

Individual differences in effects of child care quality: The role of child affective self-regulation and gender

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Background

- NL: 60% increase in the use of child daycare
55% of all children between 0-4 of age
(Statistics Netherlands, 2007; 2011)

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)

→ Similar effects for every child?



Child care quality X Temperament

- **Dual-risk model** (Sameroff, 1983)

Toddlers with a “difficult temperament” were less integrated with peers in lower, but not higher quality child care.

(Gevers Deynoot-Schaub & Riksen-Walraven, 2006)

→ *vulnerability*

- **Differential susceptibility framework** (Belsky, 1997; 2007)

Children with a highly reactive temperament were less socially integrated in lower quality childcare, but also better integrated in higher quality childcare.

(Phillips et al., 2012)

→ *susceptibility*



Differential susceptibility

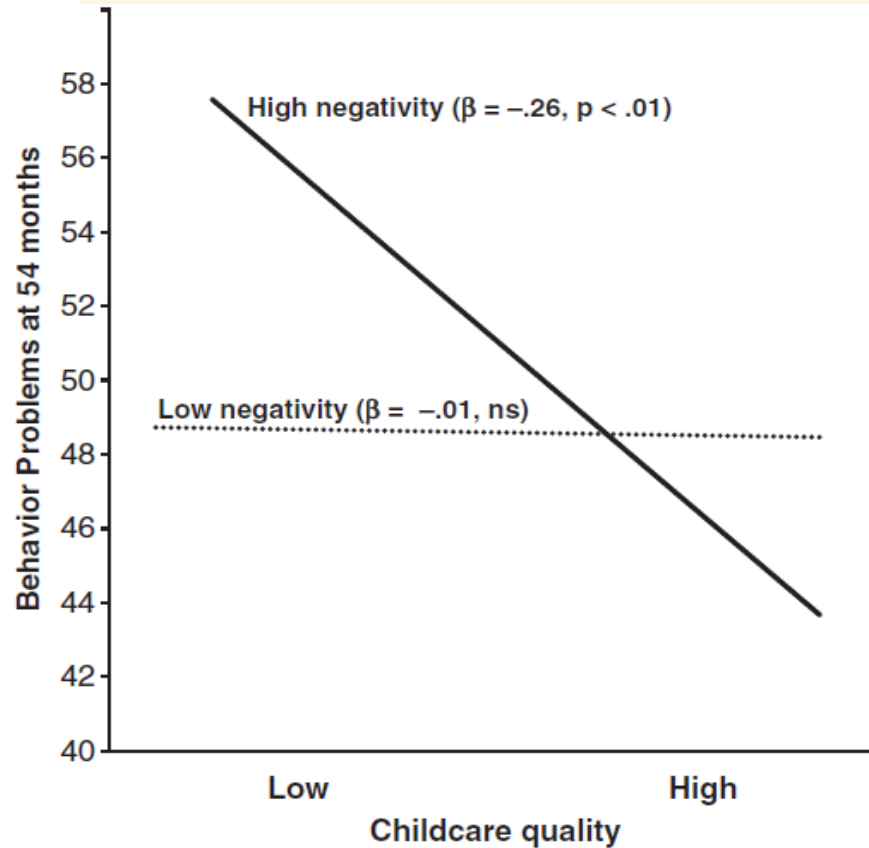


Figure from Pluess & Belsky (2009)



Temperament

“Constitutionally based individual differences in reactivity and self-regulation, in the domains of affect, activity, and attention”.

Reactivity: Responsiveness to change in environment

Self-regulation: Processes like effortful control that modulate reactivity

(Rothbart & Bates, 2006, p. 100)

Individual differences in child **self-regulation** are predictive of:

- Social competence (e.g., Spinrad et al., 2007)
- (less) Behavior problems (e.g., Calkins & Keane, 2009; Kim et al., 2012)
- Academic achievement (e.g., Blair & Razza, 2007)
- Physical health, substance dependence, personal finances, and criminal offending outcomes at age 32 (Moffitt, et al., 2011)



'Cool' vs 'Hot'/Affective Self-regulation

(e.g., Metcalfe & Mischel, 1999; Willoughby et al., 2011; Zelazo & Carlson, 2012)

Cool self-regulation: activated when neutral component needs to be regulated (e.g., motor inhibition or Stroop-like tasks)

→ academic outcomes

Hot/affective self-regulation: activated when an affectively or emotionally salient component needs to be regulated (e.g., delay of gratification tasks)

→ socio-emotional outcomes

(Kim et al., 2013; Willoughby et al., 2011)



Child care quality X Gender

Several studies found no evidence for moderation by gender

(Belsky et al., 2007; Burchinal, Peisner-Feinberg, Bryant, & Clifford, 2000; Keys et al., 2013)

Others found that boys were more *vulnerable* for low quality child care

(Howes & Olenick, 1986; Votruba-Drzal, Coley, Maldonado-Carren, Li-Grining, & Chase-Lansdale, 2010; Votruba-Drzal, Levine Coley, & Chase-Lansdale, 2004)

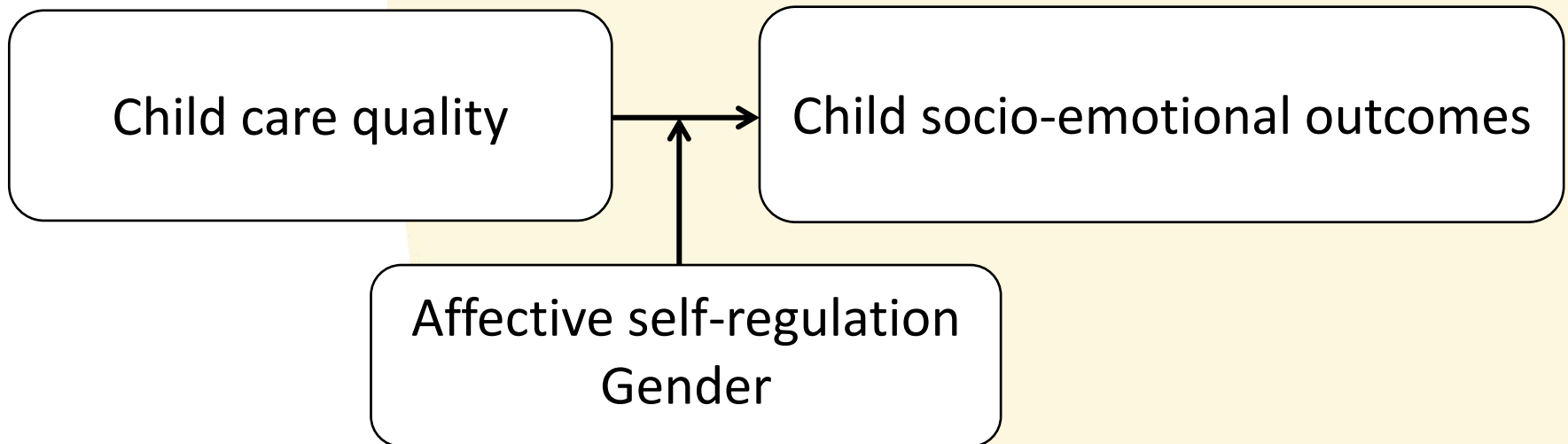
→ Proposed mechanism: Boys have lower self-regulatory abilities, and therefore more strongly need higher quality child care environments as external source of regulation

However, this has never been empirically investigated



Research question

Does the association between child care quality and children's socio-emotional outcomes depend on children's affective self-regulation skills and gender?



Hypotheses: Low aff. self-reg. = vulnerability (or susceptibility)
Boy = vulnerability



Methods – Teacher & Parent model

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

Sample: $n = 545$, M age = 2.3 years, 59 child care centers

Child care quality (T1)

Emotional and behavioral support – live observations

CLASS-Toddler, 80% agreement

Child socio-emotional outcomes (T2)

Externalizing behavior (*teacher + parent*)

Social competence (*teacher*)

BITSEA, α 's from .68 to .86

- **Affective self-regulation (T1)**
Delay of gratification tasks
- **Gender**

Both models:

- Covariates (behavior T1, age, ethnicity, SES, enrollment age 1)
- Multilevel analysis with 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



Affective self-regulation

Two delay of gratification tasks at age 2

adapted from Kochanska et al. (2000) by Dr. Hanna Mulder

1. Snack delay (raisins)
2. Wrapped gift

→ *“I have a nice present for you. You can have it, but first we play a game. I will put the present over here and you may try to not touch it. That’s the game! Ok?”*



Child socio-emotional outcomes (BITSEA)

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

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

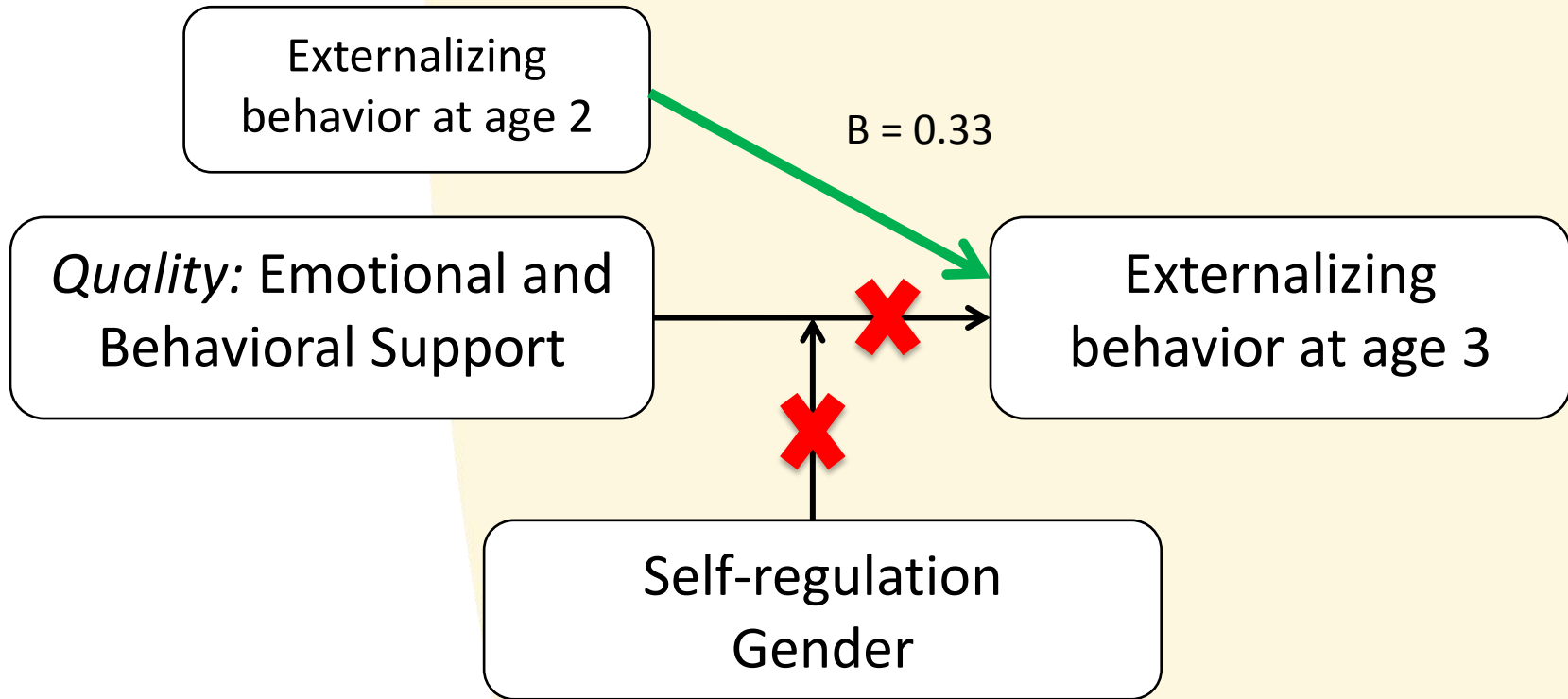
Social competence – 7 items (e.g., helping, sharing)

- ...Plays well with other children
- ...Often offers to help others (parents, teachers, other children)

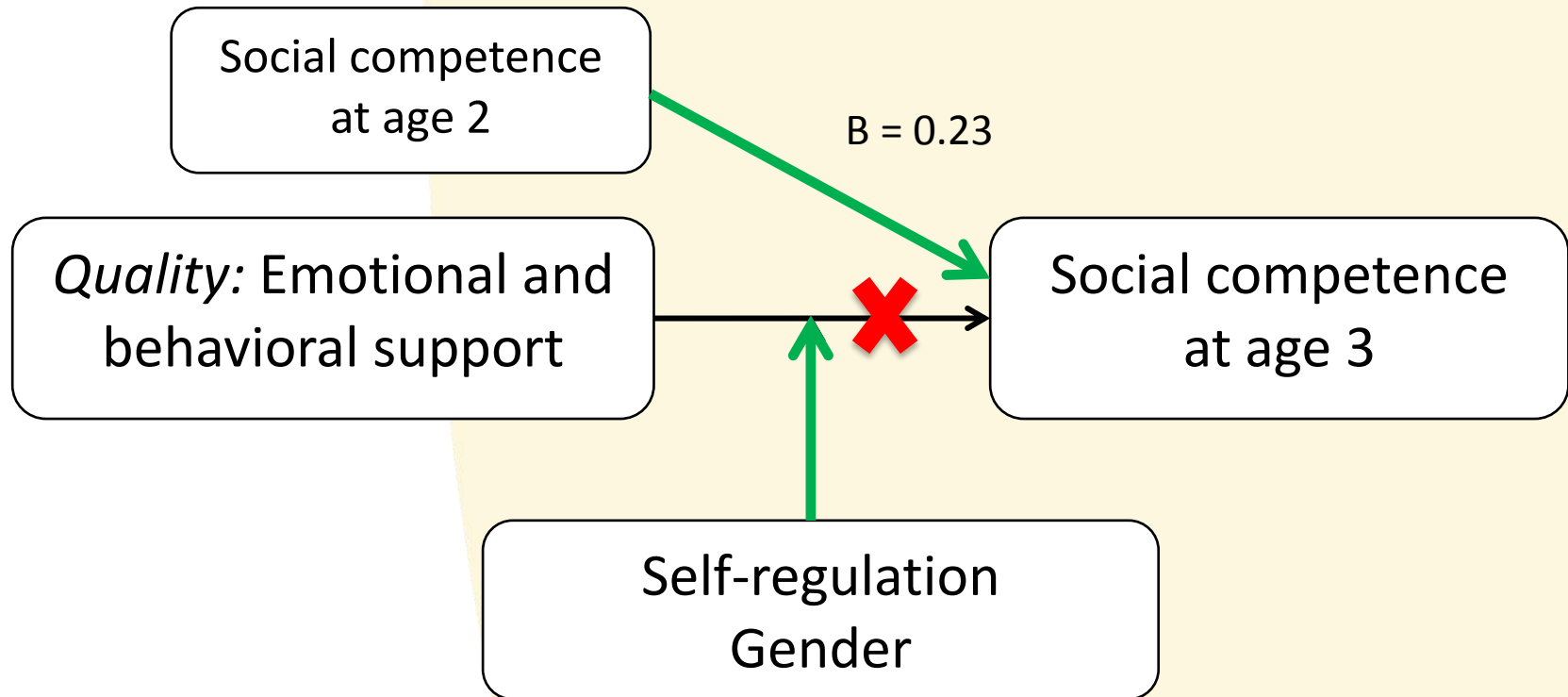
BITSEA (Briggs-Gowan & Carter, 2002)



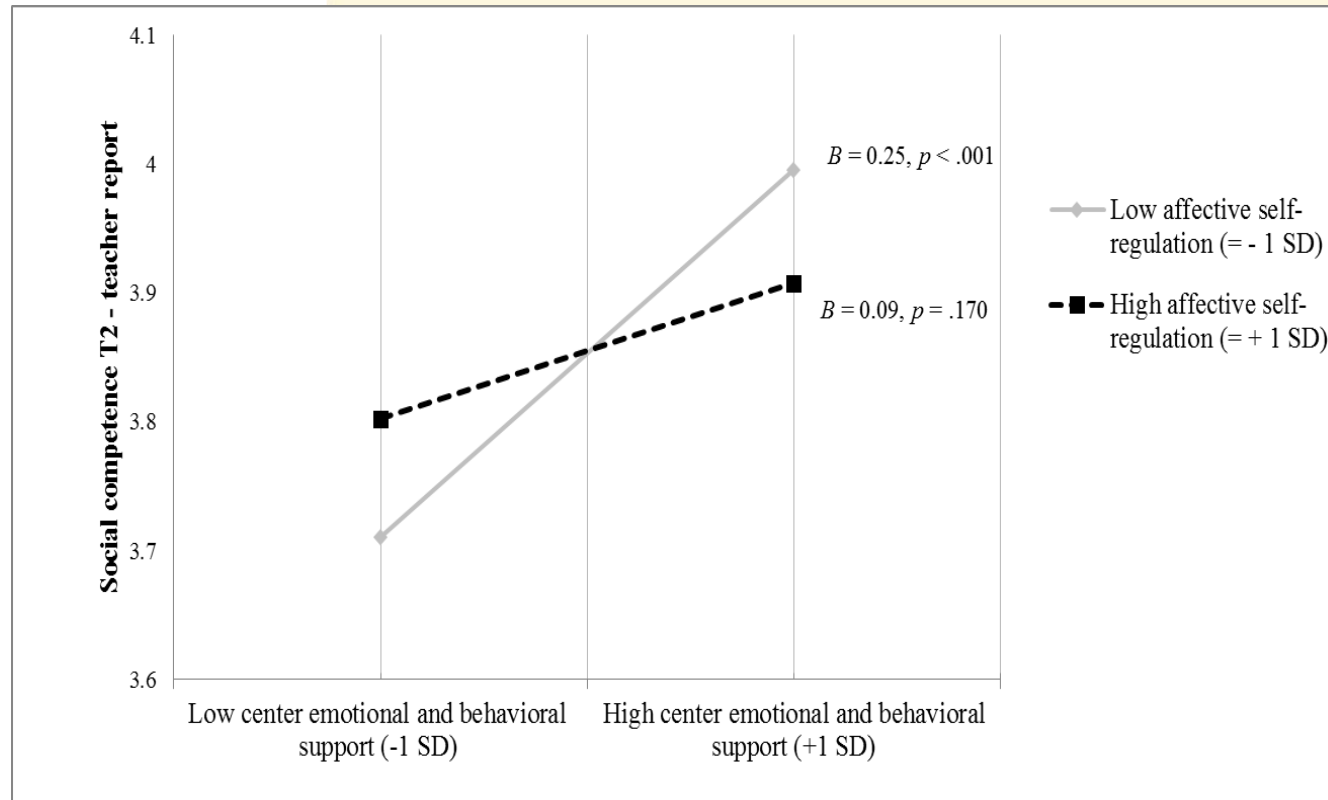
Results *Externalizing* – Teacher report



Results *Social competence* – Teacher report



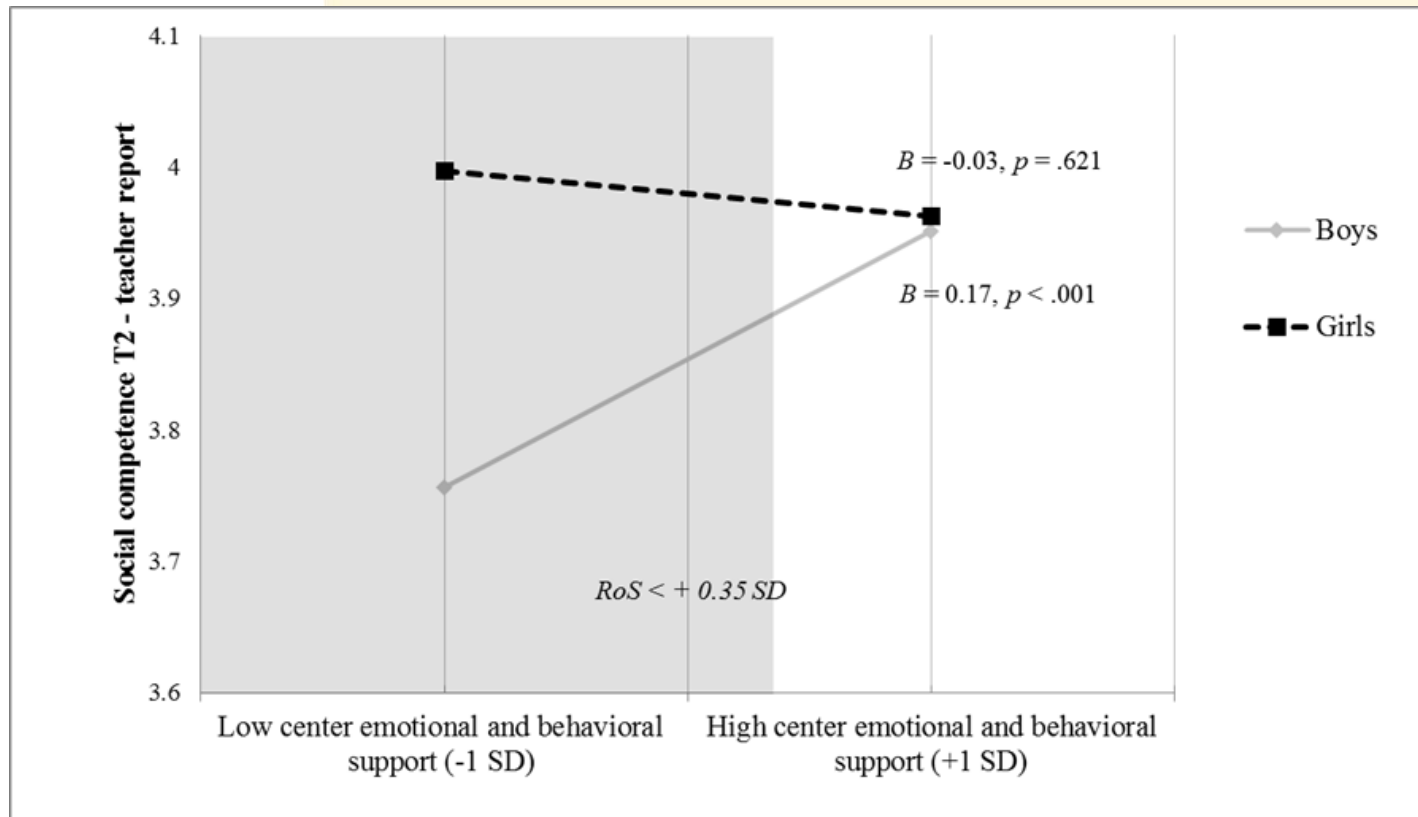
Child care quality x Affective self-regulation



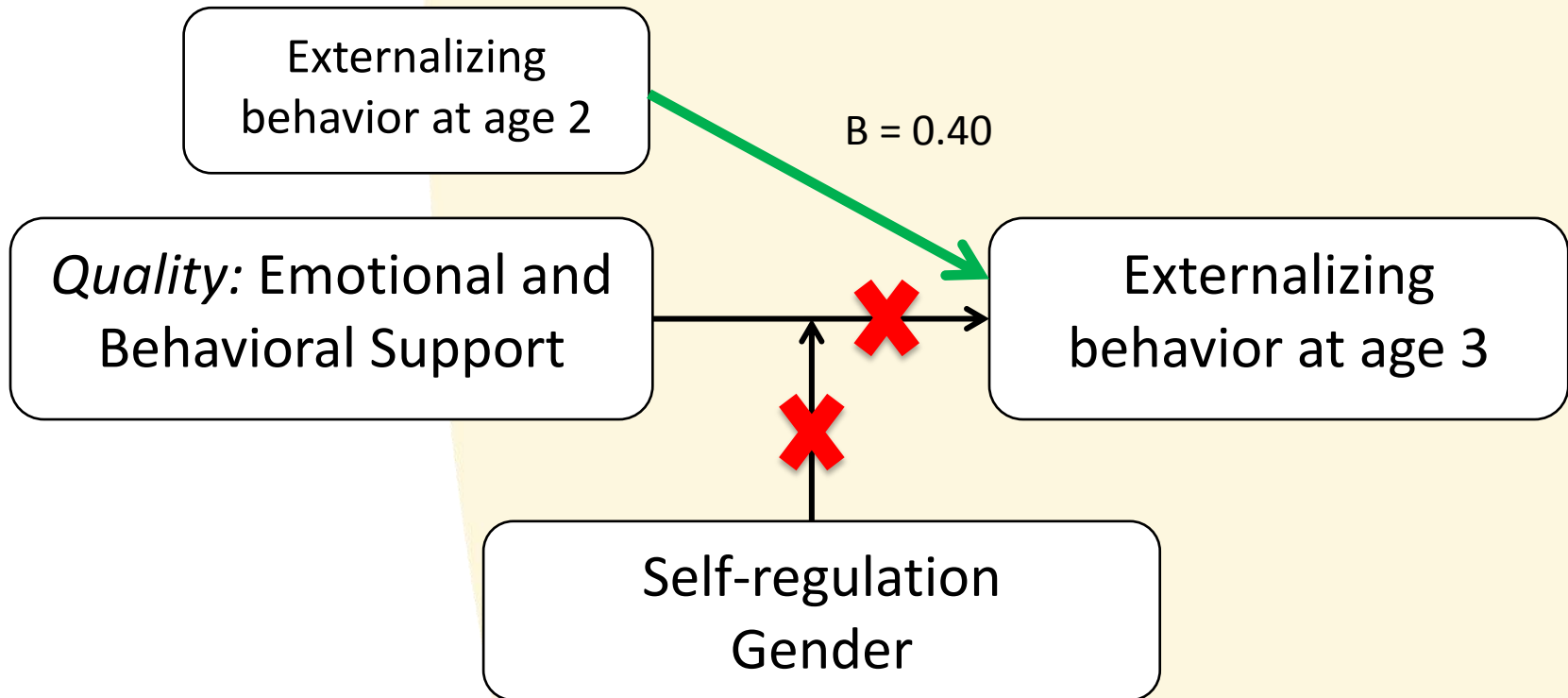
RoS: < -1.40 SD (score EBS < 4.20) and >1.44 SD (score EBS > 5.84)



Child care quality x Gender



Results *Externalizing* – Parent report



In summary...

- For children low on affective self-regulation, lower quality child care was related to less social competence, and higher quality child care was related to more social competence
= *Susceptibility*
- Boys had less social competence than girls, although only in lower quality child care
= *Vulnerability*
- No interactions were found with gender and affective self-regulation for externalizing behavior



Take home message

- *Findings highlight the importance of investigating individual differences in effects of early child care.*
- *High quality child care has a beneficial impact on children's social competence, especially for boys and children with lower affective self-regulation skills*













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Full Length Article

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