

How can research in child development inform early childhood policy and practice?

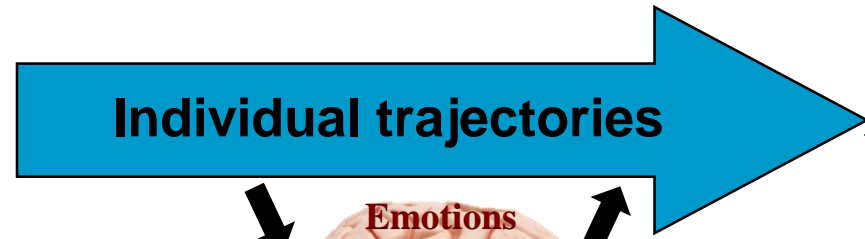
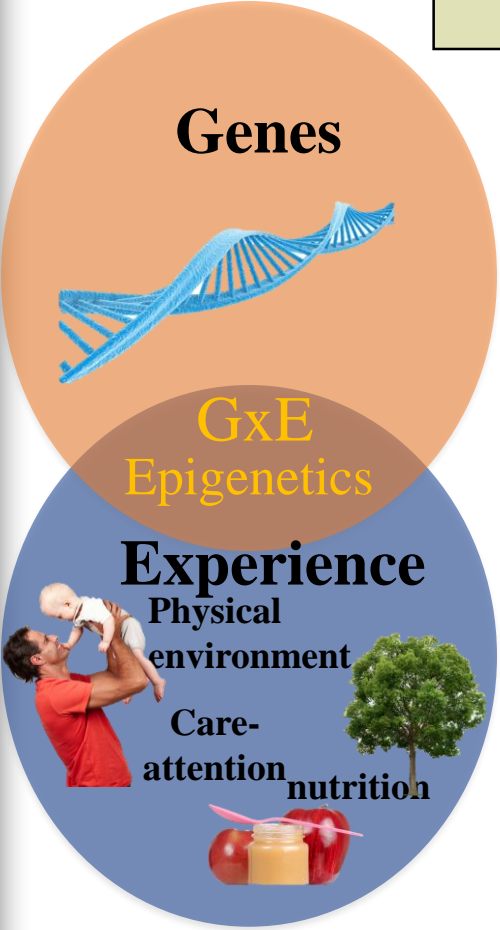
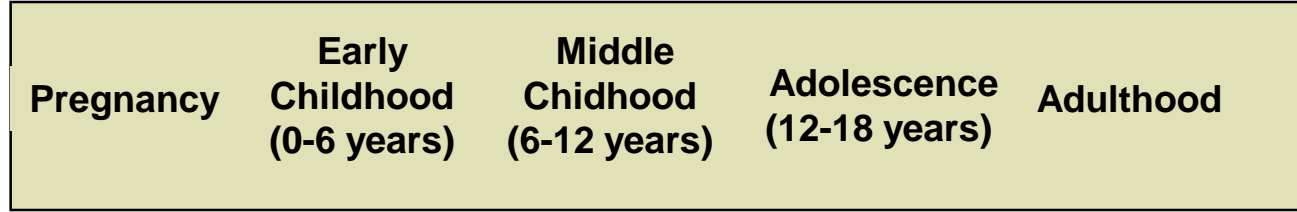
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**Growing ECD Access and Quality:
Opportunities and Challenges**
13th Summer Institute on ECD
George Brown College, Toronto
June 3, 2016

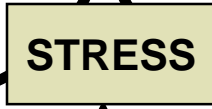
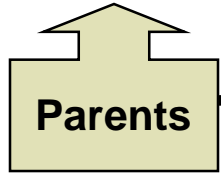


Bio-social model of human development

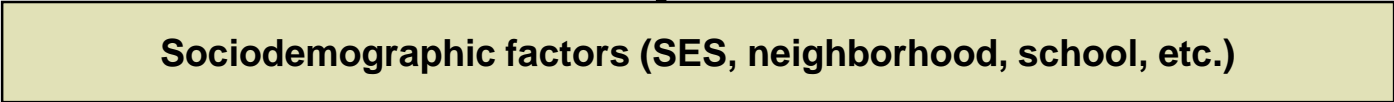
Dynamic GxE interplay



Neglect/abusive parenting

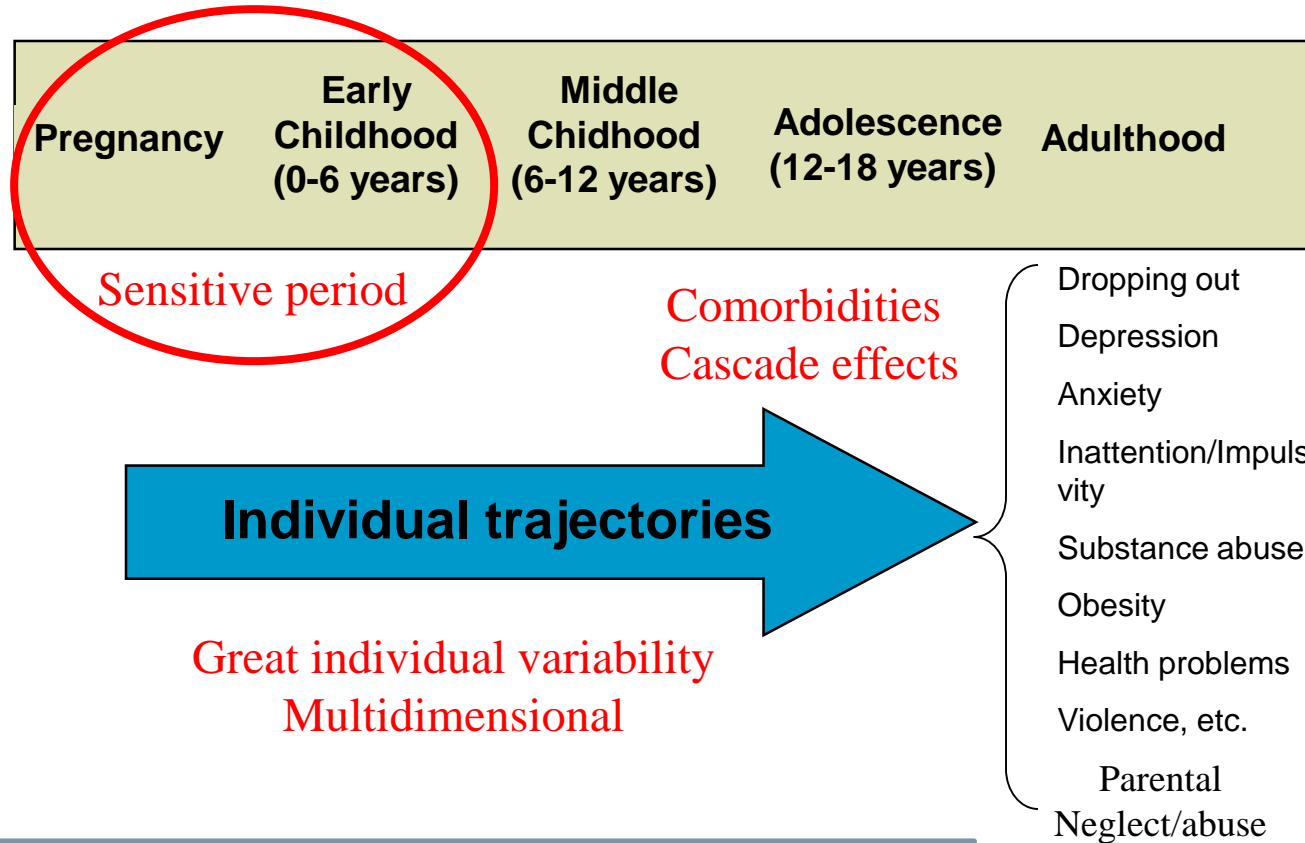


Victimization
Reject
Marginalization



- Dropping out
- Depression
- Anxiety
- Inattention/Impulsivity
- Substance abuse
- Obesity
- Health problems
- Violence, etc.
- Parental Neglect/abuse

Advances in Life course epidemiology (Longitudinal studies)



What's new:

- Ongoing studies extending into adulthood
- New birth cohorts with early assessments
- Biological/genetic & environment information



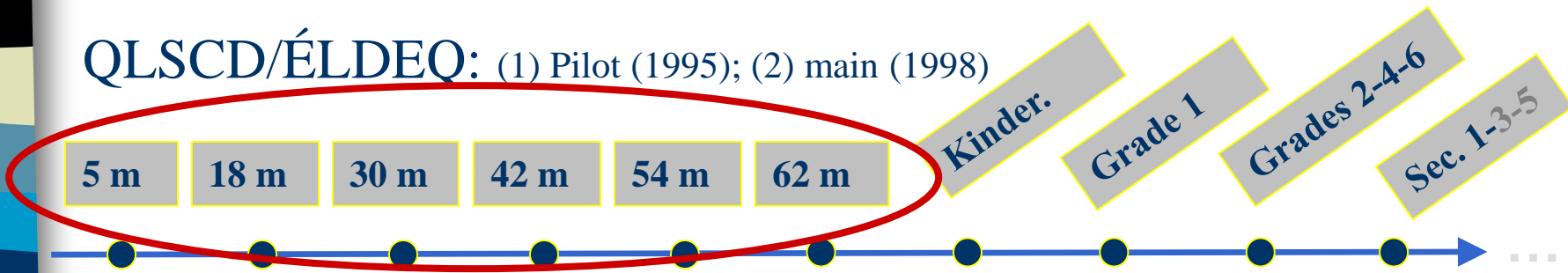
Longitudinal studies inform human development, policies and practices

By documenting:

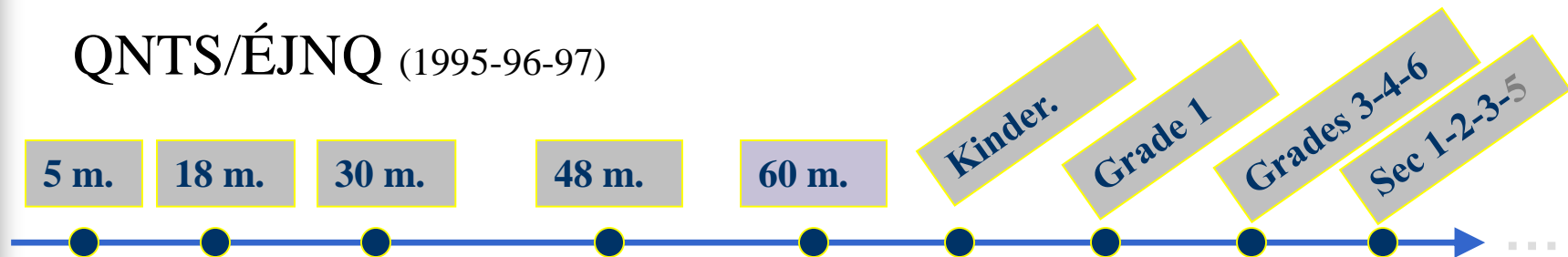
- Developmental trajectories,
- Predictive associations,
- Developmental cascades and processes,
...pointing to important periods of change, and possible targets for intervention.
- the “impact” of ECD programs and policies.
... pointing to policy implications (proportionate universalism, knowledge mobilisation, and *tutti quanti*)

A family of birth cohorts from Québec

QLSCD/ÉLDEQ: (1) Pilot (1995); (2) main (1998)



QNTS/ÉJNQ (1995-96-97)

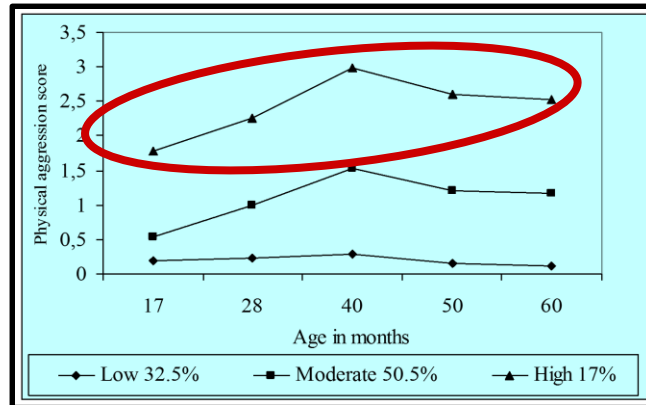


QLSCD (ÉLDEQ): A prospective longitudinal study of 2000 children, starting at the age of 5 months, who were sampled to be representative of all infants between 59 and 60 gestational weeks of age in 1998 in the province of Quebec. Supported \$\$ by the Government of Québec, the L&A Chagnon Foundation, GRIP, and piloted by ISQ.

QNTS (ÉJNQ): A prospective longitudinal study of 630 families of twins of the greater Montreal region. Financed par GRIP: Michel Boivin, Mara Brendgen, Ginette Dionne, Daniel Pérusse, Philippe Robaey, Richard Tremblay, Frank Vitaro et al. (MSSSQ, ISQ-SQ, IRSC, PNRDS, CRSHC, FRSQ, CQRS, FCAR, CLLRnet)

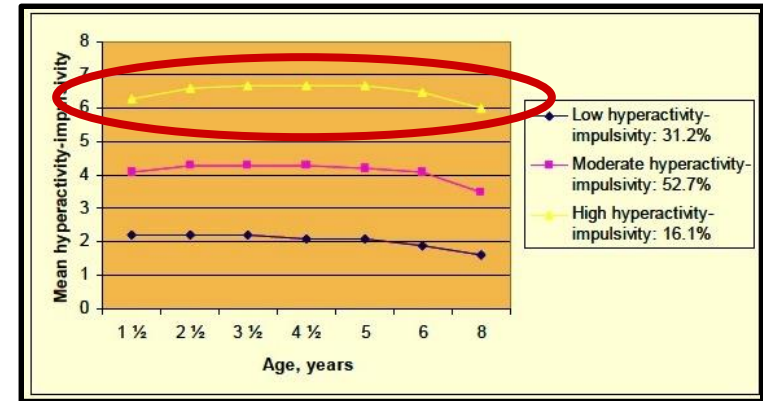
Trajectories of emotional and behavioural difficulties are formed very early in life

Physical aggression



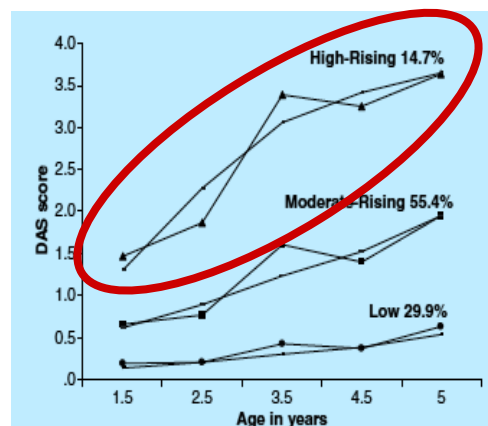
Côté, Boivin, Nagin, Japel, Xu, Zoccolillo, Junger, & Tremblay, AGP (2007).

Hyperactivity



Galéra, Côté, Bouvard, Pingault, Melchior, Michel, Boivin, & Tremblay, AGP (2010).

Anxiety & depression



Côté, Boivin, Liu, Nagin, Zoccolillo & Tremblay, JCPP (2009)

Separation anxiety

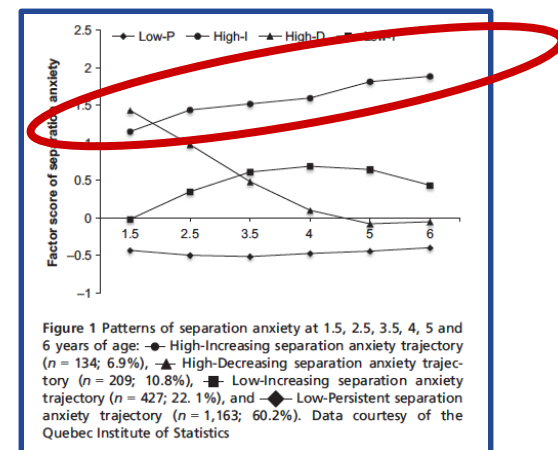


Figure 1 Patterns of separation anxiety at 1.5, 2.5, 3.5, 4, 5 and 6 years of age: ● High-Increasing separation anxiety trajectory (n = 134; 6.9%), ▲ High-Decreasing separation anxiety trajectory (n = 209; 10.8%), ■ Low-Increasing separation anxiety trajectory (n = 427; 22.1%), and ◆ Low-Persistent separation anxiety trajectory (n = 1,163; 60.2%). Data courtesy of the Quebec Institute of Statistics

Battaglia, Touchette, Garon-Carrier, Dionne, Côté, Vitaro, Tremblay, & Boivin (JCPP, 2015)



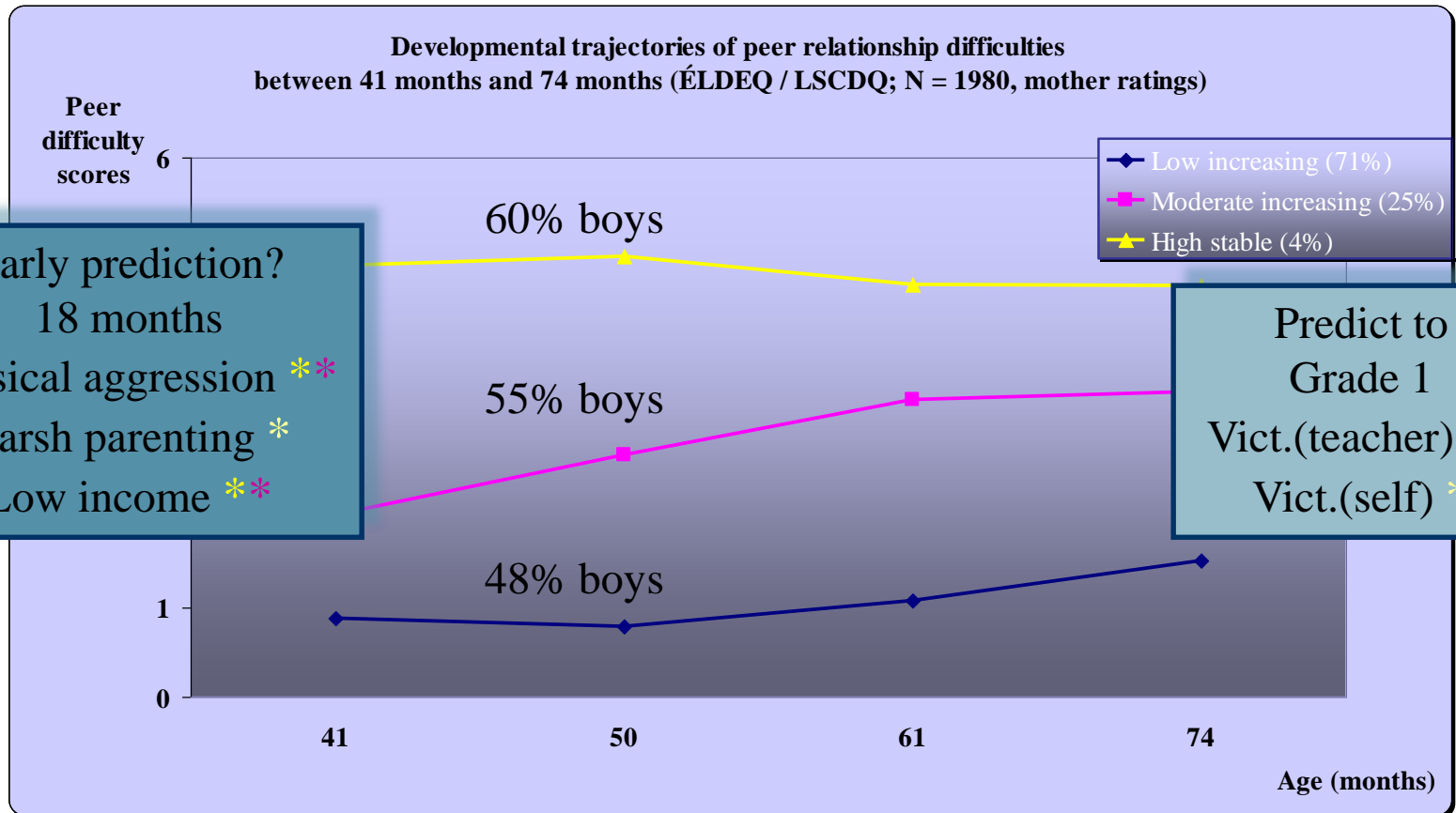
...and are associated with ++ risk factors reflecting adversity

Predictors of a high trajectory of physical aggression

- Male*** (+ genetic risk)
- Maternal depression***
- Conduct problems (mother)***
- Alcohol use (mother)***
- Low perceived self-efficacy***
- Mother not working before 9 months*** (Note: before parental leave policy)
- Having a brother/sister***
- Insufficient income***
- Family dysfunction***
- Other predictors: Poor health at birth*, No high school diploma*, Separated/divorced*.

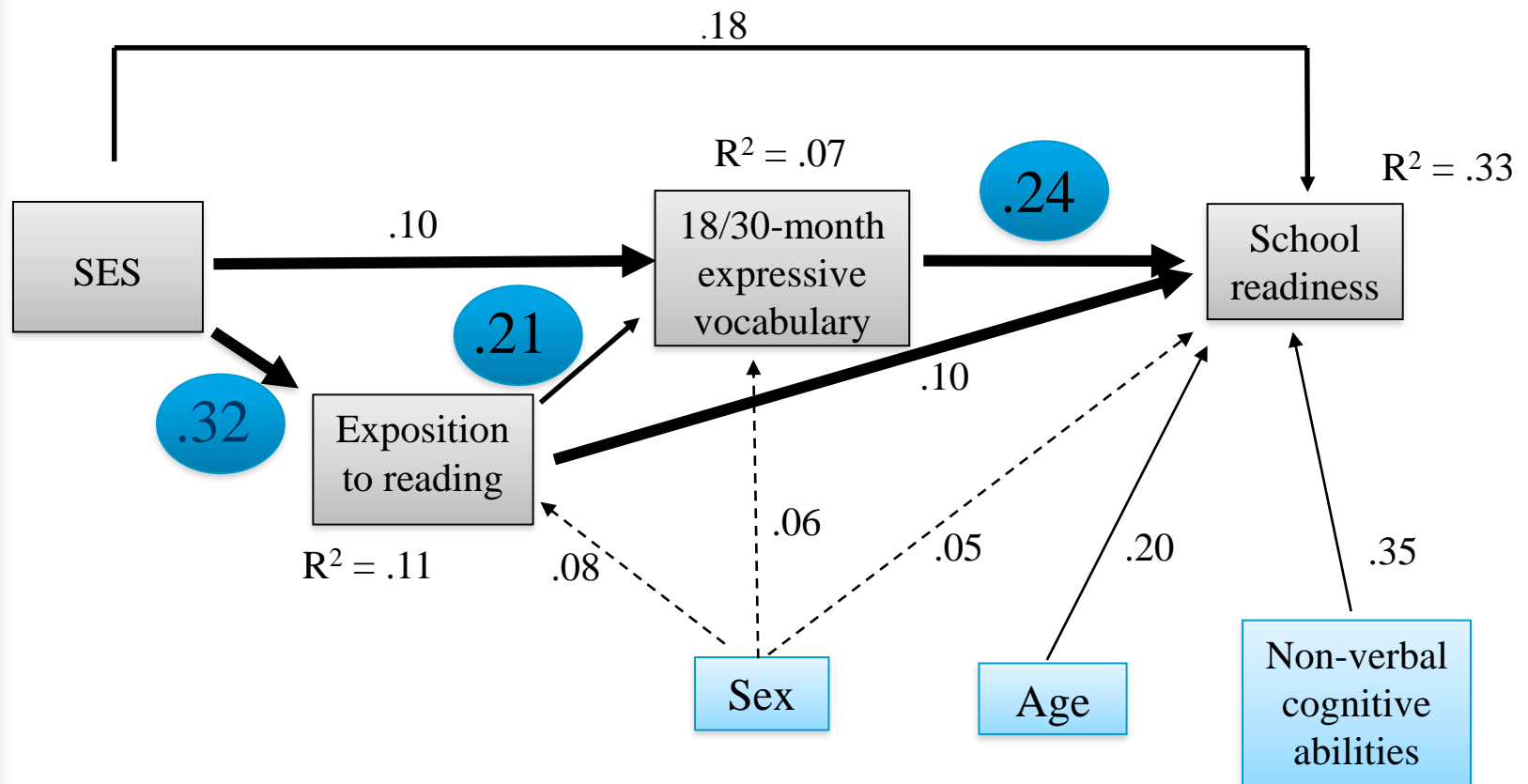
i.e., no single bullet

Developmental trajectories of peer relation difficulties in preschool



Assessing developmental processes

Unpacking SES: exposition to reading, language development and school readiness




Note. $\chi^2 = 10.18$ (DF = 7), $p = .18$; RMSEA = .03 (90% C.I.: .00 - .06); CFI = .99; AIC = 66.18.

Non-significant ($p > .05$) paths are indicated by a dotted line. Relevant correlations between exogenous variables are omitted.

Forget-Dubois, Dionne, Lemelin, Pérusse, Tremblay & Boivin (Child Development, 2009)

Prevention should **start strong in early childhood** before problems get entrenched through cascading effects.



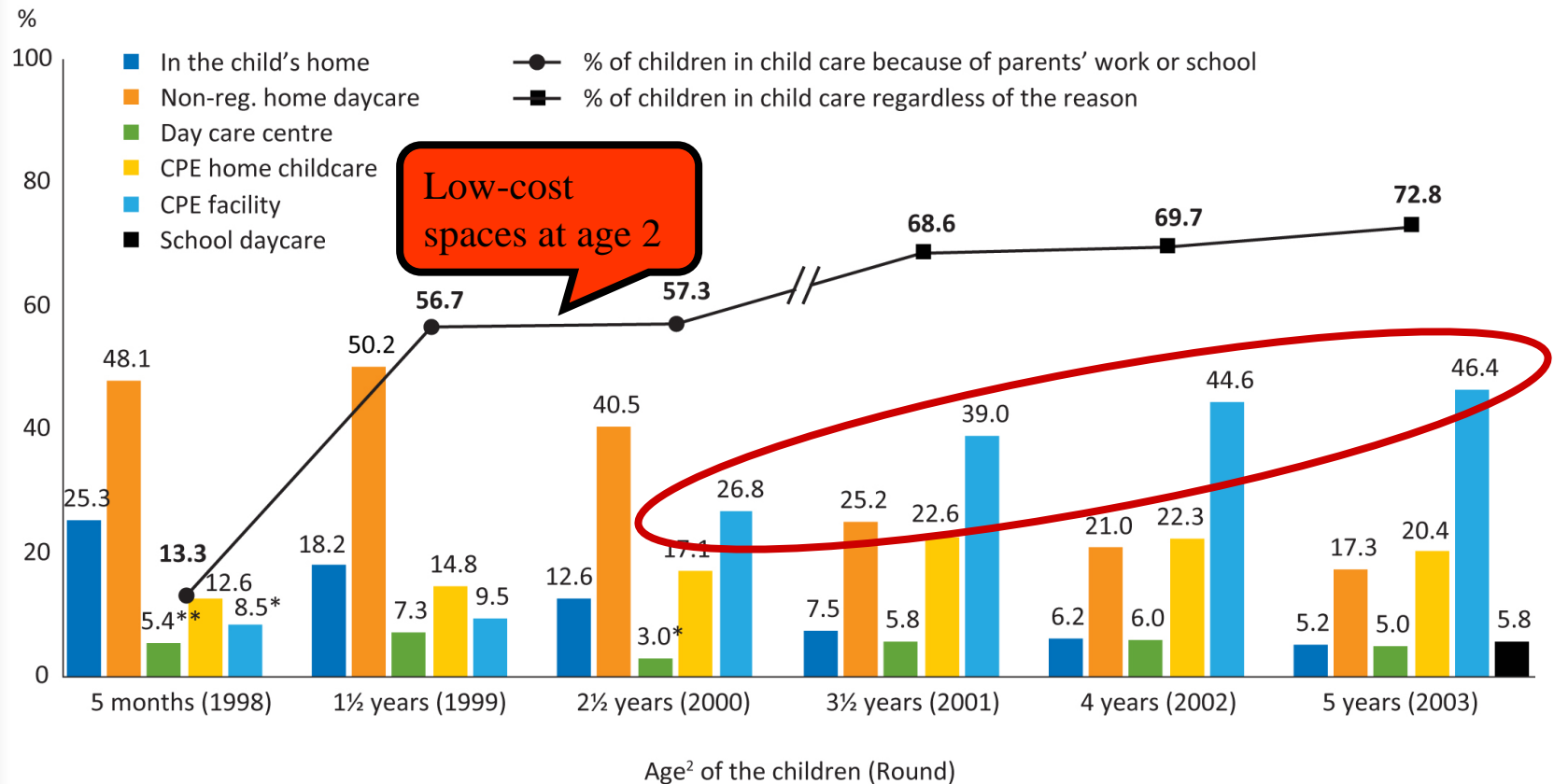
Universal programs can help vulnerable children
A case in point:
The Québec subsidized low-cost child-care system



Milestones in the establishment of the Québec subsidized low-cost childcare system

- 1997 : Creation of *Ministère de la famille et de l'enfance* and new family policy measures, including the gradual implementation of low-cost (\$5 / day) educational childcares for young children.
 - Children aged 4 (1997), aged 3 (1998), aged 2 (1999), aged less than 2 (2000).
 - Curriculum centered on **play**, and aimed at ++ **components of development**.
- 2004 : Parent contribution raised to 7\$/day
- 2006 : New universal parental leave program (more accessible, flexible, generous)
- 2012: total of 217,842 spaces in regulated/subsidized childcare (235K in 2016)
 - 1435 CPE (85,046) , 651 daycares (41,171), 164 offices family-cares (91,626)
 - 596 non-subsidized daycares (31,935)
- 2015: Parent contribution raised, adjusted to income (max \$20 / day).

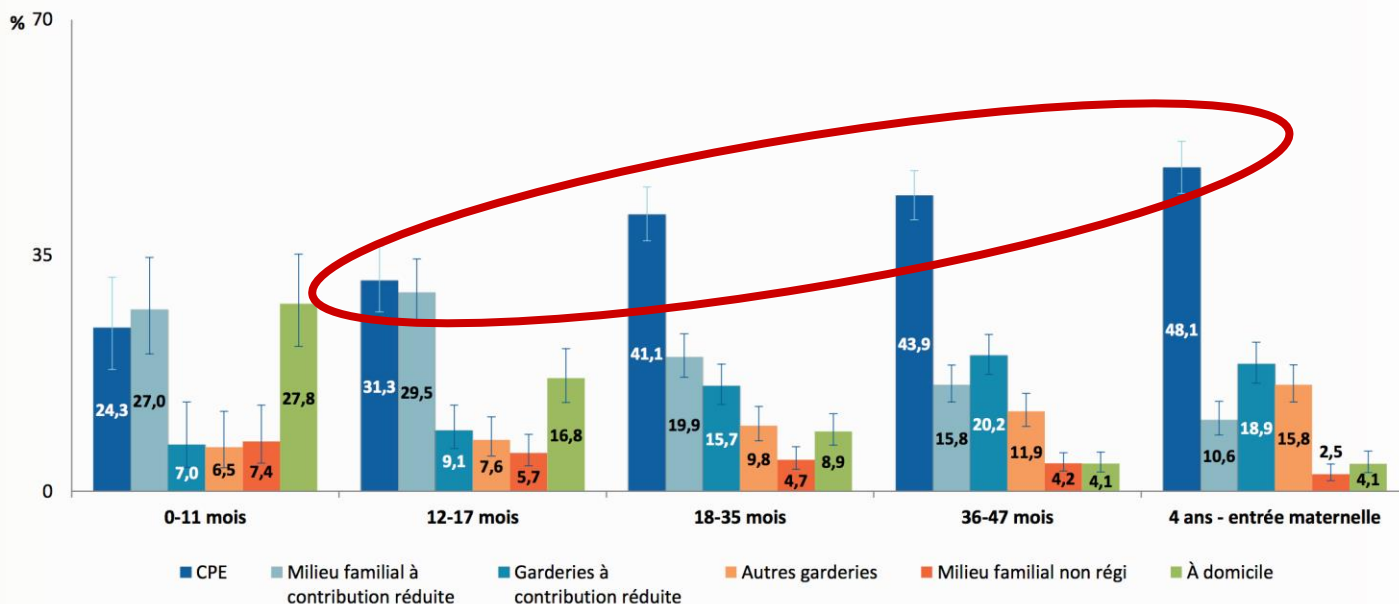
Proportion of ÉLDEQ children attending various types of childcare 1998-2003



Enquête montréalaise sur l'expérience préscolaire des enfants de maternelle (EMEP, 2012)

Figure 3

Répartition des enfants de maternelle gardés au cours de la petite enfance selon le principal mode de garde utilisé à chaque période d'âge, Montréal, 2011-2012



Source : Enquête montréalaise sur l'expérience préscolaire des enfants de maternelle, 2012.

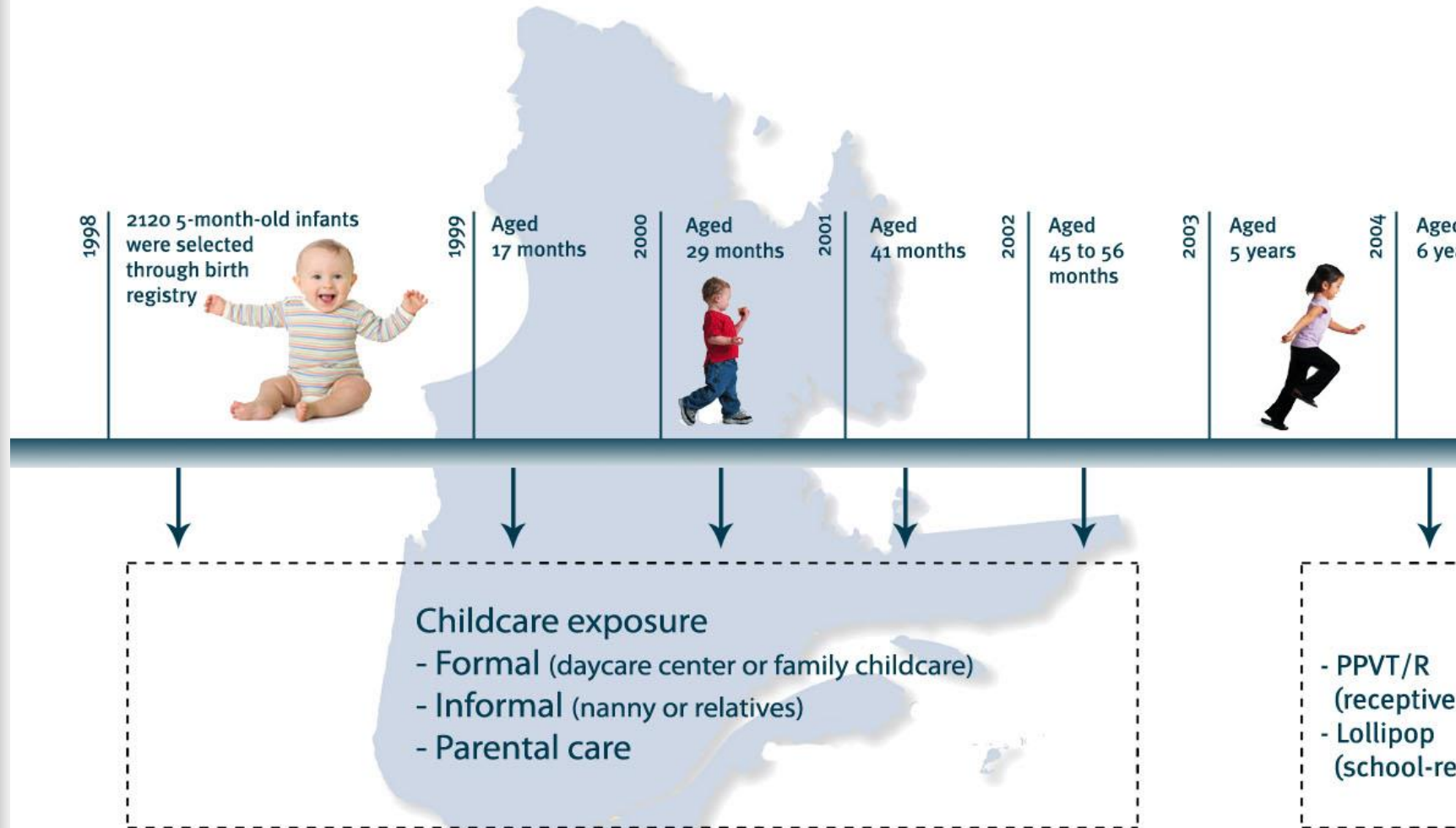


The challenge of evaluating a universal childcare program e.g., Baker, Gruber, Milligan (working paper, 2015)

- Used series of cross-sectional surveys to track how children in Quebec performed socially and academically since the introduction of the program;
- Found increased non-cognitive problems (versus non-Quebec children); anxiety, aggression, hyperactivity (crime??), especially for boys;

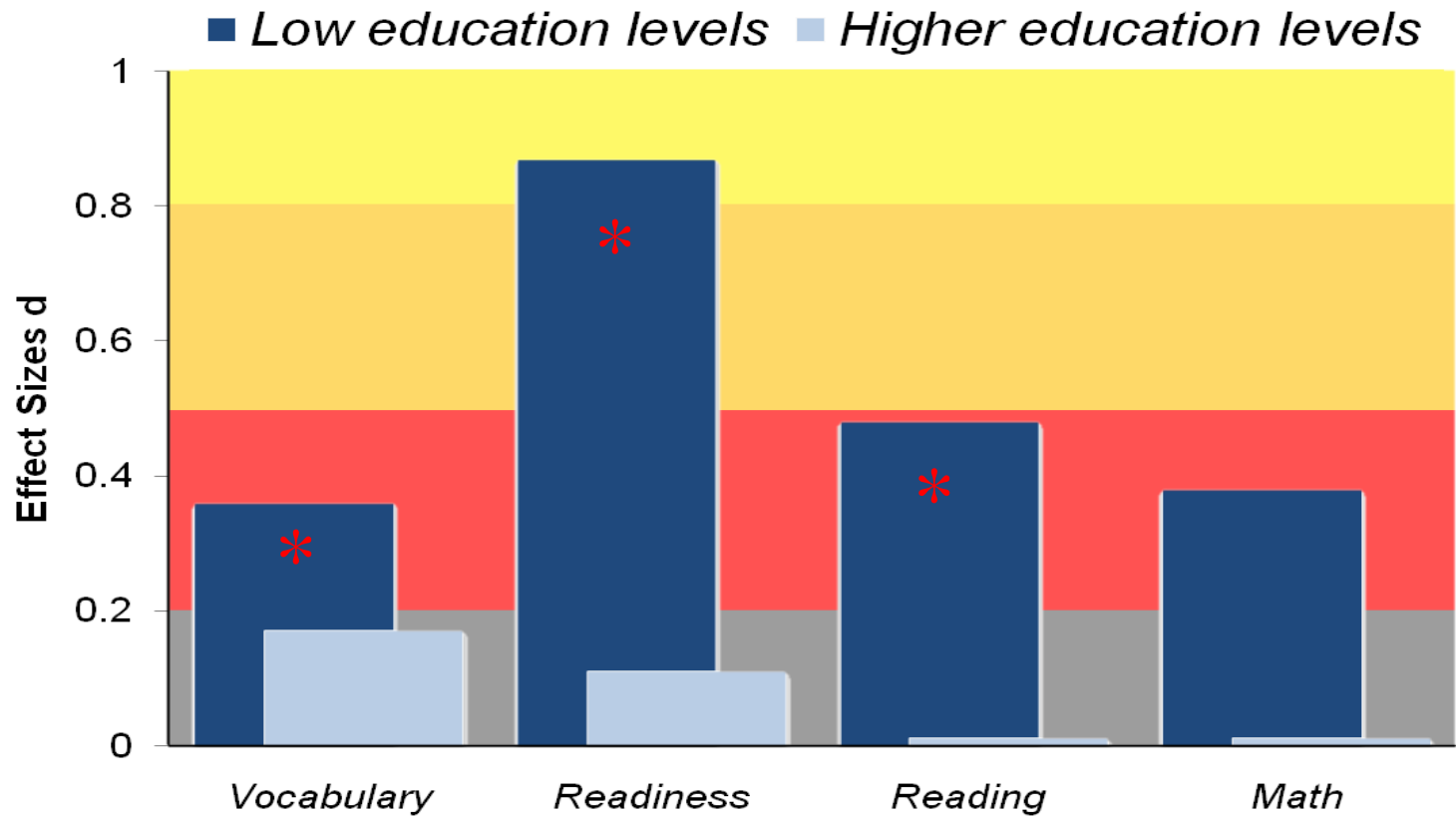
BIG CAVEATS: Used population level indicators, i.e., **all children eligible for childcare, not those who went; Did not evaluate variation in use of daycare**, i.e., type, intensity, timing

Assessing childcare in ÉLDEQ/QLSCD: PMK interview (i.e., mothers) about use/type of childcare



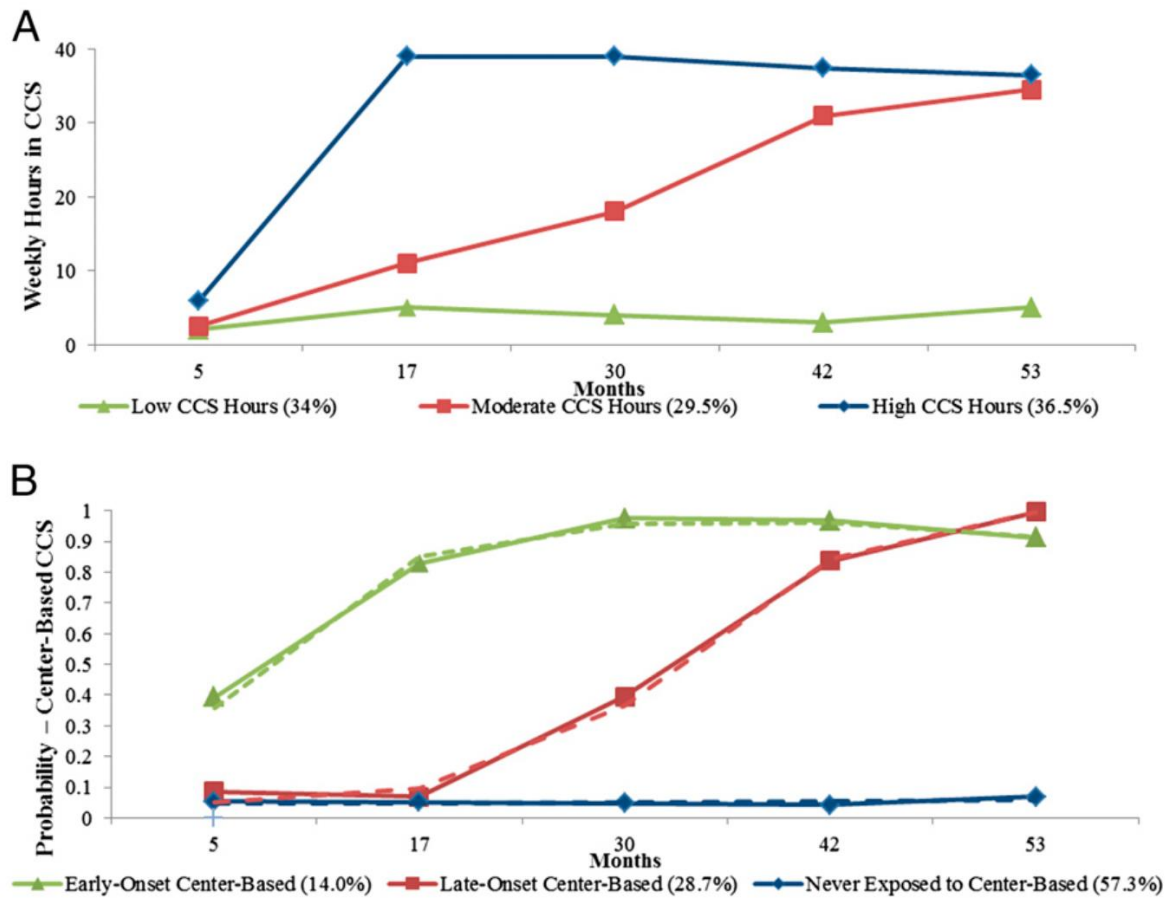
Cognitive school readiness: daycare « protects » children from low education background

Formal versus parental daycare



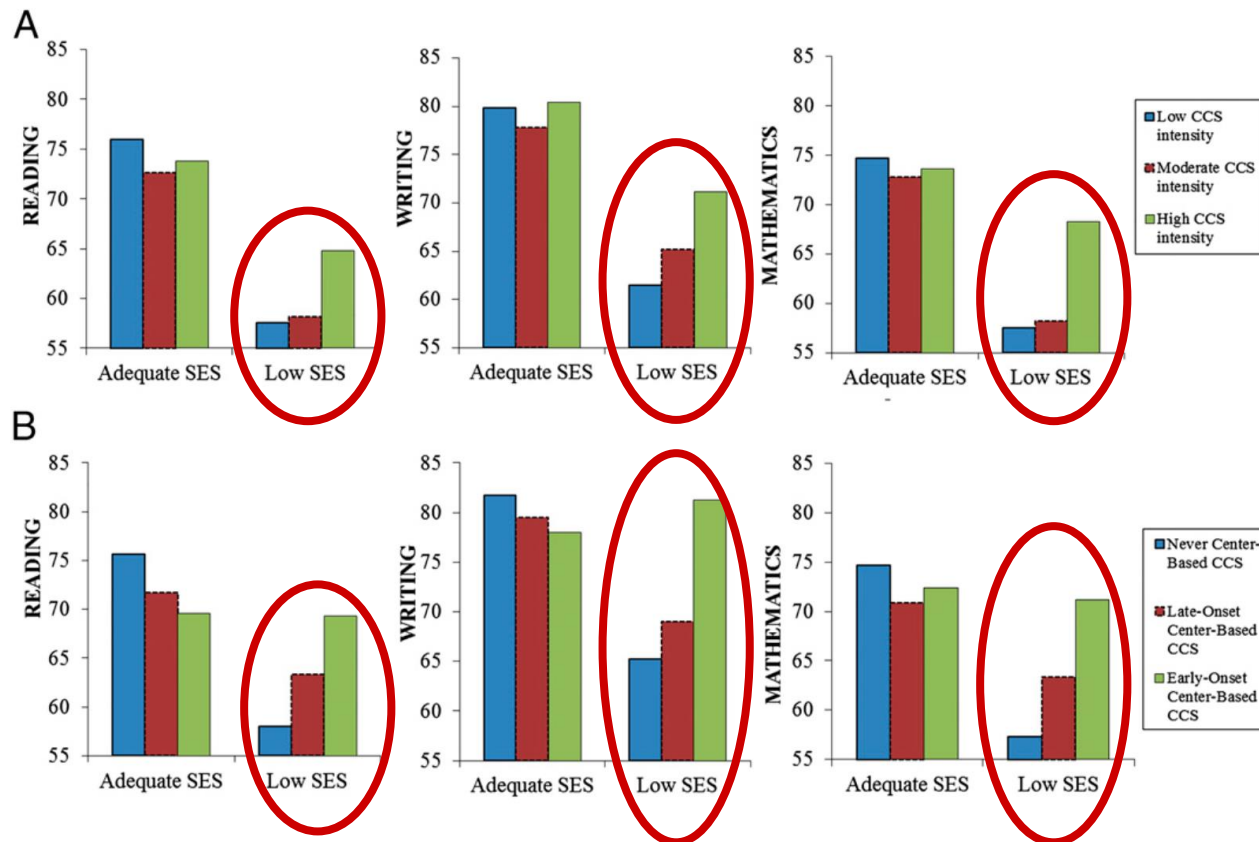
Note: d scores reflect the difference between children attending formal daycare and children under parental care.

Developmental trajectories of childcare use in ÉLDEQ/QLSCD



Laurin et al., *Pediatrics* 2015.

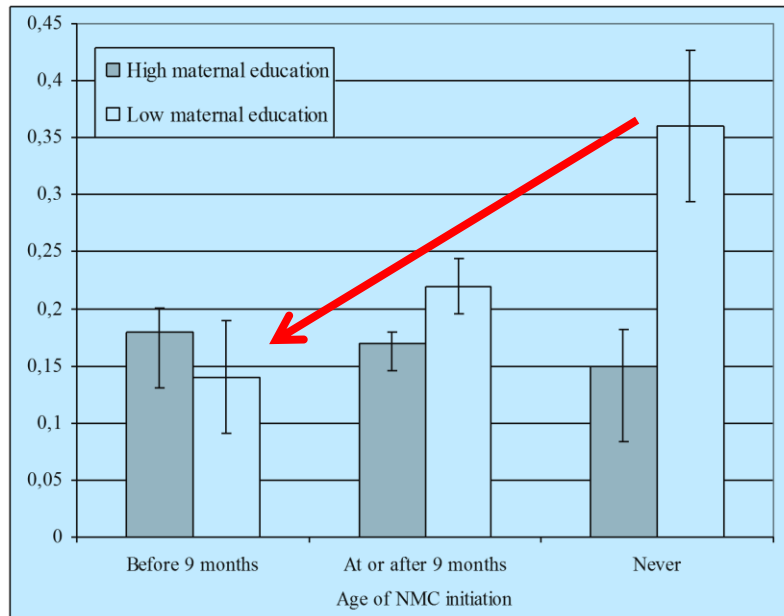
Intensity/type (center-based) of childcare predicts higher achievement in the « 3 Rs » for children of low SES



Note: (1) controlling for selection biases on 14 child, parent and family characteristics;
 (2) The resulting differences achievement scores were maintained after controlling for cognitive school readiness in kindergarten (see Geoffroy et al., 2010)

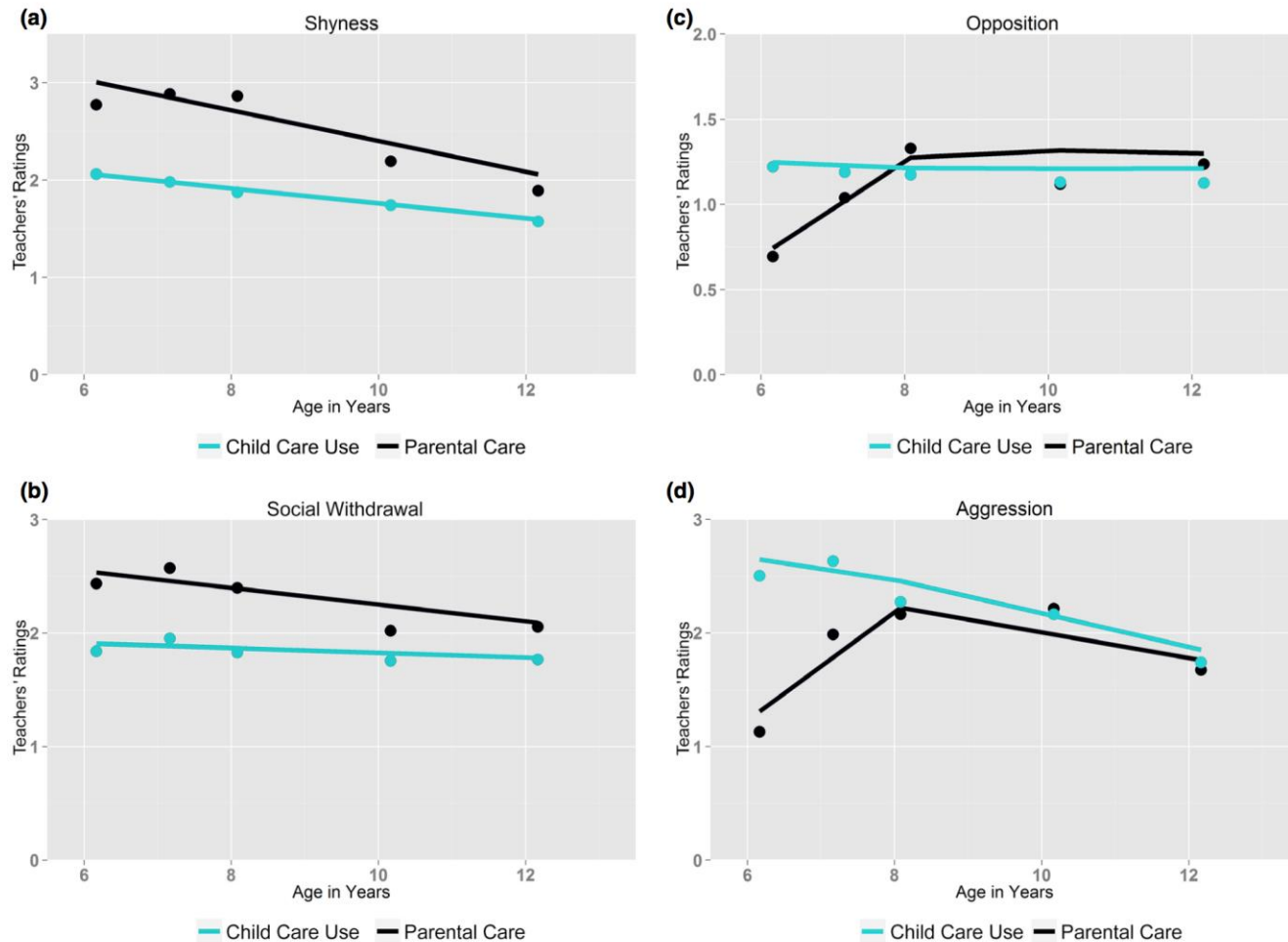
Childcare protects children of low education background: they are less likely to display high physical aggression if they attended non-maternal care early

Controls



- Mother age (21 and less), Maternal antisocial (fighting, stealing in high school), **Mother depression** (at least one major dep life), Drinking (max in one occasion), **Maternal work/study** (or not)
- Child sex, temperament, preterm birth, birth weight and birth health.
- **Insufficient income, marital status, n of siblings**
- Family dys(function), parental perceptions and behaviors (self-efficacy, hostile-reactive behavior, overprotection, perception of impact)

Childcare use (vs parental care) predicts social behaviors 6-12 years.






Summary of findings from QLSCD

- Protective « effects » of childcare for children from low education background
 - Cognitive school readiness and achievement: benefits more important for formal daycare (especially center-based);
 - **IMP: these benefits extend well into grade school.**
 - Early physical aggression: same benefits, but more if childcare began early possibly due to:
 - Reduced exposure to family risk
 - Increased exposure to quality early learning experiences
 - Other social behaviors: general benefits (shyness, social withdrawal), some non-lasting (i.e., grade 1) negative outcomes (opposition, aggression)
- Caveats: Still correlational evidence; Selection bias?, Mother ratings; Quantity rather than quality.

Policy implications:

“Universal” programs may have targeted benefits

How should we provide ECD services to populations?

- 
- Longitudinal studies show that both *universal* and *targeted* interventions have sustained positive impacts;
 - From a population health approach, both are limited
 - Limitation of **targeted approaches**:
 - ++ risk factors to any developmental problem, so that “targeting” a risk factor leaves many vulnerable children behind.

We need universal programs because...
If on average, disadvantaged children have poorer outcomes,
Most vulnerable children are in the middle class



**Socioeconomic
Disadvantage**

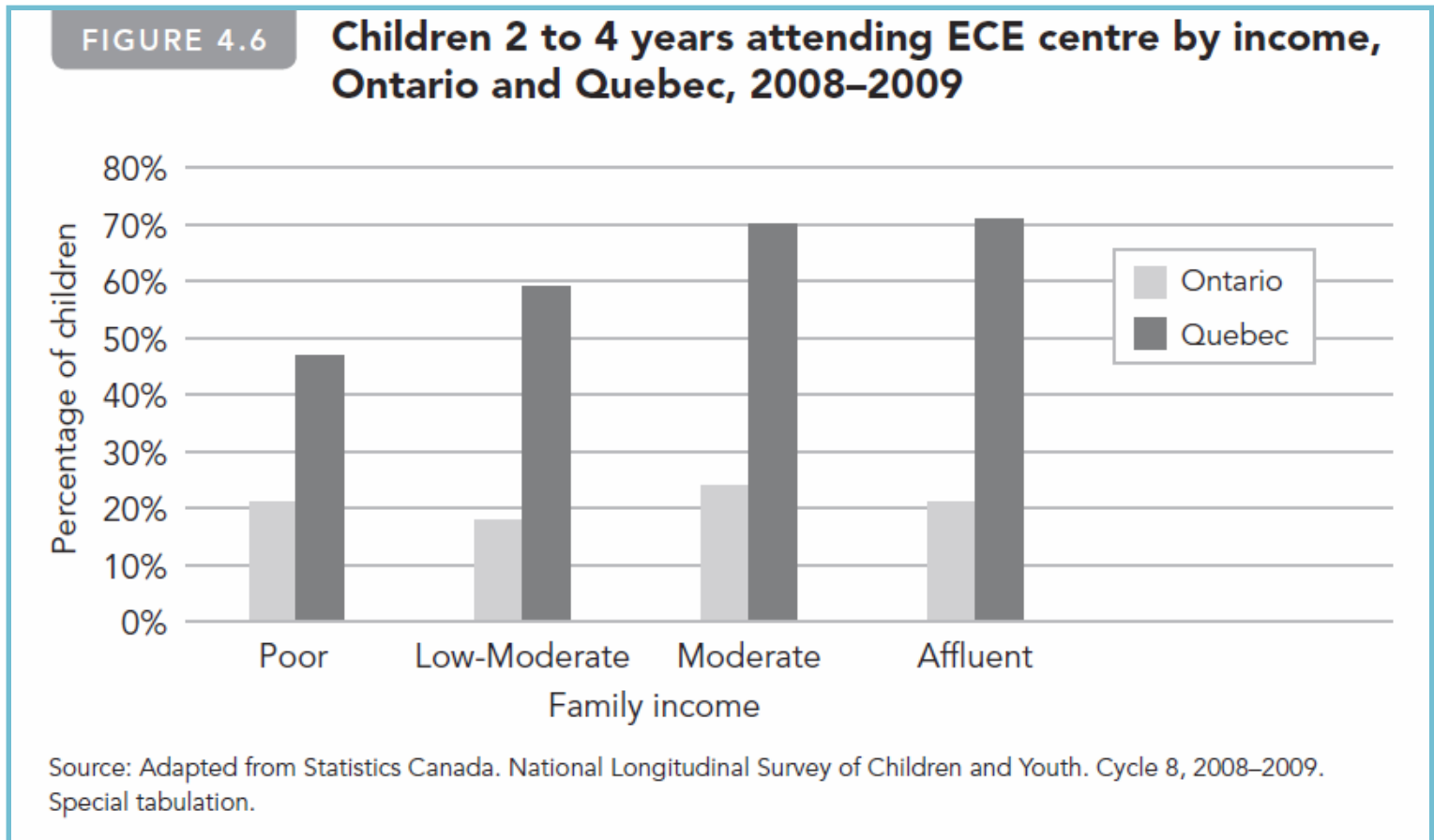
**Socioeconomic
Advantage**



Universal approach ?

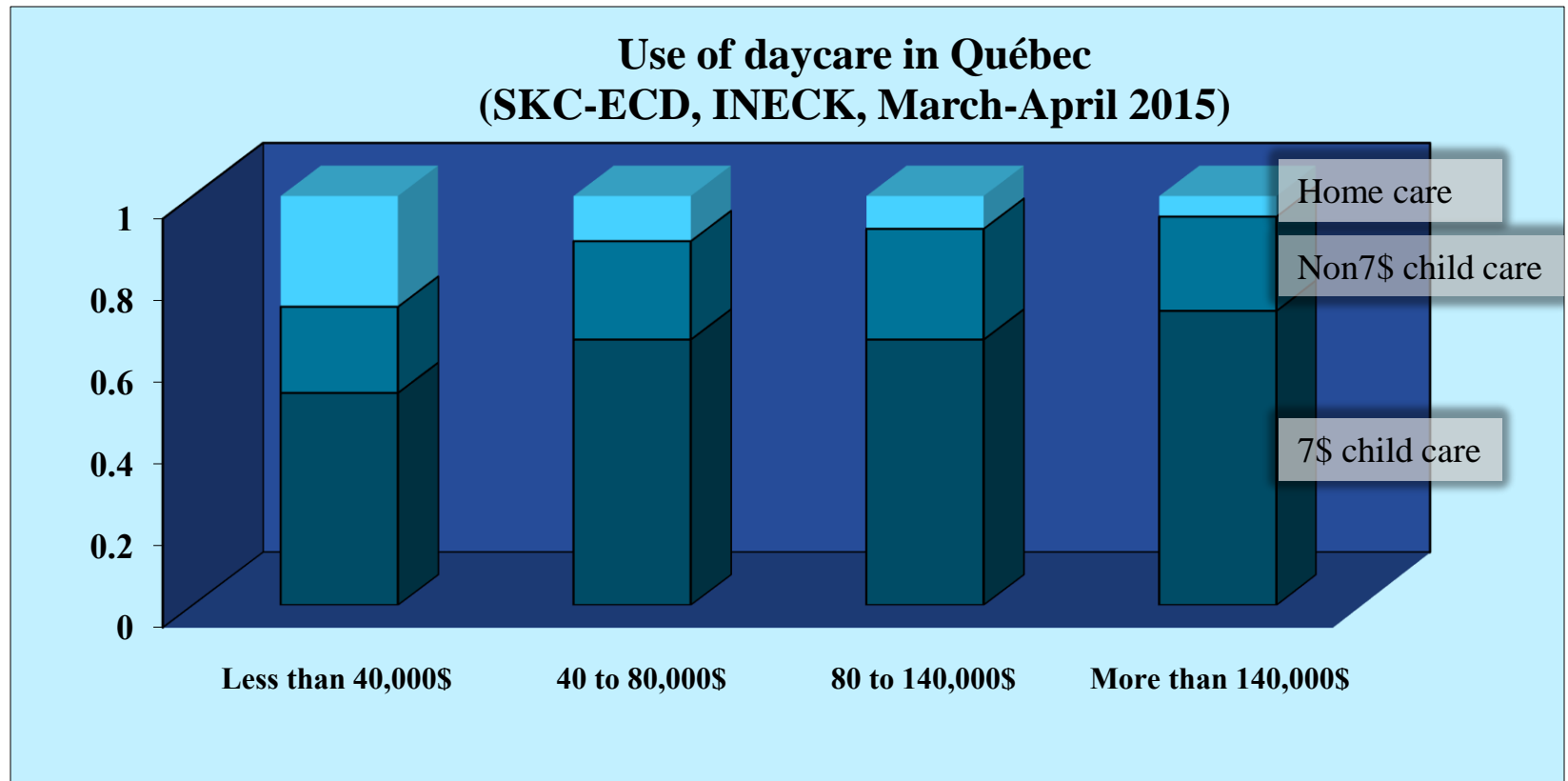
Universal interventions are not necessarily
“accessed” universally

A challenge : access to early childhood services.
Universality favors access, but as a function of
income.



(Early Years Study 3, 2011)

A persistent family income gradient of access to subsidized daycare in Québec (2015)



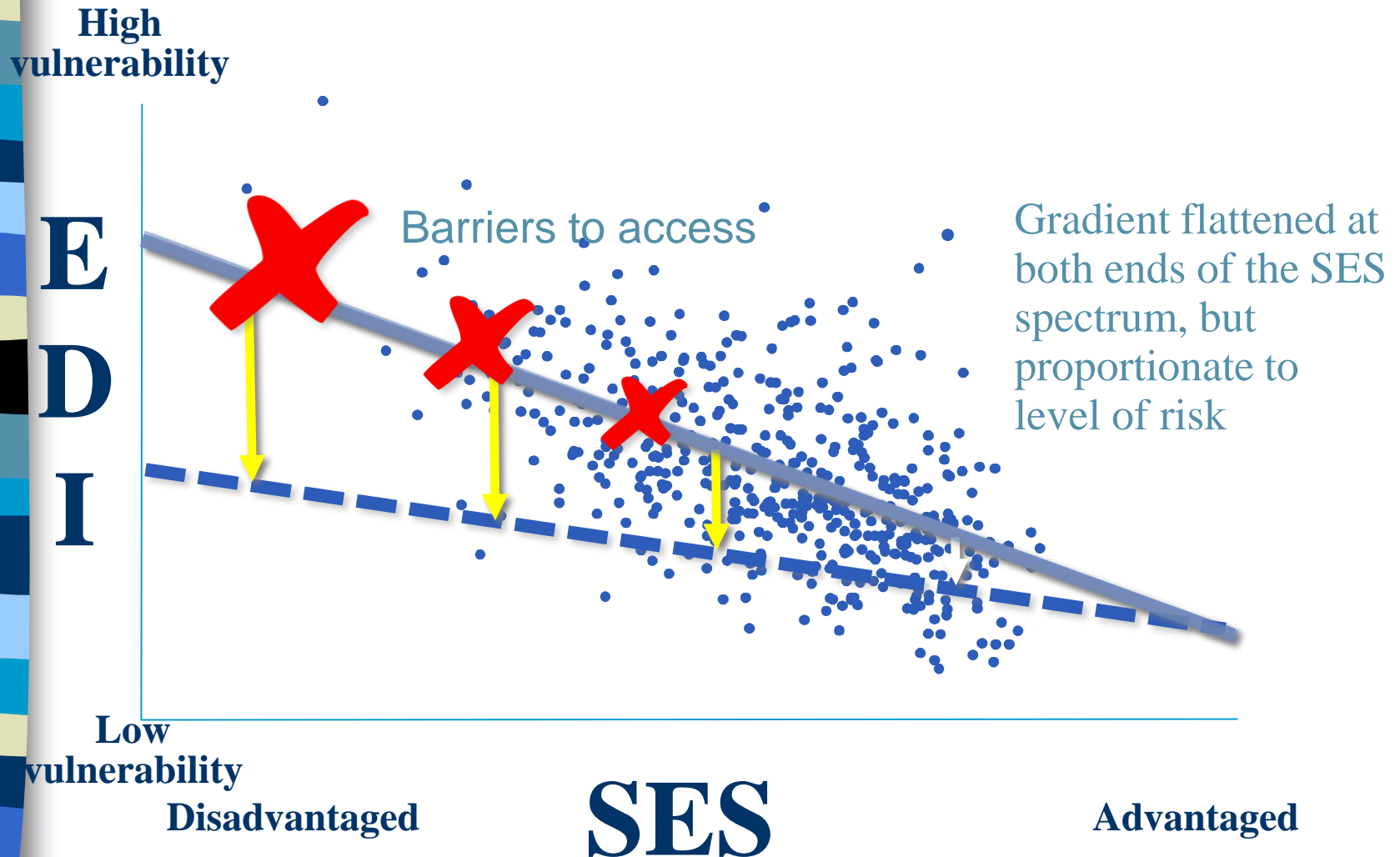


Multiple barriers to childcare access/use (ÉLDEQ/LSCDQ)

- **Maternal education**; Formal versus Parental care
- Low income
- **Maternal (un)employment**: Formal/Informal versus Parental care
- Single parenthood
- **N of siblings**: Formal/Informal versus Parental care
- **Mother age (childbearing)**: Formal/Informal versus Parental care
- Maternal depressive symptoms
- **Home stimulation**: Formal versus Parental care
- **Maternal overprotection**: Formal versus Parental care
- Perceived parental impact

An answer: Proportionate universalism

Universal access at a **scale** and **intensity** that addresses barriers at every level
(Marmot report, 2010; RSC/CAHS expert panel on ECD, 2012)



(C. Hertzman, HELP)



Moving forward.

Toward an agenda for sustainable ECD services/policies

1. Model of ECD service delivery

- **Public investment proactively aimed at proportionate universalism** (for the reach-out, the fairness, and political sustainability);
- Stronger emphasis on children less than 3 years (the earlier the better; ideally during pregnancy);
- Strong horizontal (interdisciplinary, inter-ministry, etc.) and vertical (longitudinal) integration of care and education;
- Attention to quality (and evaluation) of services.



Moving forward.

Toward an agenda for sustainable ECD services/policies

2. An integrated information system on ECD, with tools for:

- Understanding development (i.e., longitudinal studies; starting early)
- Developmental surveillance in populations;
- Systematic evaluation of ECD prevention program/service/policy (including the implementation of services);
- The delivery of ECD services in/across populations;

3. Synthetise/disseminate ECD knowledge for parents/educators/professionnals/policy makers

You are worried about seeing him spend his early years in doing nothing.
What! Is it nothing to be happy? Nothing to skip, play, and run around all
day long? Never in his life will he be so busy again.

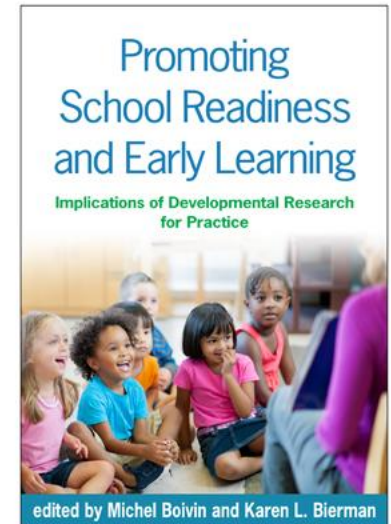
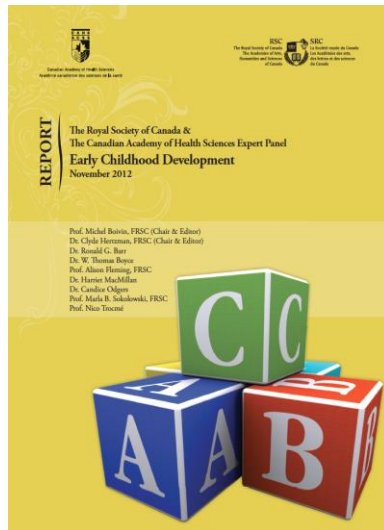
Jean-Jacques Rousseau, *Emile*, 1762



Encyclopedia on Early Childhood Development

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QNTS/LSCDQ participants



RSC report: <http://rsc-src.ca/en/expert-panels/rsc-reports/early-childhood-development-rsccahs>

Encyclopedia on ECD: <http://www.child-encyclopedia.com/en-ca/home.html>