Data Appendix – Currie, Stabile, and Jones, 2013

Base Sample: Children who were between the ages of 0 to 11 in Cycle 1 (1994). These children were between the ages of 14 to 25 in Cycle 8 (2008). Table 1 of the appendix shows the number of children surveyed in each cycle of data collection. Cycle-to-Cycle loss of respondents is due to attrition, with the exception of the large decline in sample size after the initial year of data collection; the sample size we purposefully reduced after Cycle 1 due to budgetary restrictions.

Number of children surveyed in each Cycle of data collection:

Cycle	Number of children
1	22831
2	15391
3	14777
4	13176
5	12280
6	11178
7	10966
8	10208

Children who stayed in the survey sample until Cycle 8 – whom we call "stayers" – did not exhibit different ADHD symptoms than attriters, as measured by the ADHD screener questions in Cycle 1 of data collection. However, attriters were more likely to report being on Ritalin in Cycle 1 than stayers. Attriters were also more likely than stayers to be male, to come from lower income households, to come from single parent homes and to have mothers with a high school education or less.

Mental Health Variables

The mental health score variables are all constructed from questions that ask the respondent to rate the frequency of certain behaviors on a scale from 0 to 2.   Scores are constructed by summing the frequency values for appropriate questions. Higher scores imply more severe behavior. The section below indicates which questions were combined to create each behavior score.

1. Short-term Hyperactivity Score:

a) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Can't sit still, is restless or hyperactive?

b) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Is distractible, has trouble sticking to any activity?

c) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Can't concentrate, can't pay attention for long?

d) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Cannot settle to anything for more than a few moments?

e) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Is inattentive?

2. Short-term Anxiety and Depression Score:

a) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Seems to be unhappy, sad or depressed?**

b) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Is not as happy as other

c) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Is worried?

d) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Is nervous, high-strung or tense?

e) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Has trouble enjoying him/herself?**

f) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Is too fearful or anxious?

** Questions marked with asterisks were used to construct the depression score, while non-marked questions were used to construct the anxiety score.

3. Short-term Physical Aggression Score:

a) HOW OFTEN WOULD YOU SAY THAT %FNAME%: Gets into many fights?

b) HOW OFTEN WOULD YOU SAY THAT %FNAME%: When another child

accidentally hurts %him/her% (such as by bumping into %him/her%), assumes that the other child meant to do it, and then reacts with anger and fighting?

*c)*HOW OFTEN WOULD YOU SAY THAT %FNAME%: Kicks, bites, hits other children?

4. Self-assessed over-16 Anxiety and Depression Score:

How often have you felt or behaved this way during the past week (7 days)?

(a) I did not feel like eating; my appetite was poor.
(b) I felt I could not shake off the blues even with help from my family or friends.
(c) I had trouble keeping my mind on what I was doing.
(d) I felt depressed.
(e) I felt that everything I did was an effort.
(f) I felt hopeful about the future. **
(g) My sleep was restless.
(h) I was happy. **
(i) I felt lonely.
(j) I enjoyed life. **
(k) I had crying spells
(l) I felt people disliked me.

** 0 to 2 scales for the marked questions were reversed when calculating the overall score.

5. Ever Diagnosed with a Mental or Psychological Disorder: We construct this indicator from a question asked of all youths age 16 and over: "Has a health professional ever diagnosed you with an emotional, psychological or nervous disorder?" Youths who indicated ever having a diagnosed disorder were given a 1 for this indicator variable.

EDUCATION VARIABLES:

1. Standardized Math Score: The mathematics test was administered in school to children in grade 2 or higher and was composed of 15questions drawn from the Canadian Achievement Test (CAT2). The difficulty of the questions increased as the child advanced in school, meaning that the age-specific average score did not differ substantially from the overall average score. We therefore standardized the score irrespective of age.

2. Repeated Grade: Parents of all children up to age 15 were asked whether the child had repeated a grade since the previous interview 2 years prior. We used the answers to these questions to create an indicator that equals 1 if the child *has not* repeated a grade in the previous 2 years.

3. Age for Grade: We assume that all children should have begun grade 1 by the year they turn 7 and then for every age, calculate the corresponding grade we expect the child to have completed. We construct an indicator that equals 1 if the child is *not behind* in any given survey year, and 0 otherwise.

4. Age-15 Standardized Math Score: Using the same mathematics test score that we employ in the short-term analysis, we identify the final math score recorded for each child, which is recorded at age 15.

5. Literacy and Numeracy test scores: The youth Literacy and Numeracy scores are both constructed from questions selected from the 2003 International Adult Literacy and Numeracy Skills Survey. The Literacy test is administered to all youth at age 18 or 19, while the Numeracy score test is completed at age 20 or 21. Each youth only completes each test once, and both tests are conducted face-to-face rather than over the phone.

6. Never Dropped Out: This variable is constructed from the question that asks all youth: "In the past 2 years have you left school or dropped out for more than one week?" We construct an indicator that equals 1 if the youth has never indicated having dropped out, and 0 otherwise.

7. Completed High School, Some Post-Secondary: These variables are constructed from the NLSCY education status variables. We begin with Cycle 8 data and observe whether the youth has graduated high school, begun post-secondary education or completed post-secondary education. High school graduates and those pursuing or having completed post-secondary education receive a 1 for the High School Graduation variable, while those who indicate not having completed high school receive a 0. Similarly, those pursuing or having completed post-secondary education get a 1 for the Some Post-Secondary indicator, while high school drop outs and high school graduates who did not continue their education receive a 0.

If the Cycle 8 education status variable is missing, we look back to the most recent Cycle of data collection with a non-missing education status variable. We assign missing values for both indicator variables for youths who, at last contact, were still in high school or whose education status is unknown and have never reported completing high school.

Quebec Insurance Program Details:

Costs of the Basic Public Plan for people 18-64 not covered by Private Insurance

Year	Yearly Premium	Co-Insurance Rate %	Monthly Deductible	Maximum Yearly Out of Pocket Contribution
1997	175	25	8.33	750
2002	422	27.4	9.13	822
2003	460	28	9.6	839
2004	494	28.5	10.25	857
2005	521	28.5	11.90	857
2006	538	29	12.10	857

Children up to age 17 of people insurance under the public plan are eligible for free prescription medication.

Source: Gouvernment du Quebec, 2007

Appendix Table 1: Attrition

Outcome	Expected number of Observations	Approx. Actual number of observations
Short-term outcomes		
Ritalin (age 2-15)	76600	57800
Teacher Hyperscore (age 4-15)	44853	16800
Repeat Grade (age 4-15)	72734	47680
Physical Aggression Score (age 2-11)	44858	35600
Anxiety and Depression Score (age 2-11)	44858	35596
Relationship with Teacher (age 4-9)	27379	19735
Relationship with Parent (age 4-9)	27379	21981
Relationship with Sibling (age 4-9)	27379	19056
Relationship with Friends (age 4-9)	27379	21543
Not Behind in School (age 7-17)	73207	45957
Math Score (age 5-15)	69304	34402
Long-term outcomes		
At least 16 in 2008		
Years on Ritalin	12005	9818
Diagnosed with a Mental or Emotional Disorder	12005	7271
Depression Score	12005	8915
Math Score	12005	4166
Literacy Score	12005	3652
Literacy Score	12005	3242
Never Dropped Out	12005	8353
At least 18 in 2008		
Completed High School	9077	6930
Some Post Secondary	9077	6447

Appendix Table 2: Effect of Policy Change and Ritalin Use on Parent-Assesed ADHD Score

ADHD Score	Full Sample		Boys Only		Girls Only	
	1	2	3	4	5	6
	DD	DD - FE	DD	DD - FE	DD	DD - FE
Quebec	0.105	-0.171	0.442	0.34	-0.462	-1.072**
	0.389	0.35	0.499	0.452	0.603	0.53
Post 1996	0.102**	0.015	0.116	0.031	0.091	-0.001
	0.043	0.04	0.064	0.059	0.057	0.054
Quebec*Post 1996	0.157**	0.216**	0.13	0.207**	0.176**	0.218**
	0.067	0.062	0.101	0.092	0.088	0.08
Age Range	2-11	2-11	2-11	2-11	2-11	2-11
Rounded N	35000	35600	17800	18000	17300	17600

Notes: Controls include: Year of birth fe, age fe, province fe, permanent income, pmk immigrant, male, firstborn, log family size, two parent family, mother's age at birth, mother teen birth, mother has high school, mother is working, PMK male and indicator for maternal depression.   Controls measured in 1994 unless otherwise indicated. Standard errors appear in brackets and are clustered at the child level. A ** indicates signficance at the 95% level of confidence.

Appendix Table 3: Results of Specification Checks for Short-Term Outcomes

Outcome	1 Ventilators No FE D-D-D	2 No Physical Chronic Condition No FE D-D-D	3 Kids born in 1991 or earlier No FE D-D-D	4 Ontario 1999 Placebo Experiment No FE D-D-D
On Venitlators	0.001			
Aged 0-15	0.003			
N	57000			
On Ritalin		0.022**	0.008	-0.005
Aged 2-15		0.004	0.005	0.003
N		39400	31500	58100
Teacher measured ADHD		-0.067	-0.020	
Aged 4-15		0.106	0.111	
N		11300	13200	
Physical Aggression Score		0.024	-0.020	-0.032
Ages 2-11		0.022	0.029	0.021
N		25000	16100	35100
Anxiety/Depression Score		0.088**	0.006	-0.002
Aged 2-11		0.039	0.049	0.039
N		25000	16100	35100
Anxiety Score		0.054**	0.001	0.031
Ages 2-11		0.027	0.035	03025
N		25000	16100	35200
Unhappiness Score		0.068**	0.022	-0.048**
Aged 2-11		0.017	0.022	0.016
N		25000	16100	35200
Relationship With Teacher		-0.005	0.045	0.003
Aged 4-9		0.006	0.008	0.007
N		13800	9400	19500
Relationship With Parent		-0.028**	-0.027	-0.001
Aged 4-9		0.008	0.015	0.011
N		15500	9500	21700
Relationship With Sibling		-0.007	-0.010	-0.004
Aged 4-9		0.011	0.022	0.013
N		13600	8400	18900
Relationship With Friends		-0.013	0.006	-0.003
Aged 4-9		0.008	0.014	0.010
N		155500	9500	21600

Not Behind in School		0.001	-0.004	0.004**
Ages 7-16		0.004	0.004	0.002
N		29300	30500	45400
No repeated grade		-0.009**	-0.010**	0.003
Ages 4-15		0.005	0.004	0.003
N		31700	29900	47000
Math Score		-0.046**	-0.042**	0.013
Ages 4-15		0.017	0.015	0.013
N		22600	21100	34000

Notes: Controls include: Year of birth fe, age fe, province fe, permanent income, pmk immigrant, male, firstborn,
log family size, two parent family, mother's age at birth, mother teen birth, mother has high school, mother is working,
PMK male and indicator for maternal depression.   Controls measured in 1994 unless otherwise indicated.
Standard errors appear below coefficient estimates and are clustered at the child level. A ** indicates signficance at the
95% level of confidence.

Appendix Table 4: Results of Specification Checks for Long-Term Outcomes

Outcome	1 Ontario 1999 Placebo Experiment
Years on Ritalin	-0.014
Ages 0-16	0.010
N	9800
Diagnosed with Mental	-0.004
or Emotional Disorder	0.002
N	7300
Depression Score	0.014
(self-assesed)	0.046
N	8900
Normalized Math Score	0.010
Age 15	0.010
N	4200
Literacy Score	-0.001
Age 18	0.062
N	3700
Numeracy Score	-0.015
Age 20	0.089
N	3200
Never Dropped Out	0.001
	0.003
N	8400
Completed High School	0.000
	0.002
N	6900
Some Post-Secondary	-0.003
	0.005
N	6400

Notes: Controls include: Year of birth fe, age fe, province fe, permanent income, pmk immigrant, male, firstborn, log family size, two parent family, mother's age at birth, mother teen birth, mother has high school, mother is working, PMK male and indicator for maternal depression.   Controls measured in 1994 unless otherwise indicated.
Standard errors appear in brackets. A ** indicates signficance at the
95% level of confidence.