

# Effects of early child care quality on child socio-emotional outcomes; Does quantity matter?

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# Background

- Increase in female labor participation  
52% in 1990 to 74% in 2012 (OECD, 2000, 2013)
- Better availability and affordability center-based child care → increase in use center-based child care  
2007-2011: 60% increase, 55% of all children 0-4 (Statistics Netherlands, 2012)
- 61% part-time job → part-time center-based child care  
NL: 2-3 days per week (variation 1-5 days) (Veen, et al., 2010)  
U.S.: 4-5 days per week (U.S. Census Bureau, 2010)



# Background

## Socio-emotional development

- High quantity child care → (small) negative effects  
(e.g., Loeb et al., 2007; NICHD ECCRN, 2006; Vandell et al., 2010)
- High quality child care → (small) positive effects  
(e.g., Burchinal et al., 2008; Vandell et al., 2010; Mashburn et al., 2008)

→ What about interactive effects of child care quantity and quality?



# “Compensatory effect” of high *quality* child care

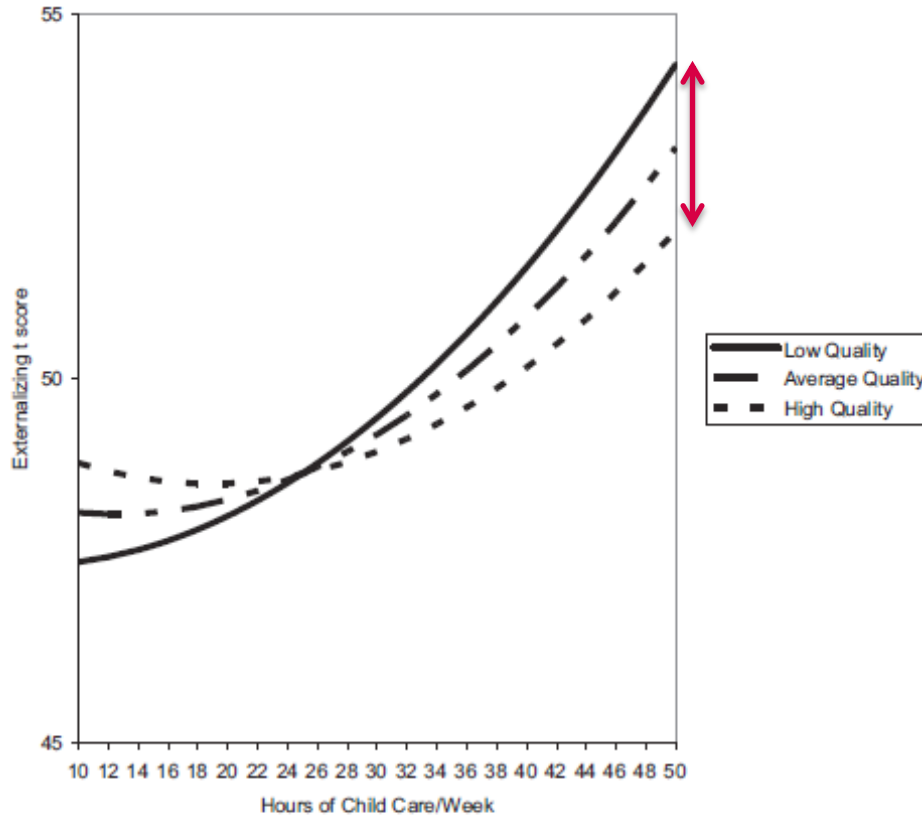


Figure 2. Predicted externalizing scores related to child care for a prototypical child when quality is low ( $-1 SD$ ), average (mean), and high ( $+1 SD$ ).

Figure from McCartney, Burchinal, Clarke-Stewart, Bub, Owen, and Belsky (2010)



# “Strengthening effect” of high *quantity* child care

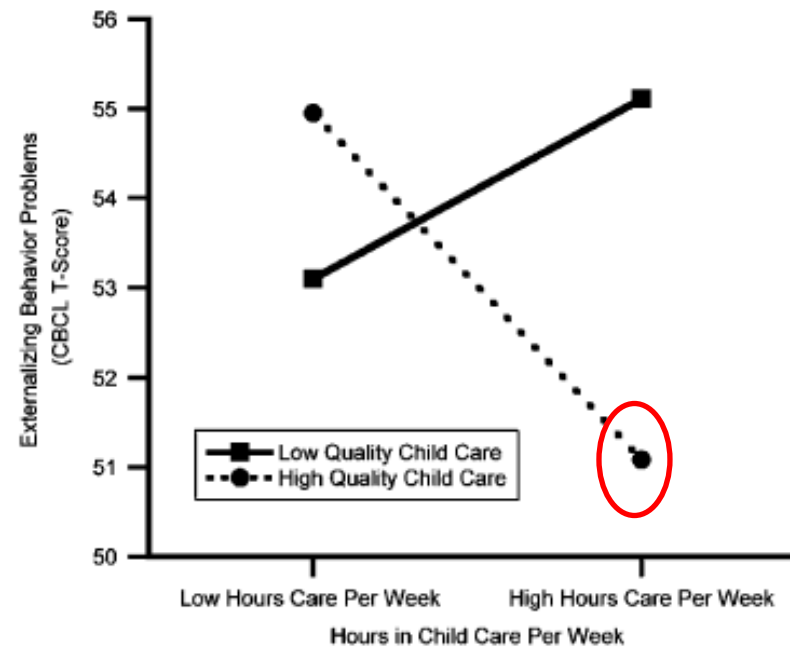


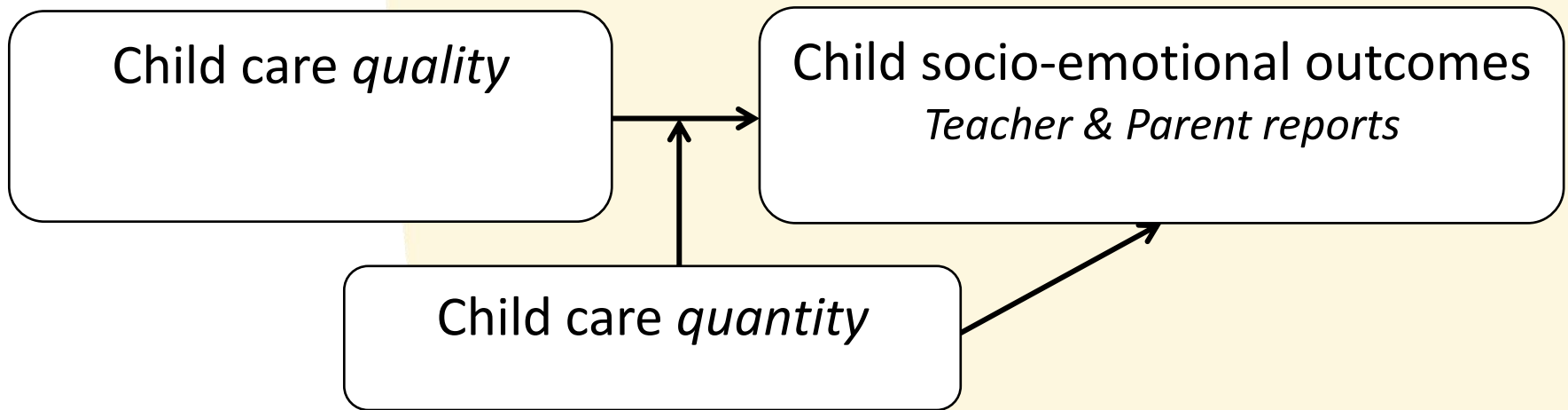
Figure 2. Interaction between hours in child care and child care quality predicting externalizing behavior problems. CBCL = Child Behavior Checklist.

Figure from Votruba-Drzal and Lindsay Chase-Lansdale (2004)



# Research question

Does the association between center-based child care quality and child socio-emotional outcomes depend on the time spent in care?



- Hypotheses**
- Compensatory effects of *high quality*
  - Strengthening effects of *high quantity*



# Methods – Teacher & Parent model

**Data:** Pre-COOL study, Time 1 (age 2) & Time 2 (age 3)

**Sample:**  $n = 375$ ,  $M$  age = 2.3 years, 58 child care centers

## Child care quality (T1)

Emotional and behavioral support – live observations

*CLASS-Toddler, 80% agreement*

## Externalizing behavior (T2)

## Internalizing behavior (T2)

*(BITSEA)*

## Social competence (T2)

*(BITSEA & SDQ)*

## Child care quantity (T1)

$M = 2.33$  days,  $SD = 0.92$

## Both models:

- Covariates
- Multilevel analyses
- FIML



# CLASS - Toddler

(La Paro, Hamre & Pianta, 2011)

## Classroom interactions

### Emotional and Behavioral Support

Positive Climate

Negative Climate

Teacher Sensitivity

Regard for child perspectives

Behavior Guidance

### Instructional Support

Facilitation of learning and development

Quality of Feedback

Language Modeling

1,2 = low score  
3,4,5 = medium score  
6,7 = high score





# Child socio-emotional outcomes

**Internalizing (BITSEA) – 6 items** (e.g., withdrawal, general anxiety)

- Seems nervous, tense or fearful
- Has less fun than other children

**Externalizing (BITSEA) – 5 items** (e.g., activity, aggression, obedience)

- Restless and can't sit still
- Cries or throws tantrums until exhausted

**Social competence (BITSEA & SDQ) – 12 items** (e.g., helping, sharing)

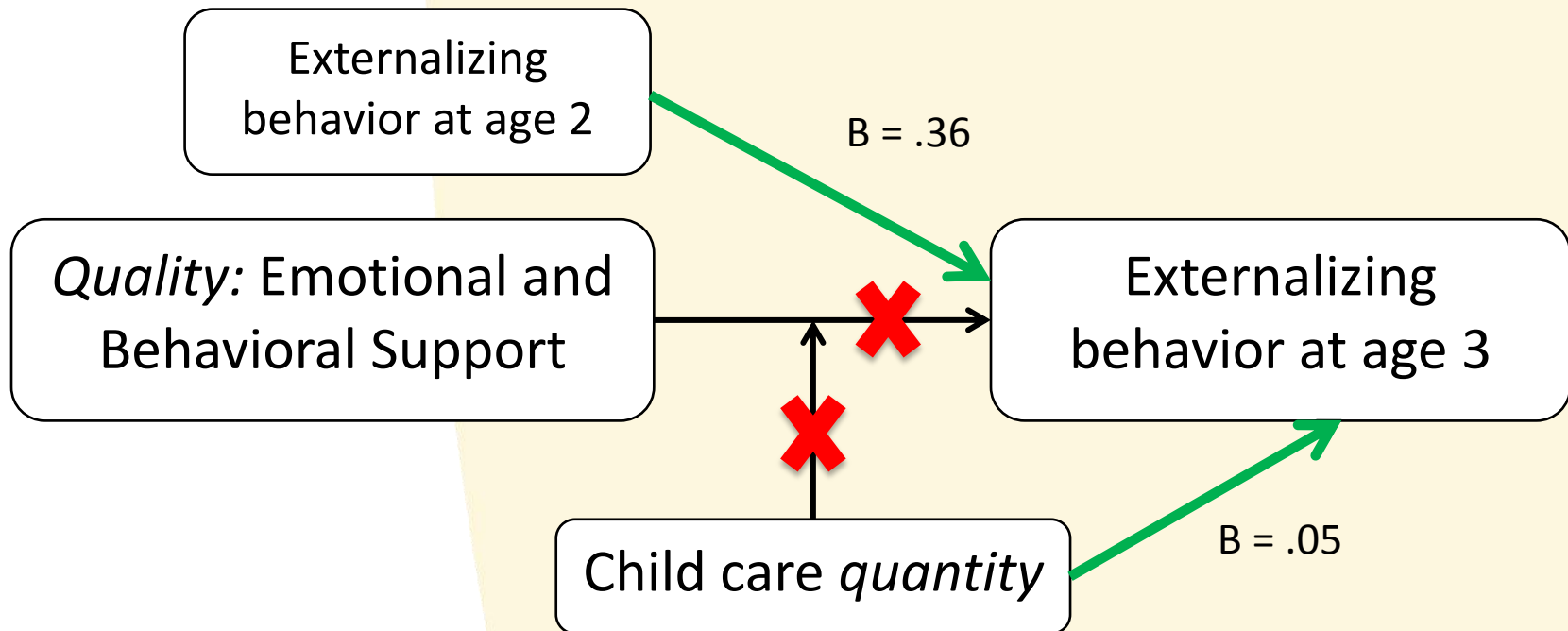
- Is affectionate with loved ones
- Often offers to help others (parents, teachers, other children)

BITSEA (Briggs-Gowan & Carter, 2002)

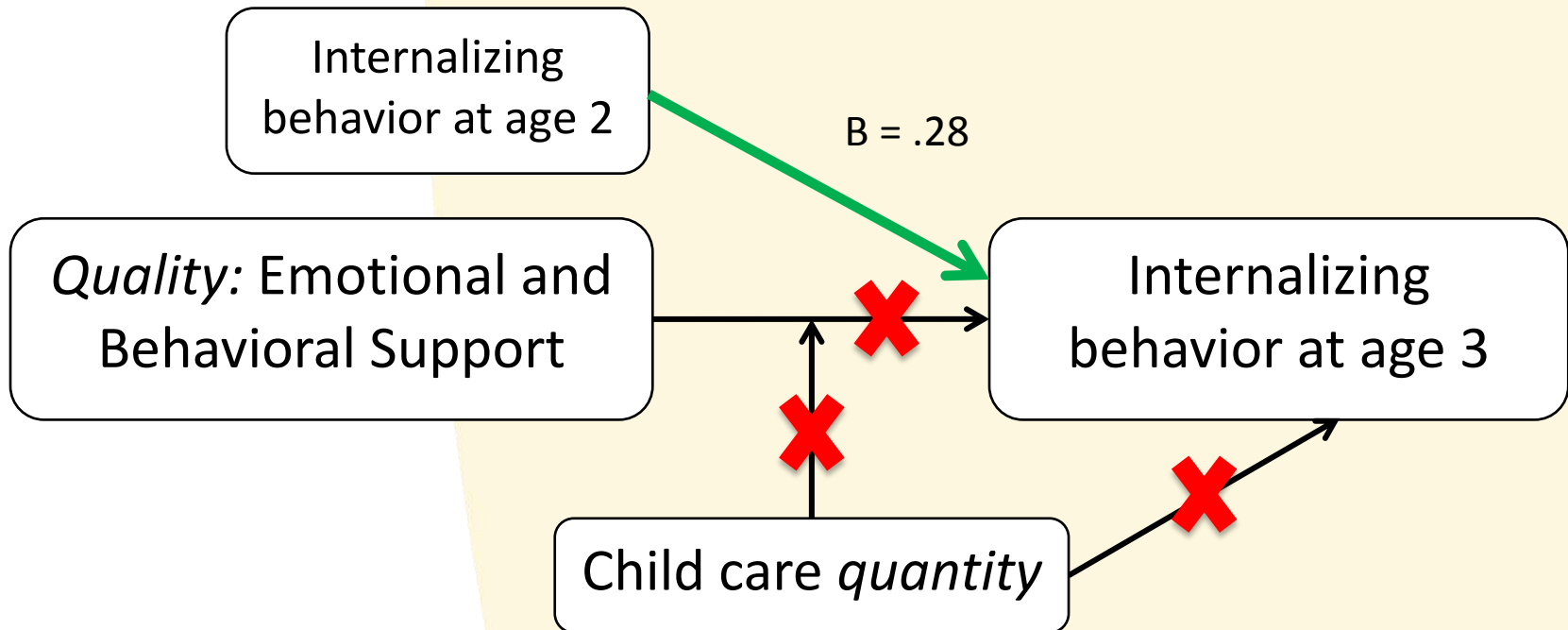
SDQ (Goodman, 1997; Widenfeldt, Goedhart, Treffers, & Goodman, 2003)



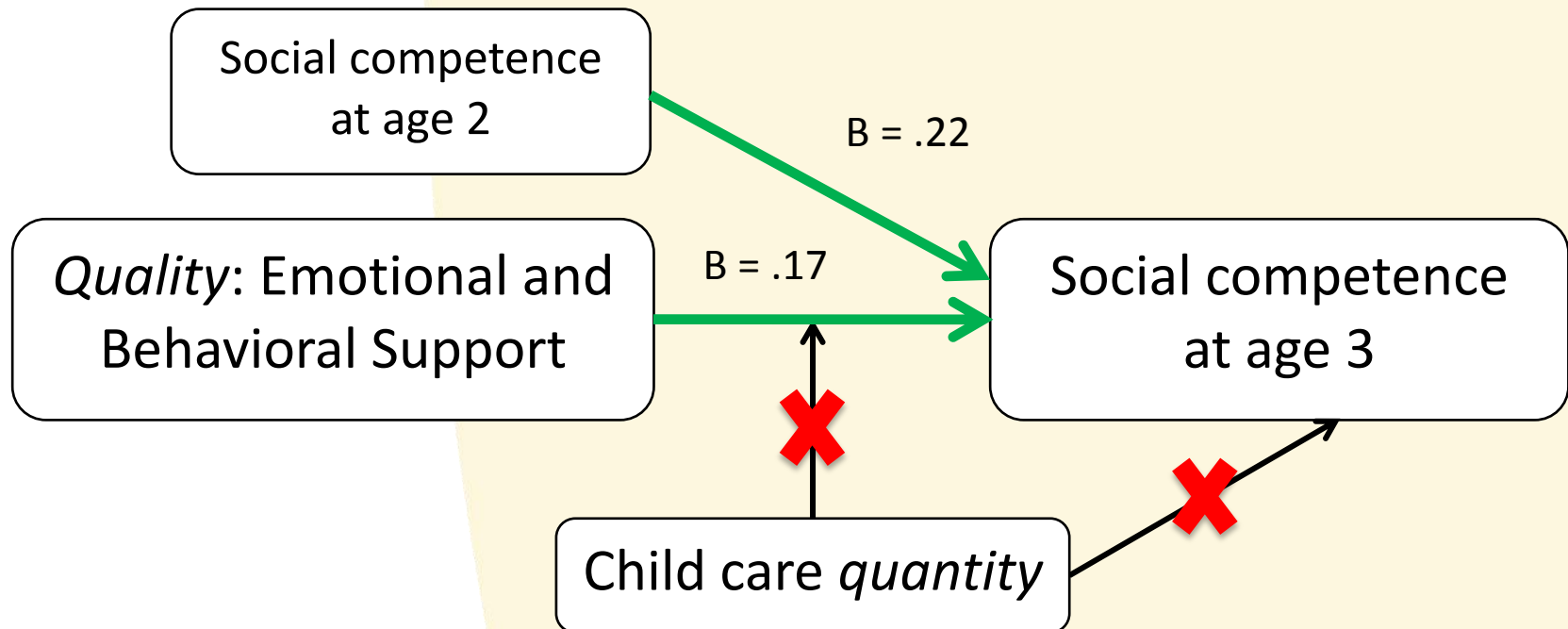
# Results *Externalizing* – Teacher report



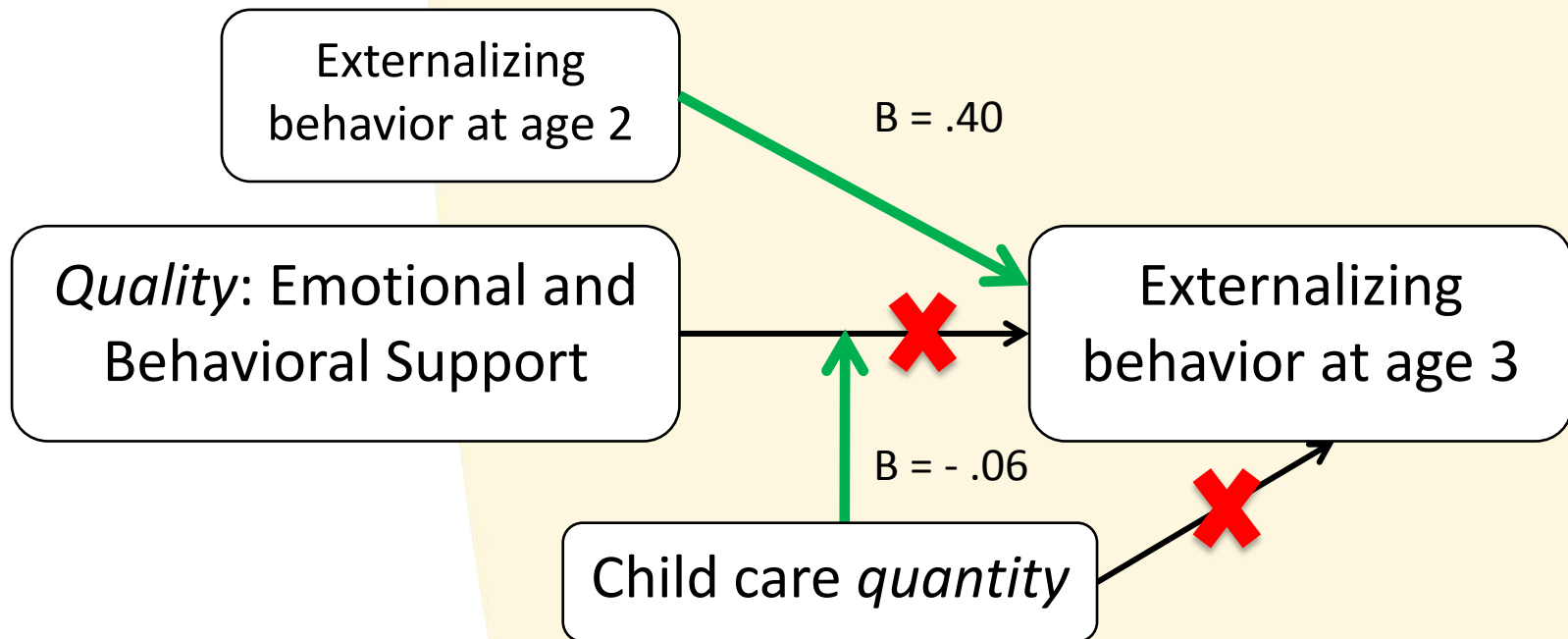
# Results *Internalizing* – Teacher report



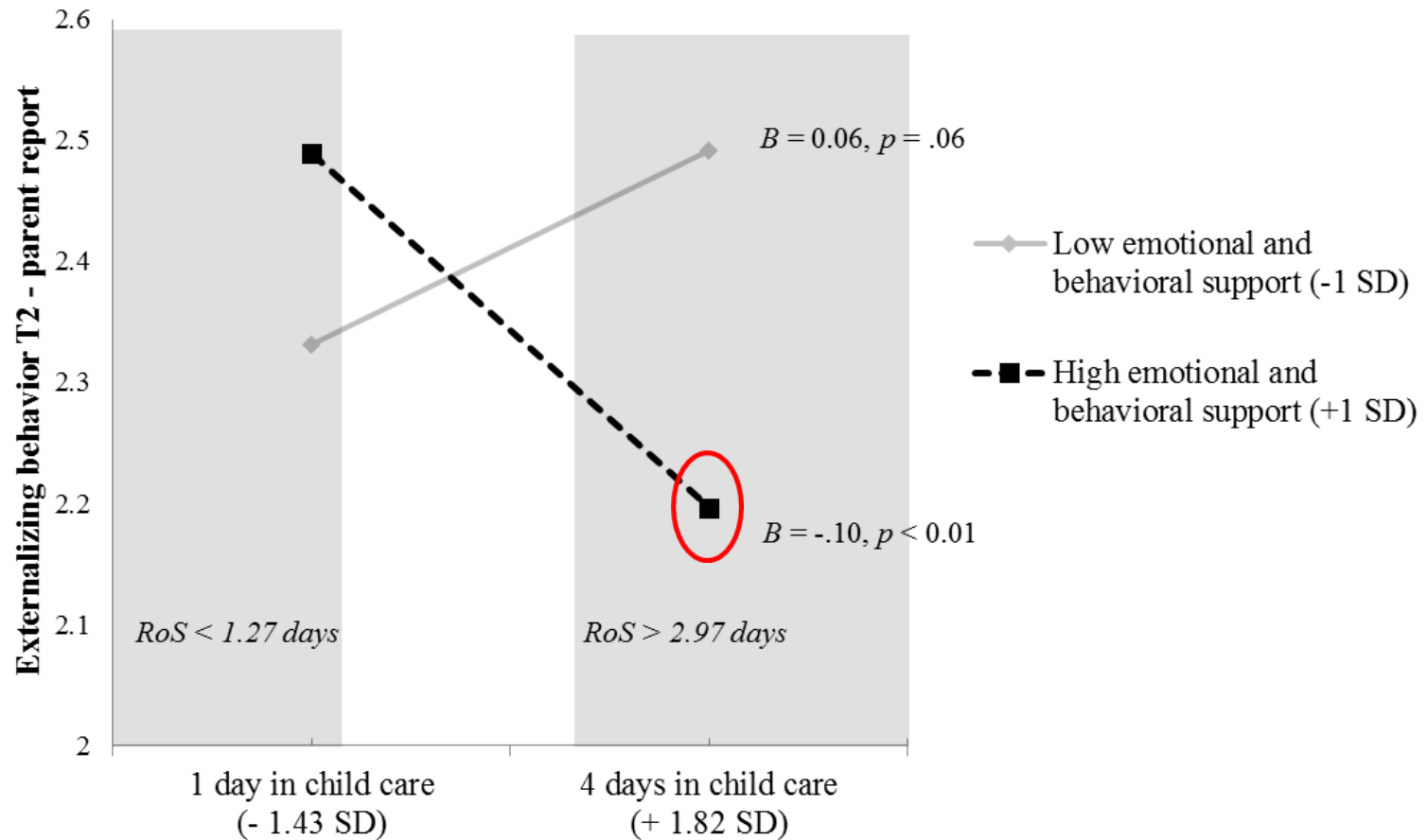
# Results *Social competence* – Teacher report



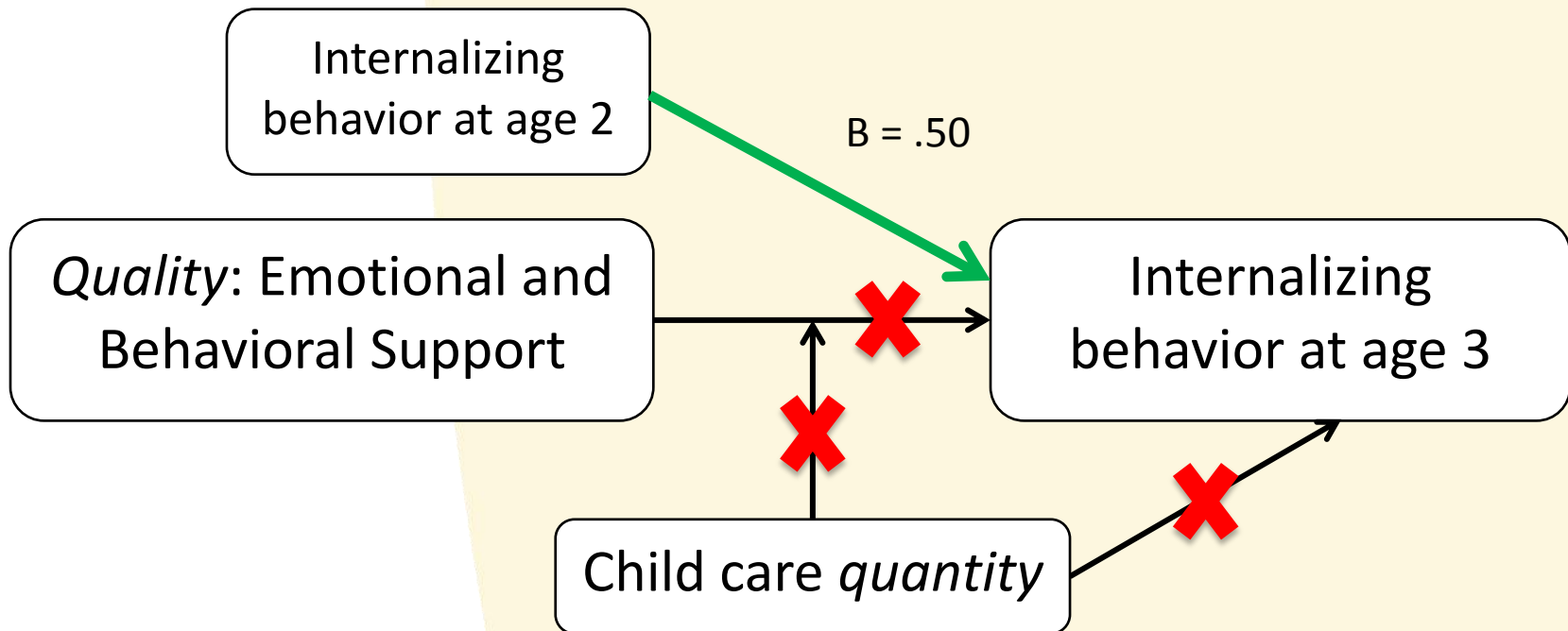
# Results *Externalizing* – Parent report



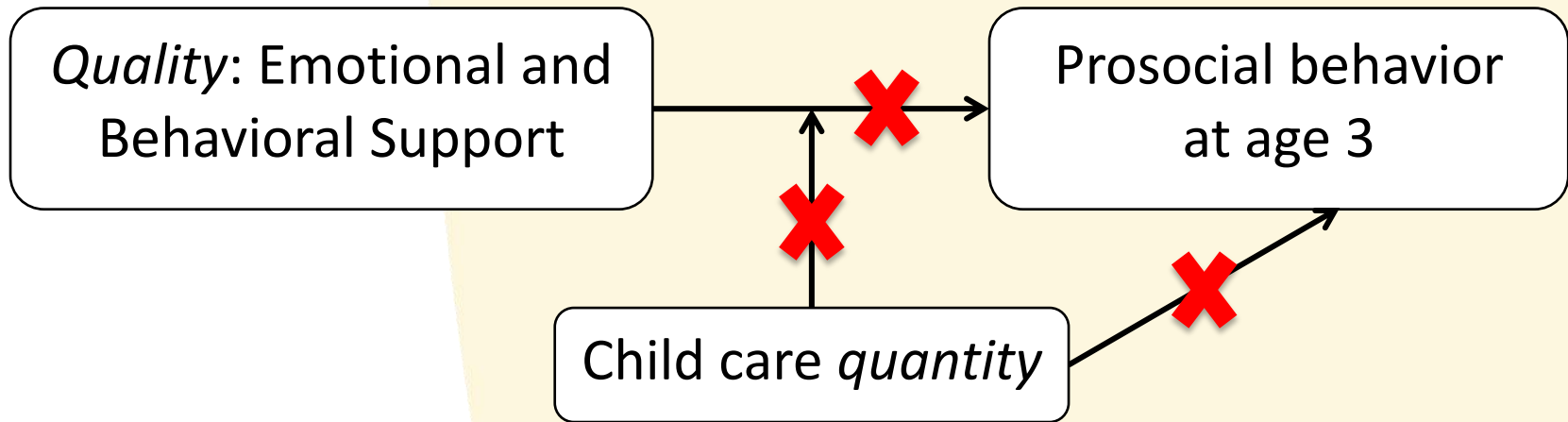
# Strengthening effect of high quantity child care



# Results *Internalizing* – Parent report



# Results *Prosocial behavior* – Parent report





# In summary...

- High levels of child care quantity were related to more teacher-rated externalizing behavior one year later (age 3)
- High levels of child care quality were related to more teacher-rated social competence one year later (age 3)
- No main effects of child care quantity and quality for parent-rated outcomes
- > 2.97 days in child care: High levels of child care quality were related to less parent-rated externalizing behaviors one year later (age 3)  
= ***Strengthening effect***
- **Discussion:** Different results for parent- and teacher-rated outcomes



# Take home message

- *Findings highlight the beneficial impact of child care quality on child social competence in child care*
- *Only when children spent considerable time in care, high quality child care was related to less externalizing behavior at home*
- *Important to consider child care quantity when investigating effects of child care quality*

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