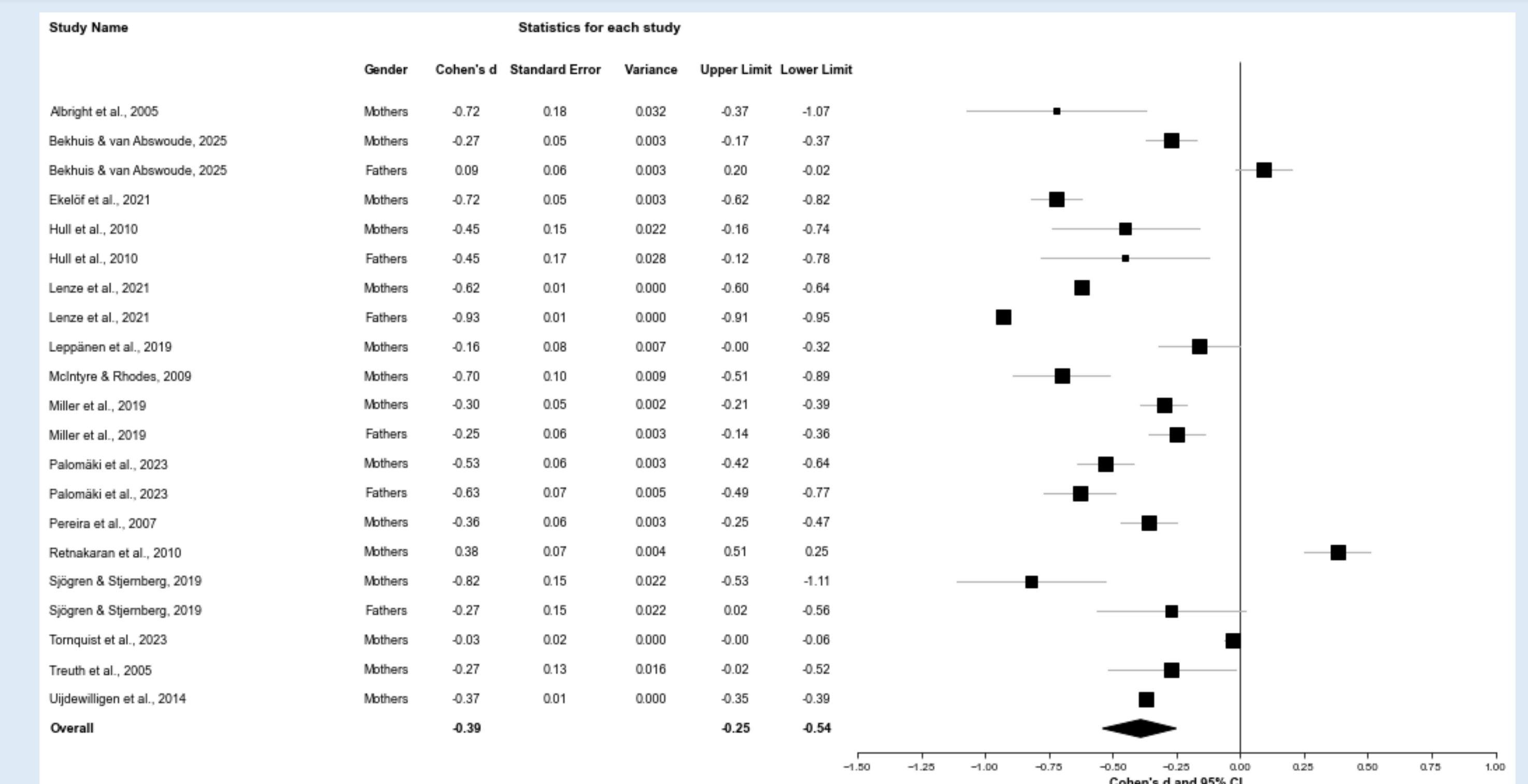


Figure 3. Forest plot of within-participant change in physical activity from pre- to post-transition to parenthood.

MVPA for Before vs. After Becoming a Parent:

- 21 effect sizes (15 mother samples and 6 father samples) after removing one outlier.
- Resulted in a small to moderate negative effect for becoming a parent (d = -0.39 [95% CI -0.54 to -0.25]).
- For risk of bias assessment, common limitations across studies included lack of sample size justification, power calculations, and high attrition rates or participation rates not reported.

Moderators:

- Study design (p = 0.002) was the only significant moderator. Samples that used retrospective recall designs (d = -0.75) reported greater decreases in physical activity compared to longitudinal designs (d = -0.28)

Conclusion

- This is the first meta-analysis of parenthood and physical activity. Both analyses found parenthood had a significant small to moderate negative decline in MVPA, with a greater decline when examining within participants. The decrease in physical activity findings align with previous reviews.^{9,10,11}
- Study design being a significant moderator could possibly be due to recall bias.
- Adds to the literature by providing recent evidence and to our knowledge, the first point estimate effect sizes for the relationship of parenthood and MVPA.
- Future research should investigate with more device-based measures, and more consistent reporting of contextual factors (e.g. child age, number of children).