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

Martine Broekhuizen
Marcel van Aken
Judith Dubas
Paul Leseman

August 27, 2014 – Earli SIG5, Jyväskylä
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 $\rightarrow$ (small) negative effects
  (e.g., Loeb et al., 2007; NICHD ECCRN, 2006; Vandell et al., 2010)

• High quality child care $\rightarrow$ (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 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?

Child care quality → Child care quantity → Child socio-emotional outcomes

Teacher & Parent reports

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

<table>
<thead>
<tr>
<th>Emotional and Behavioral Support</th>
<th>Instructional Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Climate</td>
<td>Facilitation of learning and development</td>
</tr>
<tr>
<td>Negative Climate</td>
<td>Quality of Feedback</td>
</tr>
<tr>
<td>Teacher Sensitivity</td>
<td>Language Modeling</td>
</tr>
<tr>
<td>Regard for child perspectives</td>
<td></td>
</tr>
<tr>
<td>Behavior Guidance</td>
<td></td>
</tr>
</tbody>
</table>

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

**Quality: Emotional and Behavioral Support**

- Externalizing behavior at age 2
  - $B = .36$

- Child care *quantity*

- Externalizing behavior at age 3
  - $B = .05$
Results *Internalizing* – Teacher report

**Quality:** Emotional and Behavioral Support

- Internalizing behavior at age 2
- Child care *quantity*
- Internalizing behavior at age 3

B = .28
Results *Social competence* – Teacher report

**Quality: Emotional and Behavioral Support**

- Social competence at age 2
  - $B = .22$
- Child care *quantity*

- Social competence at age 3
  - $B = .17$
Results *Externalizing* – Parent report

Externalizing behavior at age 2

Quality: Emotional and Behavioral Support

Externalizing behavior at age 3

Child care *quantity*

\( B = .40 \)

\( B = -.06 \)
Strengthening effect of high quantity child care

![Graph showing the strengthening effect of high quantity child care with statistical information]

- Low emotional and behavioral support (-1 SD): $B = 0.06, p = 0.06$
- High emotional and behavioral support (+1 SD): $B = -0.10, p < 0.01$

Externalizing behavior T2 - parent report

- RoS < 1.27 days
- RoS > 2.97 days

1 day in child care (-1.43 SD)
4 days in child care (+1.82 SD)
Results *Internalizing* – Parent report

**Quality**: Emotional and Behavioral Support

- **Internalizing behavior at age 2**
- **Child care quantity**
- **Internalizing behavior at age 3**

*B = .50*
Results *Prosocial behavior* – Parent report

*Quality*: Emotional and Behavioral Support → Prosocial behavior at age 3

Child care *quantity* → Prosocial behavior at age 3

Child care *quantity* → *Quality*: Emotional and Behavioral Support

Child care *quantity* → *Quality*: Emotional and Behavioral Support

*Quality*: Emotional and Behavioral Support → Prosocial behavior at age 3

Child care *quantity* → Prosocial behavior at age 3

*Quality*: Emotional and Behavioral Support → Prosocial behavior at age 3
In summary...

- High levels of child care \textit{quantity} were related to more teacher-rated externalizing behavior one year later (age 3)

- High levels of child care \textit{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 \textit{quality} were related to less parent-rated externalizing behaviors one year later (age 3) = Strengthening effect

- \textbf{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.

m.l.broekhuizen@uu.nl