

**Portfolio Research
Coordinating
Committee -
Income Security and
Social Development**

May, 2021



GRISE

Groupe de recherche et d'intervention
sur les adaptations sociales de l'enfance (GRISE)
de l'Université de Sherbrooke

**Early Childcare Enrollment and the
Pursuit of Higher Education :
A Canadian Longitudinal Study**

Gabrielle Garon-Carrier, Ph.D

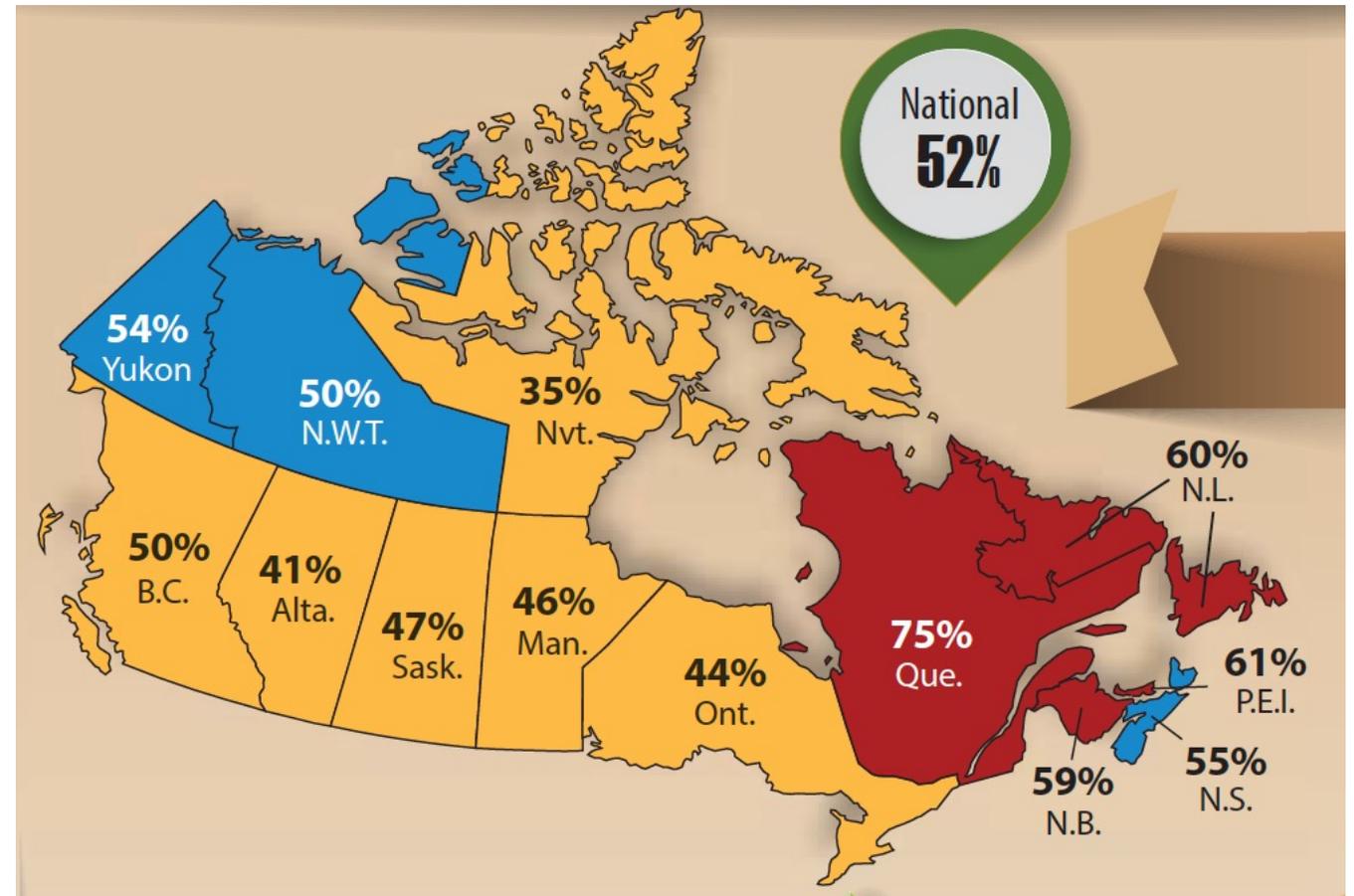
Assistant Professor

Département de psychoéducation

Tier II CRC on school readiness, inclusion and social
adjustment

Early Learning and Child Care in Canada

- ▶ Announcement of \$30 billion over the next 5 years
- ▶ No increase in coverage or use of childcare since the mid-1990s



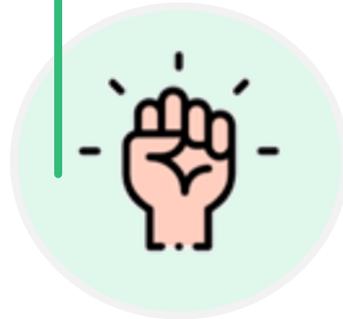
Long-term outcomes of ELCC

Reduce early inequalities

Women on the labor market



Reduce crime and promote health outcomes



Promote the development of early cognitive and social skills



Increase college graduation and annual earnings



Formal vs Informal childcare

Who benefits from childcare?

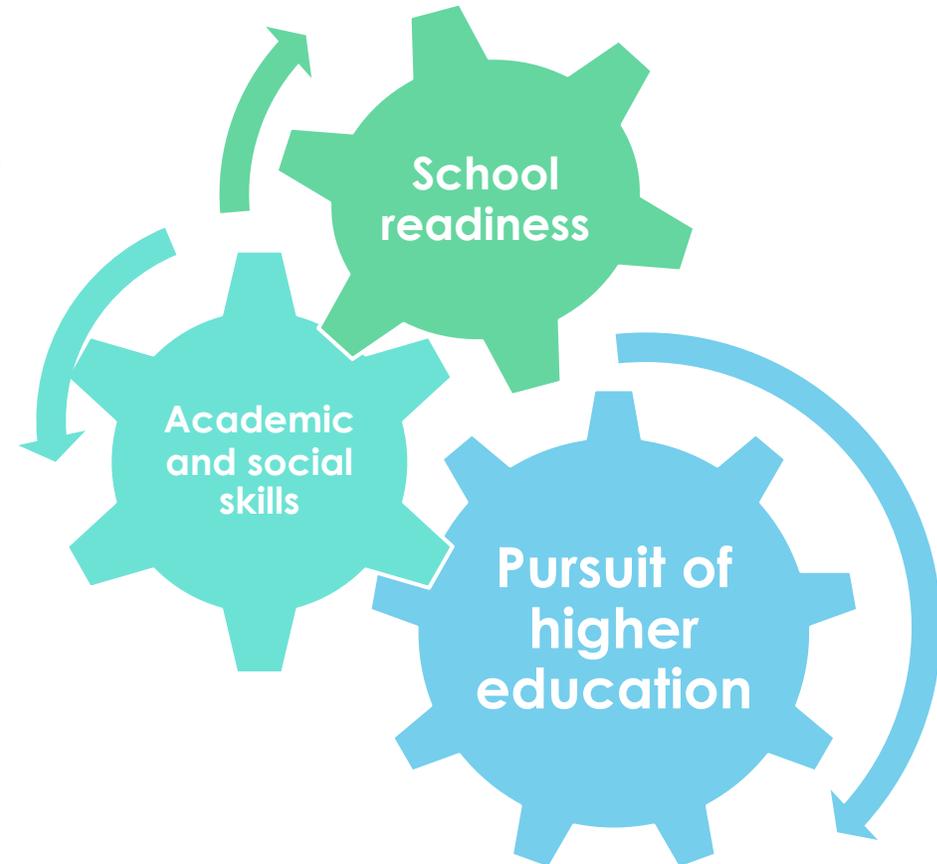
- ▶ **Compensatory hypothesis**
 - ▶ Provide opportunities for learning that may not be available in the home
- ▶ **Loss of resource hypothesis**
 - ▶ Deprive of the stimulation provided by the family by being away of the parents



How is the benefits of childcare maintained?

► Skills-building process (Cunha et al., 2006)

- Benefits of childcare are likely to persist over time because they provide children with the foundational skills necessary for later school and personal success



Objectives

- ▶ **Estimating the causal effect of childcare attendance from 24 to 36 months to postsecondary enrollment**
- ▶ **Exploring the heterogeneity in childcare effects as a function of both childcare arrangements and family characteristics**
- ▶ **Prior academic and psychosocial functioning as mediators of the associations between childcare arrangements and postsecondary enrollment**

Methodology



NLSCY Cycle 1 (N= 1,123)
with data on childcare
attendance at 24-26 months

- 1) Formal childcare
- 2) Informal childcare



Postsecondary
education from
T1FF from
2010 (19-20) to
2015 (24-25)



Social
functioning and
academic
achievement
from ages 8-9
years to 14-15
years



Controls for
demographics
and family
features

Statistical analyses

- ▶ **Estimating the causal effect** : Addressing the social selection bias via PMS and estimating the average treatment effect for the treated (ATT)
- ▶ **Who benefits from childcare?** Interaction terms within the matched samples as a function of :
 - ▶ childcare characteristics (dosage)
 - ▶ the child's sex
 - ▶ the family characteristics (area of living, income, work schedule, work status, work on weekend, educational background)
- ▶ **How is the benefits of childcare maintained?** : SEM with latent variables of academic achievement and psychosocial behaviors at each age

Is childcare attendance predict the pursuit of higher education?

- ▶ Children in formal childcare compared with children attending informal childcare

	ATT	β	CI	<i>p</i>
Higher education (yes/no)	-2.58	-0.093	-0.159; -0.027	.006
Cumulative years of higher education (0 to 6 years)	-1.80	-0.409	-0.814; -0.004	.048

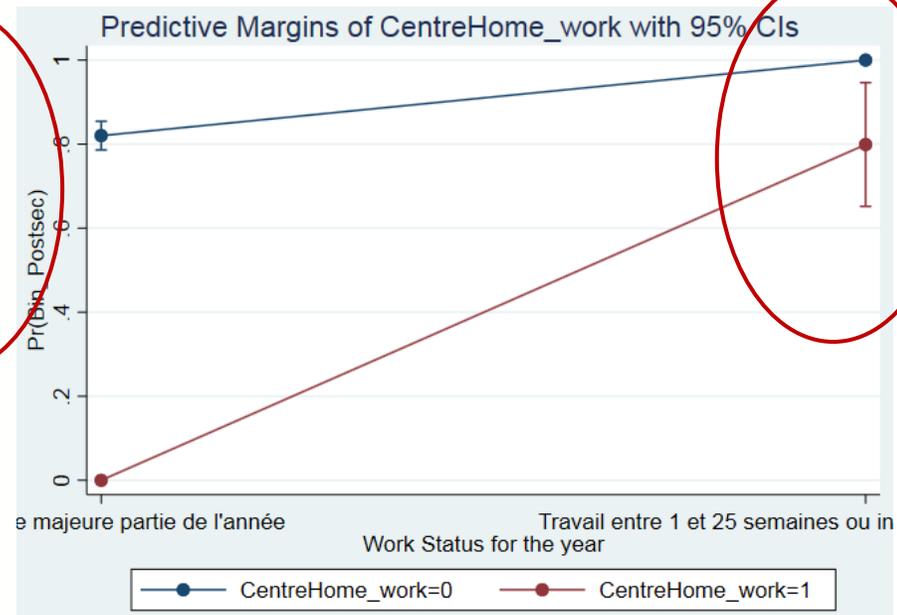
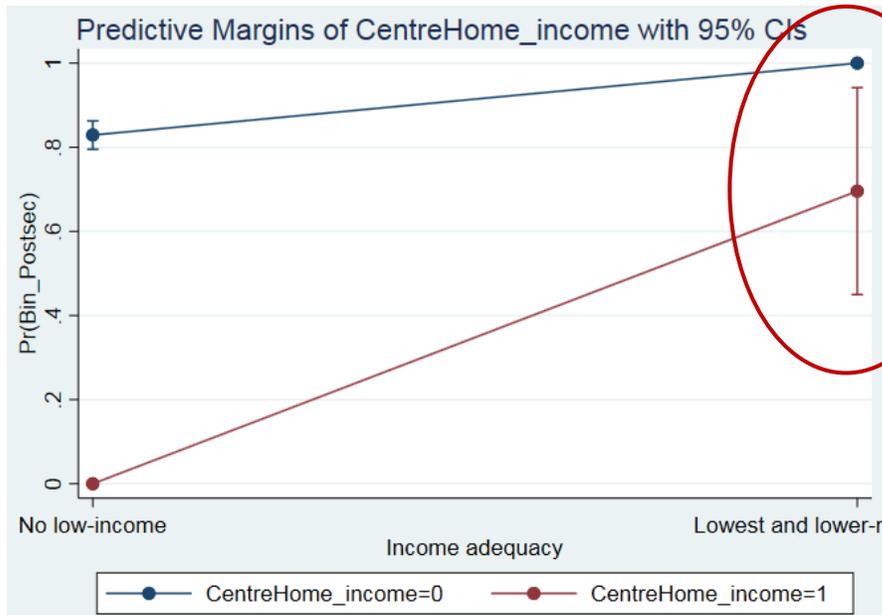
Who benefits from childcare?

- Informal childcare increased the probability of pursuing higher education for all children, whereas formal childcare only increased the probability of pursuing higher education for children from low-income and non-working families

Heterogeneity in associations between participation in formal and informal childcare at ages 24 to 36 months and higher education using matched data.

Covariates	Higher education enrollment (yes/no) (N=469)				Number of years of higher education (N= 479)			
	Coeff	OR	p	95 % CI	Coeff	β	p	95 % CI
Formal childcare (vs informal)	-0.888	.411	.004	-1.49; -2.89	-0.388	-0.087	.032	-0.743; -0.034
Child's sex (female)	1.33	3.78	.000	.722; 1.94	1.32	.227	.000	.963; 1.68
Low income (< 20K/year)	-.309	.734	.612	-1.50; .886	-0.846	-0.082	.026	-1.59; -0.102
PMK unregular work schedule	-.280	.755	.483	-1.06; .503	-.331	-.062	.189	-.826; -.163
PMK work on weekend	-.439	.644	.220	-1.14; .262	.119	.025	.603	-.332; .571
PMK < 25 weeks of work/unemployed	.535	1.71	.325	-.531; 1.60	.500	.068	.123	-.135; 1.14
PMK postsecondary education	1.01	2.75	.001	.394; 1.63	.522	.097	.040	.025; 1.02
Urban area of living	-.213	.808	.489	-.817; .391	.039	.008	.840	-.346; .426
Hour of childcare per week	-0.038	.962	.001	-0.060; -0.016	-.010	-.066	.120	-.024; .003
Childcare × child's sex	-1.11	.328	.150	-2.63; .402	.442	.096	.225	-.272; 1.16
Childcare × household income	-14.81	0.00	.000	-16.64; -12.97	1.12	-.084	.127	-2.55; .317
Childcare × work schedule	.483	1.62	.472	-.833; 1.80	.580	.086	.177	-.264; 1.42
Childcare × work on weekend	.855	2.36	.173	-.374; 2.08	.063	.012	.880	-.756; .882
Childcare × work status	-16.03	0.00	.000	-17.66 -14.39	1.00	-.107	.103	-2.21; .203
Childcare × educational background	-.603	.547	.354	-1.87; .672	-.124	-.029	.802	-1.09; .847
Childcare × area	-1.06	.346	.085	-2.27; .147	-.575	-.134	.144	-1.35; .197
Childcare × hours per week	-.460	.631	.943	-1.09; .169	-.217	-.078	.241	-.583; .147
Constant	2.48	12.00	.000	1.14; 3.83	2.61	--	.000	1.70; 3.51

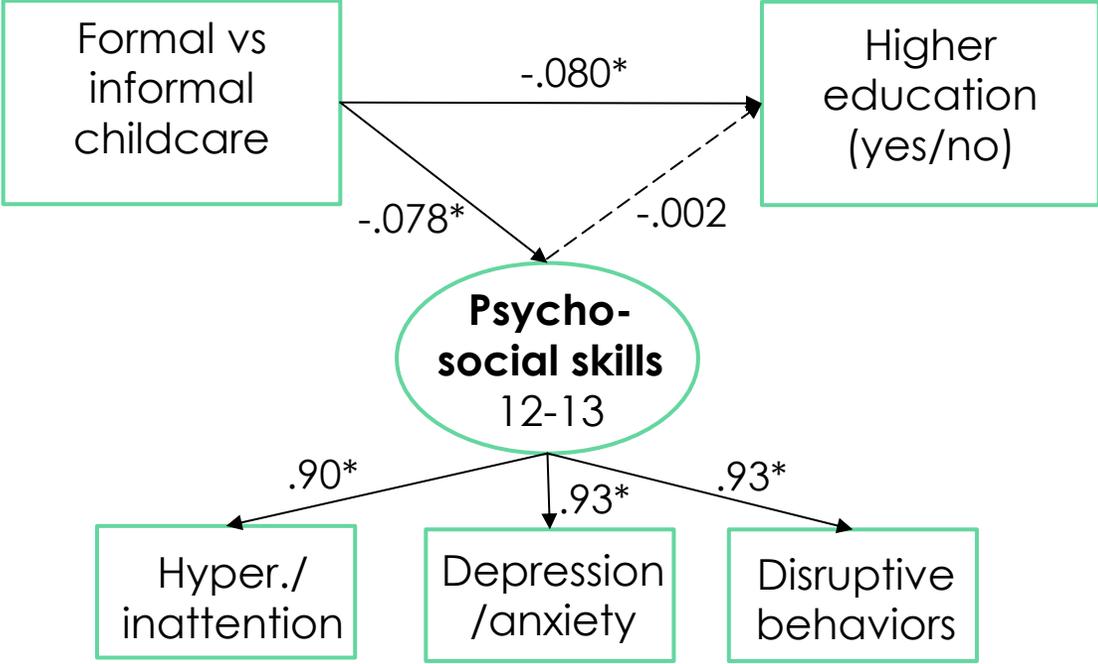
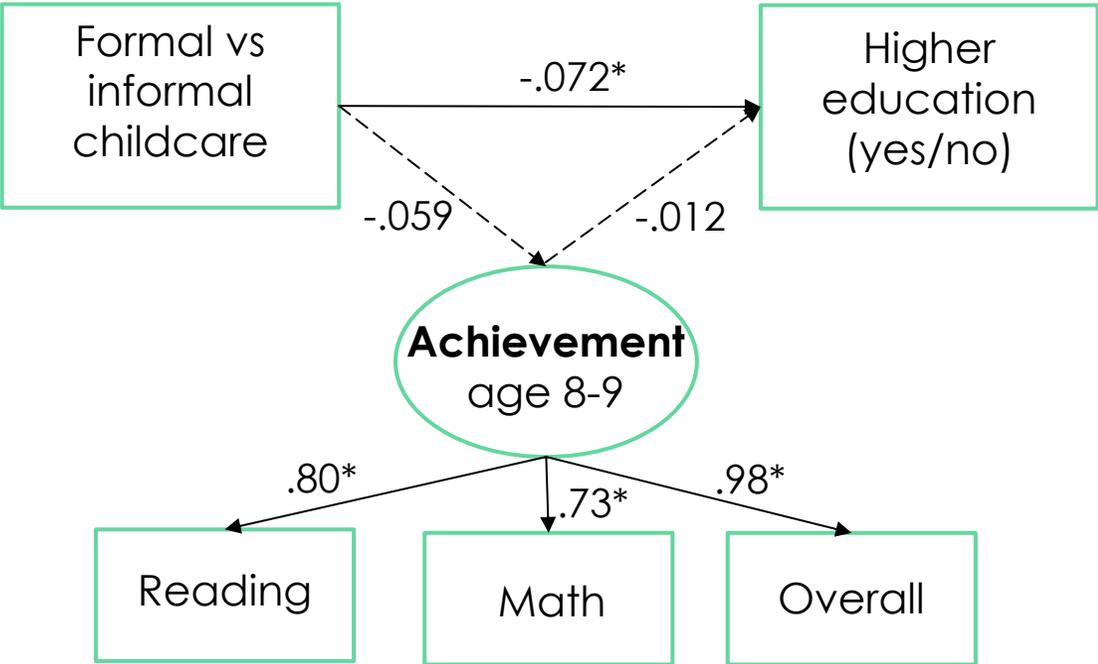
Note. Each interaction was tested separately in regression models. Bolded coefficients were statistically significant.



Who benefits from childcare?

How is the benefits of childcare maintained?

► Example of the SEM



How is the benefits of childcare maintained?

- ▶ Long-term association between informal childcare and enrollment in postsecondary education was not mediated by children/youths' academic achievement or psychosocial functioning.

Age (years)	Effect of childcare via academic achievement			Effect of childcare via psychosocial behaviors		
	Total effect with no mediator	Direct effect with mediator	Indirect effect	Total effect with no mediator	Direct effect with mediator	Indirect effect
8-9	-.072 (.034)*	-.059 (.033)	-.012 (.009)	-.079 (.035)*	-.073 (.036)*	-.006 (.007)
12-13	-.083 (.036)*	-.064 (.034)	-.019 (.012)	-.080 (.034)*	-.078 (.034)*	-.002 (.002)
14-15	-.076 (.036)*	-.057 (.033)	-.019 (.013)	-.061 (.036)	-.060 (.036)	-.000 (.013)

How to made sense of that?

Canada is far from achieving comparable results to those of countries with similar economic and political features

- ▶ No clear long-term advantage for Canadian children of attending formal childcare arrangement
- ▶ Stratification across the country?
- ▶ How childcare attendance, in conjunction with other programs targeting families with young children, could help reducing family and educational inequalities in early childhood?

Questions?

- ▶ Gabrielle.garon-carrier@usherbrooke.ca