

Normative data for the Early Development Instrument

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Early Development Instrument

The Early Development Instrument (EDI) is a 104-question checklist measuring children's readiness to learn at school before entry to Grade 1. The EDI was developed by Dan Offord and Magdalena Janus at the Offord Centre for Child Studies, McMaster University in 1998, and finalised in 2000.

Since 1999 EDI data has been collected for over 200,000 4-5 year old children in Canada and beyond. This document provides a set of normative data on the EDI domains based on a community-representative subgroup of the current database collected over the past five years in Canada.

Databases description

Basic sample

Several criteria in terms of data quality had to be applied in order to identify the subgroup for the normative, "gold standard", sample. First, only children attending the Senior Kindergarten year (entry at 5 years of age) were included. Second, for communities that participated more than once over the 5-year period, the fullest or the most recent implementation was included. This group of 132,176 children made the "basic sample". The breakdown of children by year and province in the basic sample is in Table 1.

Full sample

The next step in ensuring the reliability of data was to restrict the sample by excluding the following: 1) missing or out of appropriate range age, 2) missing gender, and 3) missing two or more domains. These limitations resulted in a sample of 125,282, a 94.7% of the basic sample. Table 2 shows the breakdown of thus selected full sample. Table 3 provides the frequencies of demographic variables for the full sample. The domain intercorrelations are provided in Table 4.

The statistics for the EDI domains are in Table 5. Mean, standard deviation, and 10th, 25th, 50th, 75th, and 90th percentiles are listed. (Please note that since one domain was allowed to be missing, the total Ns per domain are not equal.)

"Gold Standard" normative sample

The final restriction of the sample was carried out by including only children who did not have the "Special Needs" status. This was done by selecting only children for whom the Special Needs variable was nonmissing and equal to 0. Children with missing data, and those who had a value of 1 on the variable were excluded. This resulted in the final sample of 116,860 children. This represents 93.3% of the full sample, and 88.4% of the basic sample.

An unfortunate side-effect of this restriction was that all communities for whom the latest implementation occurred in 2000 were removed, since the data on Special Needs status were not collected systematically until 2001. However, the only region that lost its representation from the normative sample due to this restriction was Nunavut. While this is regrettable, the number of children for whom there were EDI data was only 103, which was unlikely to affect the values for normative data in a significant way. Table 6 shows the breakdown by year and province for the Gold Standard normative sample. Table 7 provides the frequencies of demographic variables. Table 8 shows the domain intercorrelations.

The statistics for the EDI domains in the Gold Standard sample are in Table 9. Mean, standard deviation, and 10th, 25th, 50th, 75th, and 90th percentiles are listed.

Gold Standard detailed breakdowns

Table 10 contains the frequencies for the six age categories for whom detailed EDI statistics were calculated. 99.4% of children in the Gold Standard sample fit into these categories.

Tables 11 and 12 provide the statistics by gender. Tables 13-18 provide the statistics by age. Tables 19-30 provide the EDI statistics by age and gender. All tables include mean, standard deviation, 10th, 25th, 50th, 75th, and 90th percentiles for each of the five EDI domains.

Table 1. Basic Sample Breakdown by Year and Province

Province	2000	2001	2002	2003	2004	Total
British Columbia	0	0	2127	24711	8823	35661
Manitoba	0	0	0	117	8177	8294
Ontario	1971	4258	30094	13221	24489	74033
Saskatchewan	0	0	0	2462	1336	3798
New Brunswick	979	0	0	1088	0	2067
Quebec	0	0	0	1582	0	1582
Newfoundland	0	0	0	0	236	236
PEI	0	0	0	0	1266	1266
Alberta	0	0	4440	487	0	4927
Nova Scotia	0	0	206	0	0	206
Nunavut	106	0	0	0	0	106
Total	3056	4258	36867	43668	44327	132176

Table 2. Full Sample Breakdown by Year and Province

Province	2000	2001	2002	2003	2004	Total
British Columbia	0	0	2045	24455	8614	35114
Manitoba	0	0	0	112	7733	7845
Ontario	1935	4144	28459	12700	23450	70688
Saskatchewan	0	0	0	2270	1233	3503
New Brunswick	966	0	0	1050	0	2016
Quebec	0	0	0	1558	0	1558
Newfoundland	0	0	0	0	232	232
PEI	0	0	0	0	1226	1226
Alberta	0	0	2335	464	0	2799
Nova Scotia	0	0	198	0	0	198
Nunavut	103	0	0	0	0	103
Total	3004	4144	33037	42609	42488	125282

Table 3. Frequencies of Demographic Variables for Full Sample

		N	%
Gender			
	Girls	61154	48.8%
	Boys	64128	51.2%
English/French as a second language			
	E/FSL	18045	14.4
	Not E/FSL	101492	81.0
	Missing	5745	4.6
French Immersion			
	FI	14561	11.6
	Not FI	108603	86.7
	Missing	2118	1.7
Special needs			
	SN	3061	2.4
	Not SN	116860	93.3
	Missing	5361	4.3
Aboriginal status			
	Aboriginal	5243	4.2
	Not Aboriginal	115596	92.3
	Missing	4443	3.5

Table 4. Domain Intercorrelations for Full Sample

	Social competence	Emotional maturity	Language and cognitive development	Communication skills and general knowledge
Physical health and well-being	0.614	0.509	0.557	0.628
Social competence		0.807	0.617	0.602
Emotional maturity			0.481	0.477
Language and cognitive development				0.648

Table 5. EDI Domain Statistics for Full Sample

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	124914	8.74	1.11	10.00	9.62	8.96	8.08	7.31
Social competence	125218	8.20	1.82	10.00	9.62	8.85	7.21	5.48
Emotional maturity	124079	7.99	1.56	9.83	9.17	8.33	7.17	5.83
Language and cognitive development	124581	8.28	1.91	10.00	9.62	8.85	7.69	5.38
Communication skills and general knowledge	125207	7.65	2.04	10.00	9.44	8.06	6.39	5.00

Please note: that since one domain was allowed to be missing, the total Ns per domain are not equal.

Table 6. Gold Standard Normative Sample Breakdown by Year and Province

Province	2000	2001	2002	2003	2004	Total
British Columbia		0	1933	23911	8179	34023
Manitoba		0	0	109	7380	7489
Ontario		3892	27026	12231	22467	65616
Saskatchewan		0	0	2138	1178	3316
New Brunswick		0	0	957	0	957
Quebec		0	0	1424	0	1424
Newfoundland		0	0	0	223	223
PEI		0	0	0	1163	1163
Alberta		0	2015	439	0	2454
Nova Scotia		0	195	0	0	195
Nunavut						
Total		3892	31169	41209	40590	116860

Table 7. Frequencies of Demographic Variables for Gold Standard Sample

		N	%
Gender			
	Girls	57562	49.3
	Boys	59298	50.7
English/French as a second language			
	E/FSL	14309	12.2
	Not E/FSL	97518	83.4
	Missing	5033	4.3
French Immersion			
	FI	11171	9.6
	Not FI	104215	89.2
	Missing	1474	1.3
Special needs			
	SN		
	Not SN	116860	100
	Missing		
Aboriginal status			
	Aboriginal	4746	4.1
	Not Aboriginal	111343	95.3
	Missing	771	0.7

Table 8. Domain Intercorrelations for Gold Standard Sample

	Social competence	Emotional maturity	Language and cognitive development	Communication skills and general knowledge
Physical health and well-being	0.590	0.488	0.528	0.607
Social competence		0.799	0.587	0.572
Emotional maturity			0.457	0.449
Language and cognitive development				0.621

Table 9. EDI Domain Statistics for Gold Standard Sample

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	116512	8.79	1.05	10.00	9.62	9.04	8.27	7.31
Social competence	116817	8.29	1.74	10.00	9.62	8.85	7.31	5.58
Emotional maturity	115739	8.05	1.51	9.83	9.17	8.33	7.17	6.00
Language and cognitive development	116200	8.36	1.82	10.00	9.62	8.85	7.69	5.77
Communication skills and general knowledge	116794	7.73	1.94	10.00	9.44	8.06	6.39	5.00

Table 10. Age Category Frequencies

Age (at the time of testing) was divided into 3-month intervals. The categories are expressed as year-months of age: for example, 5-11 means age 5 years 11 months.

Age Category	Number	%
4-11 to 5-1	829	0.7
5-2 to 5-4	20319	17.4
5-5 to 5-7	29117	24.9
5-8 to 5-10	30398	26.0
5-11 to 6-1	28175	24.1
6-2 to 6-4	7282	6.2

Please note: Months were rounded down for ages less than 15 days, and up for more than 15 days. That means that children aged less than 6 years 1.5 months belong to the 5-11 to 6-1 category, and children aged from 5 years 1.5 months to 5 years 4.5 months belong to the 5-2 to 5-4 category.

Table 11. Gold Standard – Boys

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	59126	8.65	1.10	10.00	9.42	8.85	8.08	7.12
Social competence	59274	7.92	1.87	9.90	9.52	8.46	6.73	5.19
Emotional maturity	58606	7.67	1.60	9.63	8.83	7.93	6.67	5.50
Language and cognitive development	58952	8.09	1.93	10.00	9.62	8.80	7.31	5.20
Communication skills and general knowledge	59262	7.46	2.00	10.00	9.17	7.78	6.11	4.72

Table 12. Gold Standard – Girls

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	57386	8.93	0.97	10.00	9.81	9.04	8.46	7.69
Social competence	57543	8.66	1.51	10.00	9.81	9.23	8.00	6.35
Emotional maturity	57133	8.44	1.29	10.00	9.48	8.67	7.76	6.67
Language and cognitive development	57248	8.64	1.64	10.00	9.62	9.23	8.08	6.40
Communication skills and general knowledge	57532	8.01	1.84	10.00	9.72	8.06	6.94	5.56

Table 13. Gold Standard 4-11 to 5-1 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	824	8.46	1.15	10.00	9.23	8.65	7.89	6.92
Social competence	829	7.86	1.85	9.81	9.42	8.67	6.73	5.10
Emotional maturity	823	7.81	1.56	9.67	9.00	8.00	7.00	5.67
Language and cognitive development	821	7.39	2.27	9.62	9.23	8.08	6.15	3.85
Communication skills and general knowledge	829	7.09	2.15	10.00	8.61	7.50	5.63	4.17

Table 14. Gold Standard 5-2 to 5-4 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	20263	8.56	1.10	10.00	9.42	8.75	7.89	7.12
Social competence	20313	7.96	1.84	9.81	9.42	8.46	6.83	5.19
Emotional maturity	20116	7.84	1.53	9.67	9.00	8.15	7.00	5.67
Language and cognitive development	20194	7.84	2.05	10.00	9.23	8.46	6.92	4.62
Communication skills and general knowledge	20302	7.27	2.05	10.00	8.89	7.50	5.94	4.44

Table 15. Gold Standard 5-5 to 5-7 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	29025	8.70	1.07	10.00	9.59	8.85	8.08	7.29
Social competence	29106	8.14	1.79	10.00	9.62	8.65	7.12	5.39
Emotional maturity	28814	7.95	1.53	9.80	9.14	8.21	7.08	5.83
Language and cognitive development	28935	8.18	1.90	10.00	9.62	8.85	7.31	5.39
Communication skills and general knowledge	29103	7.57	1.97	10.00	9.17	8.06	6.11	5.00

Table 16. Gold Standard 5-8 to 5-10 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	30312	8.85	1.02	10.00	9.62	9.04	8.27	7.50
Social competence	30385	8.38	1.69	10.00	9.71	9.04	7.50	5.77
Emotional maturity	30114	8.11	1.47	9.83	9.17	8.40	7.33	6.04
Language and cognitive development	30246	8.50	1.71	10.00	9.62	9.20	8.00	6.15
Communication skills and general knowledge	30376	7.86	1.89	10.00	9.64	8.06	6.67	5.28

Table 17. Gold Standard 5-11 to 6-1 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	28091	8.95	0.97	10.00	9.81	9.04	8.46	7.69
Social competence	28162	8.53	1.63	10.00	9.81	9.14	7.69	5.96
Emotional maturity	27930	8.21	1.47	9.83	9.33	8.50	7.41	6.17
Language and cognitive development	28023	8.69	1.57	10.00	9.62	9.23	8.08	6.54
Communication skills and general knowledge	28167	8.04	1.82	10.00	9.72	8.06	6.94	5.56

Table 18. Gold Standard 6-2 to 6-4 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	7259	8.96	0.99	10.00	9.81	9.04	8.46	7.69
Social competence	7282	8.51	1.65	10.00	9.81	9.13	7.69	5.96
Emotional maturity	7210	8.18	1.49	9.83	9.33	8.50	7.33	6.17
Language and cognitive development	7247	8.79	1.52	10.00	10.00	9.23	8.46	6.80
Communication skills and general knowledge	7277	8.07	1.82	10.00	9.72	8.33	6.94	5.56

Table 19. Gold Standard Boys 4-11 to 5-1 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	401	8.28	1.18	9.62	9.04	8.46	7.69	6.73
Social competence	402	7.34	1.98	9.81	8.94	7.69	5.96	4.45
Emotional maturity	399	7.33	1.68	9.17	8.50	7.67	6.33	4.83
Language and cognitive development	399	6.92	2.32	9.62	8.85	7.50	5.42	3.46
Communication skills and general knowledge	402	6.67	2.27	9.44	8.06	6.94	5.56	3.33

Table 20. Gold Standard Boys 5-2 to 5-4 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	10100	8.39	1.14	9.81	9.23	8.54	7.69	6.88
Social competence	10122	7.54	1.94	9.81	9.23	7.90	6.15	4.81
Emotional maturity	10012	7.44	1.61	9.33	8.67	7.67	6.43	5.17
Language and cognitive development	10062	7.50	2.16	9.62	9.23	8.08	6.15	4.23
Communication skills and general knowledge	10114	6.94	2.09	9.72	8.33	7.22	5.56	4.17

Table 21. Gold Standard Boys 5-5 to 5-4 Years Old

EDI Domains	Valid N	Mean	± SD	PERCENTILES				
				90	75	50	25	10
Physical health and well-being	14584	8.54	1.12	9.81	9.42	8.75	7.89	7.08
Social competence	14616	7.76	1.91	9.81	9.42	8.27	6.44	5.00
Emotional maturity	14432	7.56	1.62	9.50	8.75	7.83	6.55	5.33
Language and cognitive development	14523	7.87	2.02	10.00	9.23	8.46	6.92	5.00
Communication skills and general knowledge	14616	7.27	2.01	10.00	8.89	7.50	5.83	4.69

Table 22. Gold Standard Boys 5-8 to 5-10 Years Old

EDI Domains	Valid N	Mean	± SD	PERCENTILES				
				90	75	50	25	10
Physical health and well-being	15373	8.72	1.07	10.00	9.62	8.96	8.08	7.31
Social competence	15408	8.04	1.82	9.90	9.62	8.56	6.92	5.39
Emotional maturity	15253	7.76	1.57	9.67	8.89	8.00	6.83	5.67
Language and cognitive development	15338	8.27	1.81	10.00	9.62	8.85	7.69	5.77
Communication skills and general knowledge	15406	7.62	1.93	10.00	9.38	8.06	6.39	5.00

Table 23. Gold Standard Boys 5-11 to 6-1 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	14344	8.83	1.02	10.00	9.62	9.04	8.27	7.50
Social competence	14389	8.19	1.77	10.00	9.62	8.75	7.12	5.58
Emotional maturity	14227	7.83	1.58	9.67	9.00	8.17	6.90	5.60
Language and cognitive development	14315	8.44	1.70	10.00	9.62	8.85	7.69	6.15
Communication skills and general knowledge	14390	7.79	1.89	10.00	9.44	8.06	6.67	5.28

Table 24. Gold Standard Boys 6-2 to 6-4 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	3857	8.83	1.05	10.00	9.77	9.04	8.27	7.50
Social competence	3869	8.17	1.77	10.00	9.62	8.75	7.12	5.58
Emotional maturity	3821	7.80	1.60	9.67	9.00	8.04	6.85	5.50
Language and cognitive development	3850	8.58	1.63	10.00	9.62	9.23	8.08	6.15
Communication skills and general knowledge	3866	7.85	1.88	10.00	9.44	8.06	6.67	5.28

Table 25. Gold Standard Girls 4-11 to 5-1 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	423	8.63	1.10	10.00	9.58	8.85	8.08	7.12
Social competence	427	8.34	1.58	9.92	9.62	8.75	7.50	6.06
Emotional maturity	424	8.27	1.27	9.83	9.17	8.50	7.50	6.50
Language and cognitive development	422	7.83	2.14	10.00	9.62	8.46	6.80	4.23
Communication skills and general knowledge	427	7.49	1.96	10.00	9.17	7.78	6.11	4.72

Table 26. Gold Standard Girls 5-2 to 5-4 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	10163	8.72	1.03	10.00	9.58	8.85	8.08	7.31
Social competence	10191	8.37	1.62	10.00	9.62	8.85	7.50	5.96
Emotional maturity	10104	8.24	1.33	9.83	9.26	8.50	7.50	6.44
Language and cognitive development	10132	8.18	1.87	10.00	9.62	8.85	7.31	5.39
Communication skills and general knowledge	10188	7.60	1.94	10.00	9.17	8.06	6.39	5.00

Table 27. Gold Standard Girls 5-5 to 5-7 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	14441	8.86	0.99	10.00	9.62	9.04	8.27	7.50
Social competence	14490	8.55	1.55	10.00	9.81	9.04	7.80	6.15
Emotional maturity	14382	8.35	1.32	9.83	9.33	8.62	7.67	6.50
Language and cognitive development	14412	8.49	1.71	10.00	9.62	9.20	8.00	6.15
Communication skills and general knowledge	14487	7.87	1.87	10.00	9.44	8.06	6.67	5.28

Table 28. Gold Standard Girls 5-8 to 5-10 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	14939	8.97	0.95	10.00	9.81	9.04	8.46	7.69
Social competence	14977	8.73	1.48	10.00	9.81	9.23	8.08	6.54
Emotional maturity	14861	8.48	1.27	10.00	9.50	8.67	7.83	6.83
Language and cognitive development	14908	8.74	1.57	10.00	9.62	9.23	8.40	6.54
Communication skills and general knowledge	14970	8.11	1.81	10.00	9.72	8.33	7.19	5.56

Table 29. Gold Standard Girls 5-11 to 6-1 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	13747	9.08	0.90	10.00	9.81	9.23	8.65	7.89
Social competence	13773	8.89	1.38	10.00	9.81	9.42	8.44	6.92
Emotional maturity	13703	8.60	1.22	10.00	9.50	8.83	8.00	7.00
Language and cognitive development	13708	8.94	1.38	10.00	10.00	9.23	8.46	7.31
Communication skills and general knowledge	13777	8.30	1.72	10.00	10.00	8.61	7.50	5.83

Table 30. Gold Standard Girls 6-2 to 6-4 Years Old

<i>EDI Domains</i>	<i>Valid N</i>	<i>Mean</i>	<i>± SD</i>	<i>PERCENTILES</i>				
				<i>90</i>	<i>75</i>	<i>50</i>	<i>25</i>	<i>10</i>
Physical health and well-being	3402	9.11	0.89	10.00	9.81	9.23	8.65	7.89
Social competence	3413	8.89	1.40	10.00	9.90	9.42	8.37	6.92
Emotional maturity	3389	8.61	1.23	10.00	9.66	8.83	7.93	6.83
Language and cognitive development	3397	9.03	1.35	10.00	10.00	9.62	8.85	7.31
Communication skills and general knowledge	3411	8.33	1.73	10.00	10.00	8.61	7.50	5.83

