

Educational daycare from infancy and externalizing and internalizing behaviors in early childhood: differential effect by children's vulnerability

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Context

- Québec (Canada) = network of regulated daycares offering an educational program for children from birth to school entry, for \$5 per day from families (\$7 per day since 2004).
 - 214,804 children are attending, the majority in non-profit centers (82,671 spots) and homes (91,607 spots).
 - First transition between the family and an educational setting.
 - Educators have the task of ensuring that children acquire behaviors that promote adaptation in a group.
 - This early educational experience could ensure fewer externalizing and internalizing behaviors.

Previous research - non-vulnerable children

- Inconsistency of results

- Higher rates of externalizing or internalizing behaviors

(Côté et al., 2008; Hickman, 2006; Loeb et al. 2007; Van Beijsterveldt, Hudziak & Boomsma, 2005).

- Lower rates of externalizing or internalizing behaviors

(Bigras et al., 2009; Hickman, 2006)

- No differences

(Bacharach & Baumeister , 2003; Bigras et al., 2009; Côté et al., 2008; Van Beijsterveldt, Hudziak & Boomsma, 2005)

- Limits

- Children's vulnerability isn't considered in these results.

Previous research - vulnerable children

- Some focused on children exposed to risk factors in their home.
 - Associated with less-positive socialization processes that place children at a greater risk of following less-favourable trajectories.
 - Educational daycare = compensatory environment?
- Daycare attendance initiated in the first year of life is associated with less externalizing and internalizing behaviors.

(Borge et al. 2004; Côté et al. 2008; Peng & Robin, 2010)

Objective

- This study compare externalizing and internalizing behaviors at 2 and 4 years-old between children, non-vulnerable and vulnerable, attending an educational daycare and those remaining under parental care from their first year of life.

Method

Subjects

- 66 healthy participants recruited between 5-12 months old
 - 45 children in daycare (6 vulnerable)
 - 21 children under parental care (7 vulnerable).

Measures

	1 year old	2 years old	4 years old
Externalizing and internalizing behaviors (CBCL 1.5/5; Achenbach & Rescorla, 2000)		X	X
Type of care (Childcare experience questionnaire; Lemay & Bigras, 2006)	X		
Vulnerability (Family's socioeconomic profile; Bigras, et al., 2008)	X		

Procedures

- 2 X 2 X 2 mixed-design
 - Child's vulnerability (vulnerable or non-vulnerable) and type of care (daycare or parental care) = between-subject
 - Child's age (2 and 4 years old) = within-subject

Results – Externalizing behaviors

Significant interaction between child' age, type of care and vulnerability, explaining 10.83% of the externalizing behaviors variance.

Suggest that the effect of type of care on externalizing behaviors at 2 and 4 years old depend on child's vulnerability.

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η^2
Between-subjects						
Type of care (T)	1	54.66	54.66	0.46	0.50	0.64
Vulnerability (V)	1	970.68	970.68	8.25	0.01*	11.35
T X V	1	232.90	232.90	1.98	0.16	2.72
Error 1	62	7295.98	117.68			
Within-subject						
Age (A)	1	9.41	9.41	0.28	0.60	0.38
A X T	1	131.40	131.40	3.95	0.05*	5.31
A X V	1	0.34	0.34	0.01	0.92	0.01
A X T X V	1	267.84	267.84	8.05	0.01*	10.83
Error 2	62	2063.54	33.28			

† $p < 0.10$; * $p < 0.05$

Results – Externalizing behaviors

- Non-vulnerable children: daycare & parental care = similar low rates.
- Vulnerable children:
 - Daycare = reduction of externalizing behaviors
 - Parental care = increase of externalizing behaviors

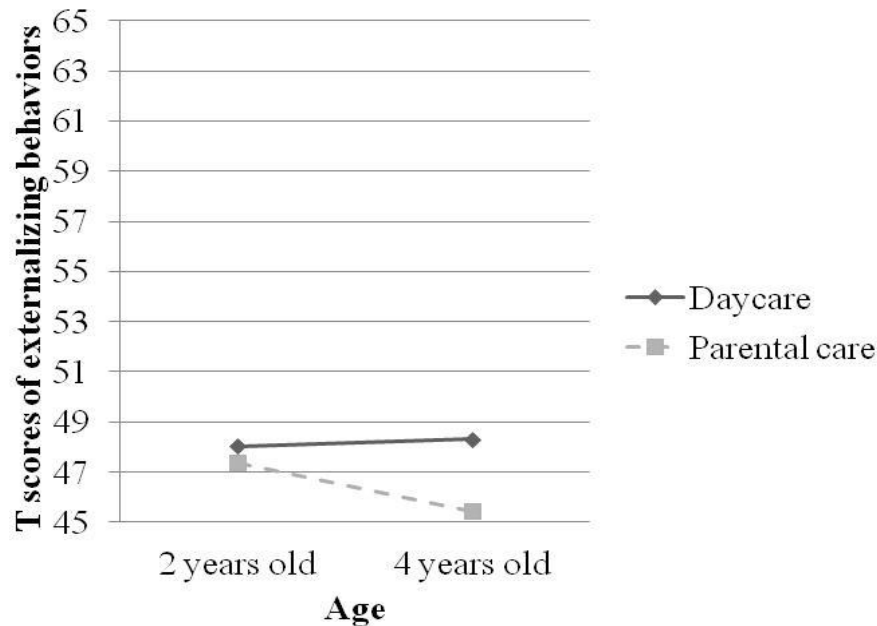


Fig 1. a) Non-vulnerable children

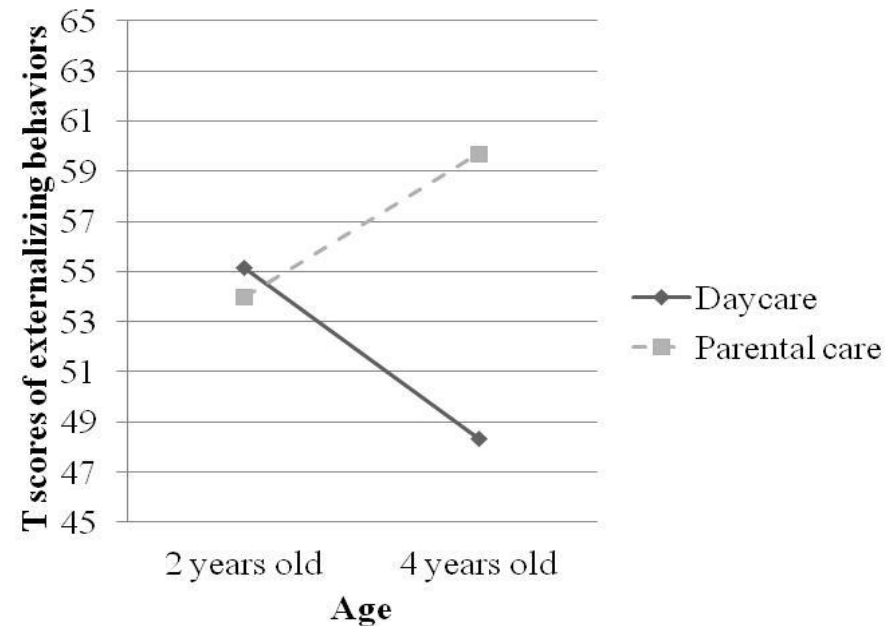


Fig 1. b) Vulnerable children

Results – Internalizing behaviors

Significant interaction between child' age, type of care and vulnerability, explaining 4.52% of the internalizing behaviors variance.

Suggest that the effect of type of care on internalizing behaviors at 2 and 4 years old depend on child's vulnerability.

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η^2
Between-subjects						
Type of care (T)	1	654.16	654.16	5.05	0.03*	6.47
Vulnerability (V)	1	1109.06	1109.06	8.57	0.01*	10.97
T X V	1	321.70	321.70	2.48	0.12	3.18
Error 1	62	8028.02	129.48			
Within-subject						
Age (A)	1	6.27	6.27	0.17	0.68	0.24
A X T	1	149.54	149.54	4.06	0.05*	5.80
A X V	1	18.11	18.11	0.49	0.49	0.70
A X T X V	1	116.53	116.53	3.16	0.08 [†]	4.52
Error 2	62	2285.79	36.87			

[†] $p < 0.10$; * $p < 0.05$

Results – Internalizing behaviors

- Non-vulnerable children: daycare & parental care = similar low rates.
- Vulnerable children:
 - Daycare = higher internalizing behavior at 2 years old, but reduction afterward
 - Parental care = increase in internalizing behaviors

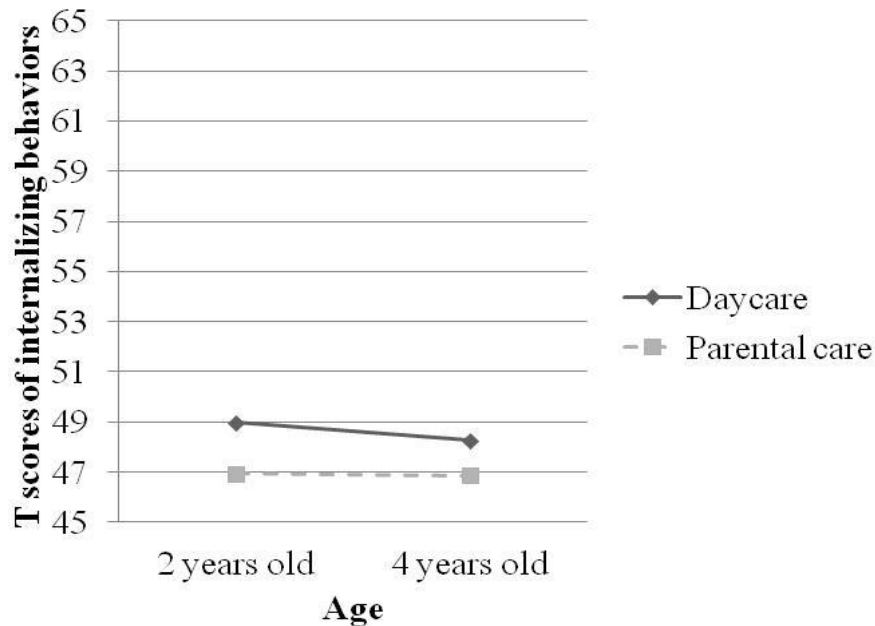


Fig 2. a) Non-vulnerable children

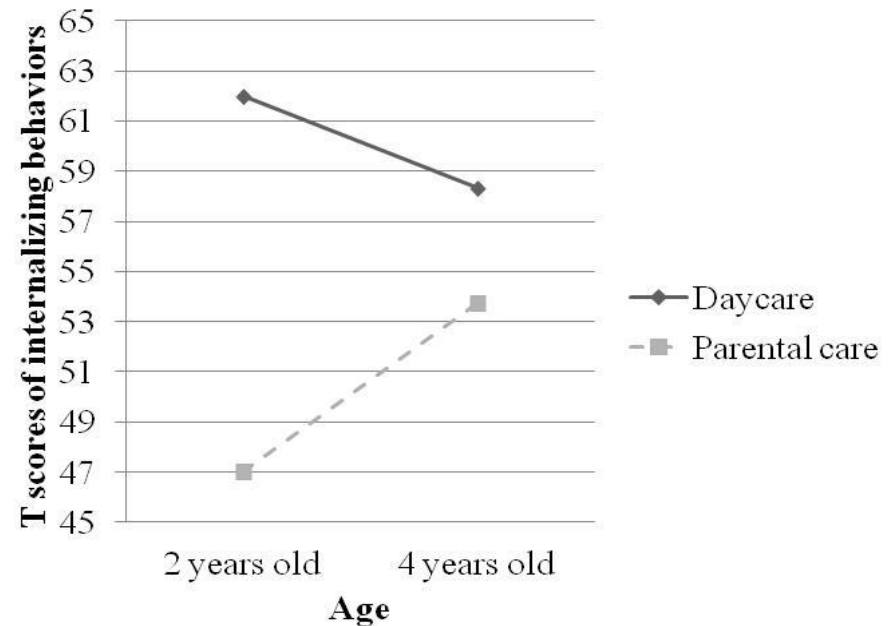


Fig 2. b) Vulnerable children

Discussion

- Effect of type of care on children' externalizing and internalizing behaviors from 2- to 4- year-old is moderated by children' vulnerability.
- Vulnerable children
 - Ecosystemic model = child X environment interactions.
 - Daycare = compensative educational environment.
 - Educators need to adopt practices that create a high-quality environment.

(Gouvernement du Québec,2007)

- Is it always the case?
 - Borderline scores of children in daycare at 2 years old.
 - Educators not as familiar with the internalizing behaviors of vulnerable 2-year-old?

Discussion

- Non vulnerable children
 - No differences between daycare and parental care.
 - A particularity Quebec's network of regulated daycares associated with higher quality?
 - Countries regulating early childhood education tend to offer homogeneous higher quality.
(Sheridan & Schuster, 2001)
 - High quality → less externalizing and internalizing behaviors.
(Crockenberg & Leerkes, 2005; NICHD, 1998)
- Hypothesis
 - Associations with quality of educator's practices still need to be verified.

Conclusion

- This study suggests that:
 - Non vulnerable children - daycare attendance associated with the same normal externalizing and internalizing behaviors as parental care from 2 to 4 years of age.
 - Vulnerable children - daycare attendance associated with a reduction in externalizing and internalizing behaviors from 2 to 4 years of age, but internalizing behavior scores still remain higher.
- Further work → features of the educational experiences that contributed to attain these normal rates.
 - Ensure the socialization goal of the daycare network is fully reached for all children and all types of behaviors.