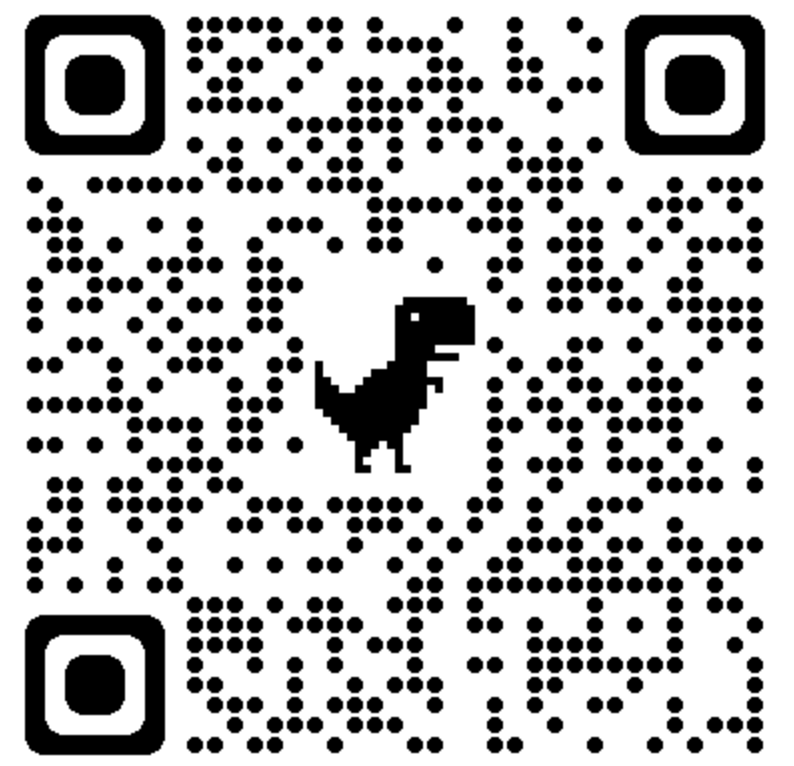




Associations Between Parents' Autonomy Supportive Management Language and Children's STEM Talk During and After Tinkering at Home

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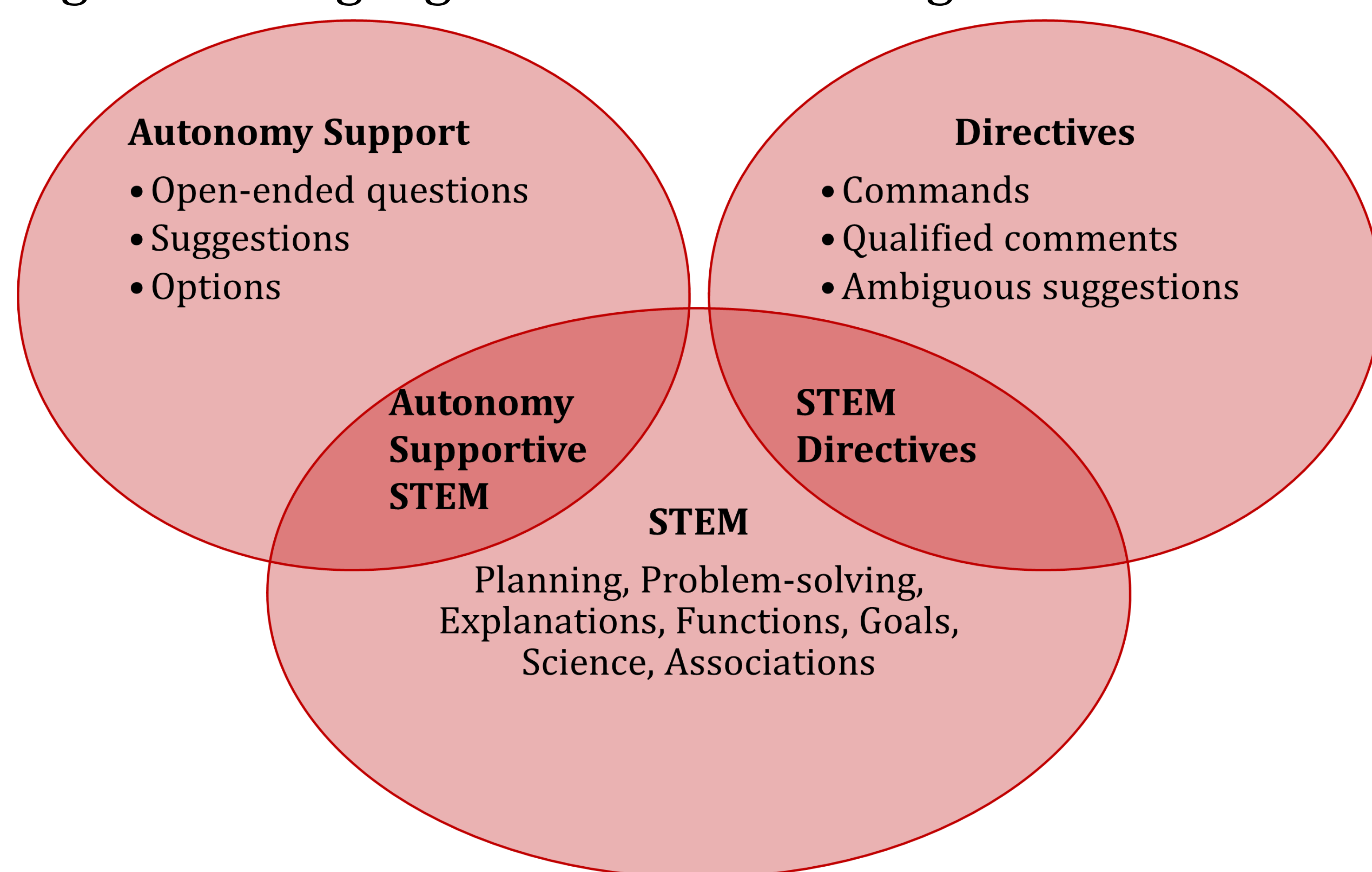
INTRODUCTION



- Parents' autonomy support can advance children's engagement and learning in various contexts (Grolnick et al., 2014; Sobel, 2023)
- We asked whether and how parents' autonomy supportive language and STEM (Science, Technology, Engineering, and Mathematics) talk advanced children's STEM engagement during and after an engineering learning activity (i.e., tinkering)

METHODS

- **Tinkering Activity:** building a playground ride for a toy
- **Participants:** 61 Parent-child dyads observed at home via Zoom
 - Children 4-10- years- old ($M = 8.10$)
 - 59% White, 15% Black, 8.2% Asian, 6.6% Latine, and 9.8% Mixed
 - Parental education, $M = 18$ yrs., $SD = 2.60$
- **Parent-Child Reminiscing:** 2-4 weeks later via Zoom
- **Coding:** Parents' and children's STEM talk, and parents' management language were coded during and after tinkering



Autonomy Supportive STEM Talk Examples

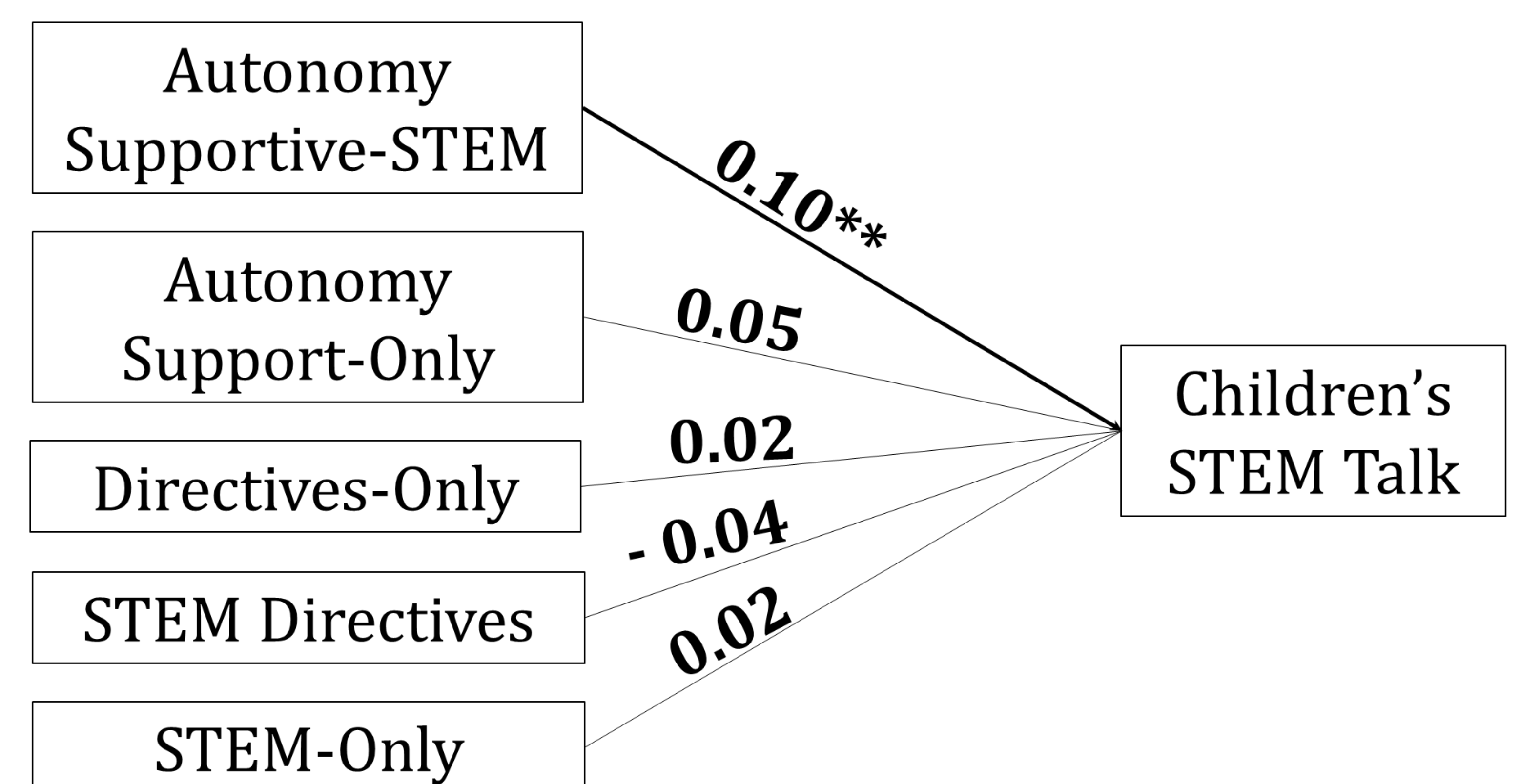
- "How can we fix it?"
- "Would you like to test it now?"
- "What do you want to build?"
- "Cardboard could be the base"

RESULTS

- Bi-directional time-series analysis across 1-min intervals using Hierarchical Linear Models

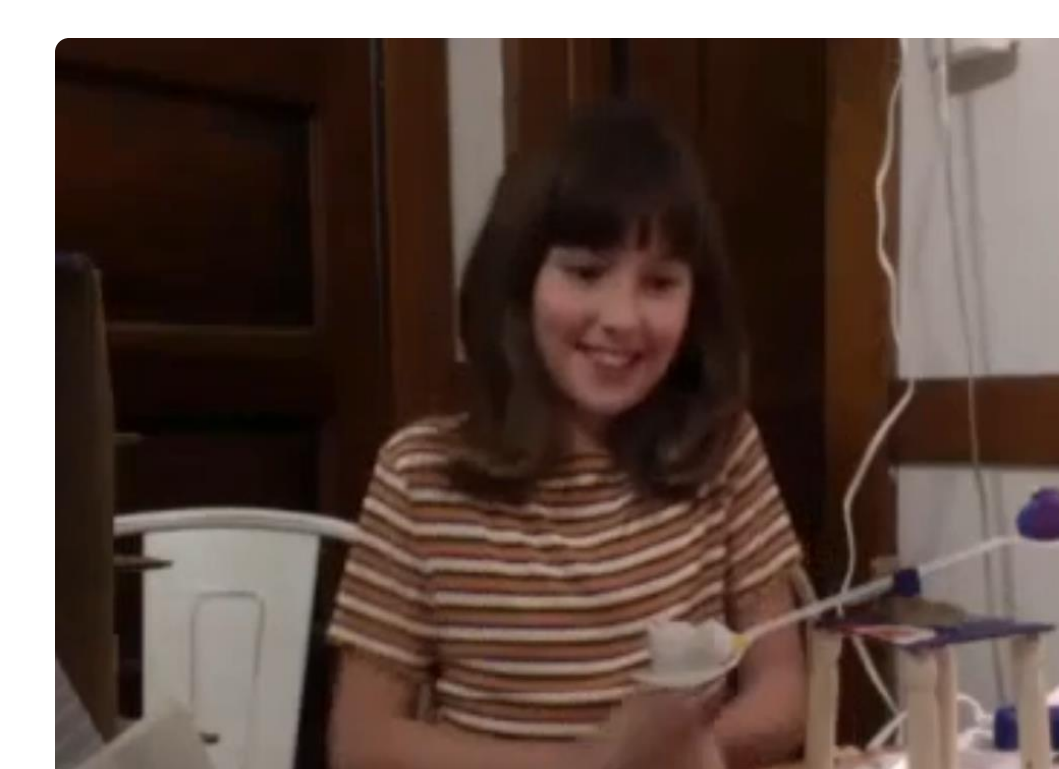
Figure 1

Moment-to-Moment Associations Between Parents' Talk and Children's STEM Talk During Tinkering



- As shown in Figure 1, only parents' autonomy supportive STEM talk was positively associated to children's subsequent STEM engagement during tinkering
- Parents' autonomy supportive STEM talk during tinkering was not related to children's STEM talk during reminiscing, $r(59) = .16, p > .05$
- Parents' autonomy support during reminiscing was linked to children's STEM talk during reminiscing, $B = 0.18, SE = 0.08, p = .03$

CONCLUSIONS



- Parents autonomy supportive style when tinkering and reminiscing was linked to children's STEM talk within these conversations
- The results suggest the importance of considering both the style and content or parents' talk in supporting children's STEM engagement and learning