

**Vulnerable English-speaking children:
2017 Quebec Survey of
Child Development in
Kindergarten data analysis**



Le rapport en français est la version officielle et que dans le cas de divergence ou d'omission, la version française prévaut.

<http://www.stat.gouv.qc.ca/statistiques/sante/enfants-ados/analyse-developpement-enfants-maternelle-2017.html>

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HIGHLIGHTS

Results from the *2017 Quebec Survey of Child Development in Kindergarten* (QSCDK) show that kindergarten students whose mother tongue is English are proportionately more likely to be considered vulnerable compared to children whose mother tongue is French. Following this observation, bivariate analyses were performed based on data from the 2017 QSCDK and the *2017 Quebec Survey on the Preschool Path of Kindergarten Students* (QSPPKS) to verify if particular individual and family characteristics are associated with the vulnerability of children whose mother tongue is English for each of the five developmental areas measured by the Early Development Instrument (EDI), namely “Physical health and well-being”, “Social competence”, “Emotional maturity”, “Language and cognitive development”, and “Communication skills and general knowledge”, as well as in at least one area of development. Here are a few highlights from this report.

VULNERABLE KINDERGARTEN STUDENTS PER MOTHER TONGUE

- For all of Quebec, the proportion of vulnerable children is higher among anglophone children than francophone children for all vulnerability indicators, except for “Emotional maturity” for which no statistically significant difference is detected between both groups.
- Regional results indicate that for each developmental area, when a statistically

significant difference exists between the two linguistic groups, a proportionately higher number of English-speaking children are considered vulnerable compared to French-speaking children. That being said, we must note that limited headcount makes it difficult to produce reliable data for all regions.

CHARACTERISTICS OF CHILDREN AND THEIR ENVIRONMENT IDENTIFIED IN THE QSCDK PER MOTHER TONGUE AND VULNERABILITY

- When we examine certain demographic, socio-economic, and academic characteristics identified in the 2017 QSCDK per mother tongue, we see that, in certain respects, anglophone children distinguish themselves from francophone children attending kindergarten, but it is impossible to determine a clear profile.
- A proportionately higher number of children are born outside of Canada (5% compared to 2.7%) and live in a socially disadvantaged neighbourhood (16% compared to 14%), but a proportionately smaller number of children attend school in an underprivileged neighbourhood (18% compared to 27%).
- The proportion of anglophone children attending kindergarten having participated in the Passe-Partout preschool program before starting school is, proportionately speaking, less than that of francophone children (2.2% compared to 17%).

- In kindergarten, English-speaking children are more likely than French-speaking children to attend a school whose language of instruction is different than their mother tongue (40% compared to 2.3%).
- The vulnerability analysis per these same characteristics among anglophone and francophone children respectively shows a certain consistency between the results obtained for both linguistic groups.
- However, among French-speaking children, the number of children studying in a language that is not their mother tongue who are vulnerable in each of the developmental areas is proportionately higher.
- Among English-speaking children, those who are in this situation are more likely to be vulnerable in the “Language and cognitive development” and “Communication skills and general knowledge” developmental areas, but proportionately less likely to be vulnerable in the “Physical health and well-being” and “Social competence” developmental areas.
- Among the children enrolled in school where the language of instruction is not their own, no significant differences are detected between the proportion of English-speaking or French-speaking children who are vulnerable.
- Nonetheless, among children who are enrolled in school where instruction is in their mother tongue, a proportionately higher number of English-speaking children are vulnerable compared to French-speaking children in three developmental areas (“Physical health and well-being”, “Social competence”, and “Communication skills and

general knowledge”), as well as for the composite indicator.

CHARACTERISTICS FROM THE QSPPKS PER MOTHER TONGUE

- Compared to French-speaking children, a proportionately higher number of English-speaking children live in a low-income household (26% compared to 21%), but they are proportionately less likely to come from a single-parent family (11% compared to 15%) or a blended family (7% compared to 11%).
- With regard to their preschool years, anglophone children are less likely than francophone children to have been in daycare prior to starting kindergarten (88% compared to 94%), but they are more likely than the latter to have attended a single daycare environment during their preschool years (46% compared to 39%) and to have begun attending daycare after the age of 36 months (17% compared to 8%).

INTRODUCTION

Per the data presented in the *2017 Quebec Survey of Child Development in Kindergarten (QSCDK)* report, children whose mother tongue is English (with or without other languages-except French) are proportionately more likely than children whose mother tongue is French (with or without other languages-except English) to be considered vulnerable in kindergarten, for each of the five developmental areas studied in the survey. We must remember that vulnerability was measured in the 2017 QSCDK using the Early Development Instrument (EDI) created by the Offord Center for Child Studies. This instrument makes evaluating childhood development possible for the following areas: “Physical health and well-being”, “Social competence”, “Emotional maturity”, “Language and cognitive development”, and “Communication skills and general knowledge”. A sixth “composite” indicator accounts for children’s vulnerability in at least one developmental area.

The 2017 QSCDK report demonstrated the existence of other associations between vulnerability in various developmental areas and certain demographic, socio-economic, and academic characteristics of kindergarten students. The *2017 Quebec Survey on the Preschool Path of Kindergarten Students (QSPPKS)*, for its part, made it possible to establish a link between the preschool path of kindergarten students and their probability of being vulnerable in certain developmental

aspects. What about children whose mother tongue is English? Knowing that Quebec’s anglophone population distinguishes itself in certain regards from the francophone population (Lussier, 2012), could individual or family characteristics linked to children’s developmental level in kindergarten be specifically associated with the vulnerability of children whose mother tongue is English? For example, are there differences between children whose mother tongue is English and those whose mother tongue is French in terms of their school environment or their preschool path that could shed light on their developmental state? This publication aims to provide answers to these questions.

First, this report addresses how the vulnerability of kindergarten students is defined and measured in the 2017 QSCDK as well as the definition of the linguistic groups studied in this publication. It then paints a portrait of kindergarten students per vulnerability and mother tongue. Results refer to the proportion of kindergarten students considered vulnerable per developmental area as well as for the composite indicator for all of Quebec and by health region.

In its third section, the report explores certain characteristics pertaining to children¹ and their environment from the QSCDK to verify if, for all children, they are linked to the mother tongue and, for each linguistic group, to each vulnerability indicator. An analysis of vulnerability per mother tongue and language of instruction completes this section. Finally, the last part

¹ The term “children” refers to the population targeted by the QSCDK, namely children attending kindergarten in 2016-2017. It is sometimes used alone for reasons of brevity and to make the text easier to read.

reflects analyses of certain characteristics from the QSPPKS (for example, parents' diplomas, low income, daycare attendance) per mother tongue. The conclusion reviews the main results and suggests courses of action that may be explored to further our understanding of this phenomenon.

1 EARLY DEVELOPMENT INSTRUMENT (EDI) AND LINGUISTIC GROUPS

1.1 DEFINITION AND EVALUATION OF VULNERABILITY IN QSCDK²

1.1.1 An overview of the Early Development Instrument (EDI)³

The tool used in the QSCDK to measure the developmental level of kindergarten students is

the Early Development Instrument (EDI, © McMaster University, Ontario). The EDI was created in 1999 by Dan R. Offord and Magdalena Janus in collaboration with childhood development specialists, teachers, and early childhood educators. Built using childhood development standards, this tool is conceived to measure the aptitudes of kindergarten students in the five developmental areas presented in the following table.

Table 1.1

Description of the five developmental areas measured by the Early Development Instrument (EDI)

Area	Addressed subjects
Physical health and well-being	General physical development, motor skills, nutrition and getting dressed, cleanliness, punctuality, and alertness
Social competence	Social skills, self-confidence, sense of responsibility, respect for peers, adults, rules and routines, work habits, as well as autonomy, curiosity
Emotional maturity	Pro-social behaviour and mutual aid, apprehension and anxiety, aggressive behaviour, hyperactivity and inattentiveness, expression of feelings
Language and cognitive development	Interest and skills in reading, writing, and mathematics, adequate use of language
Communication skills and general knowledge	Ability to communicate, to be understood, ability to understand others, clear articulation, general knowledge

² The information in this section was taken from Lavoie, Gingras, Audet (2019), p. 89-90.

³ For further information on the EDI, consult the following document [Méthodologie de l'Enquête québécoise sur le développement des enfants à la maternelle 2017](#) (Tremblay and Simard, 2018).

Completed by kindergarten teachers for each child in their class, the questionnaire is composed of 104 questions, each linked to one of the five developmental areas. These questions are factual and refer to behaviours that may be observed by teachers.

1.1.2 How are vulnerability indicators calculated?

From the answers to the EDI questions, a vulnerability indicator is calculated for each of the five developmental areas. To begin, these answers are applied to a scale of 0 to 10 to calculate five average scores for each child. The weaker the score, the more the child is likely to present difficulties in the concerned area. Conversely, the higher the score is, lesser are the chances of the child experiencing difficulties.

A child is considered vulnerable when his score for a developmental area is equal or inferior to the score corresponding to the 10th percentile of the reference population. For repeated provincial surveys, EDI authors recommend using a provincial reference population (Janus and Offord, 2007). In the QSCDK, all Quebec children are targeted by the first edition of the survey completed in 2012 and compose the reference population. In other words, the thresholds established from the 2012 distribution of scores among children are used as reference points to establish the proportion of vulnerable children in 2017⁴. The measure of vulnerability used in the

QSCDK is therefore a relative measure and it is based on the distribution of children's scores within a reference population.

The combination of the five vulnerability indicators makes the creation of a composite indicator possible, namely vulnerability in at least one of the five developmental areas. This measure accounts for the multidimensional character of kindergarten students' vulnerability.

1.1.3 The notion of vulnerability within the QSCDK

Although the EDI makes it possible to assign a score to each child, it is not conceived to evaluate children individually. Instead, this tool provides results for groups of children for the evaluation, in terms of the different developmental areas, of these groups' strengths and weaknesses, for example for children living on a given territory or children who are immigrants.

In the QSCDK, children who are considered vulnerable are, when compared with others, less likely to meet the school system's requirements, namely to demonstrate coordination, the capacity to work autonomously, the ability to wait for their turn when playing a game, to express an interest in books, or to participate in a game involving imagination. It is still important to mention that children considered vulnerable in kindergarten will not all present difficulties throughout their elementary school years.

⁴ The thresholds used are presented in Chapter 2 of the QSCDK [report](#).

1.2 DEFINITION OF LINGUISTIC GROUPS

In the 2017 QSCDK report, analyses of vulnerability indicators for children attending kindergarten were produced with four linguistic groupings based on children’s mother tongue, namely 1) French with or without another language, other than English 2) English with or without another language, other than French 3) English and French with or without another language 4) other languages only.

Since the main objective of the analyses performed as part of this publication is to compare children whose mother tongue is English with children who first learned the language of the largest linguistic group in Quebec (French), children having a mother tongue that is not French or English were excluded from the targeted population. Thus, the analyses focus mainly on:

- 1) **Children whose mother tongue is English**, either those whose mother tongue is English only or English with one or several other languages, with the exception of French. The terms “English-speaking”, “English as their mother tongue” or “anglophones” are used as synonyms throughout the report.

When a comparison group exists, it represents:

- 2) **Children whose mother tongue is, at the very least, French**, namely children whose mother tongue is French only, those whose mother tongue is French along with one or several other languages as well as children having learned French and English simultaneously, with or without other languages. The terms “French-speaking”, “French as their mother

tongue”, or “francophones” are used as synonyms throughout the report.

Children who learned French and English simultaneously were included in the group of francophones. This decision seems justified for two reasons: first, per QSPPKS data, these children are proportionately more likely to use French as the most spoken language in their home environment than those whose mother tongue is English (data not presented). Furthermore, in Quebec, mastering French represents an important advantage in terms of access to public services, namely health care (Falconer and Quesnel-Vallée, 2014, p. 523), but also complimentary educational services such as consulting a psychologist or a speech therapist in school environments (Commission de l’éducation en langue anglaise, 2013, p. 9). What’s more, since these “bilingual” children are grouped with the francophones, representing the majority of the survey sample, it hardly influences the results obtained for this group while it avoids their exclusion for analysis purposes.

In fact, the proportions of vulnerable children resulting from the analyses performed with these linguistic groupings are much like those found in the QSCDK report (Simard, Lavoie, Audet, 2018, p. 63, Table c.3.1) (see Table 2.1). We must note statistically significant differences between proportions of vulnerable children having French and English as their mother tongue for each developmental area, with the exception of vulnerability in the “Emotional maturity” area. For the latter, the result obtained does not make it possible to conclude that a significant difference is present.

2 VULNERABLE KINDERGARTEN STUDENTS PER MOTHER TONGUE

2.1 VULNERABLE CHILDREN PER MOTHER TONGUE FOR ALL OF QUEBEC

Per the definition of linguistic groups retained in this report, kindergarten students whose mother tongue is English are proportionately more likely, across Quebec, to be vulnerable in four of the five developmental areas as well as in at least one area than children having, at the very least, French as their mother tongue (Table 2.1).

In fact, in Quebec, 16% of English-speaking children are vulnerable in the “Physical health and well-being” area, compared to approximately

10% of children who, at the very least, have French as their mother tongue. The proportion of kindergarten students who are vulnerable in the “Social competence” area is 14% among anglophones and 10% among francophones. For the “Language and cognitive development” area, 13% of English-speaking children are in a vulnerable situation, compared to 10% of French-speaking children. Results also present a statistically significant difference between both linguistic groups for the “Communication skills and general knowledge” area: the proportion of vulnerable anglophone children for this developmental area is higher than that of francophone children (21% compared to 8%).

Table 2.1

Proportion of vulnerable kindergarten students per developmental area and in at least one area per mother tongue, Quebec, 2017¹

MOTHER TONGUE	Physical health and well-being	Social competence	Emotional maturity	Language and cognitive development	Communication skills and general knowledge	Vulnerable in at least one developmental area
	%					
Total¹	10.5	10.2	11.7	10.6^a	9.5	26.7
Children whose mother tongue is French	9.8 ^a	9.9 ^a	11.6	10.4 ^a	8.2 ^a	25.6 ^a
Children whose mother tongue is English	16 ^a	13.6 ^a	12.7	12.8 ^a	21.3 ^a	36.7 ^a

a Expresses a statistically significant difference between the proportions of vulnerable children in both linguistic groups for a given area at the threshold of 0.01.

¹ The proportion of vulnerable kindergarten students for each developmental area varies somewhat from the proportions found in the 2017 QSCDK report for the francophone group and all children because of the way the linguistic groups are defined in this report.

Source: Institut de la statistique du Québec, 2017 *Quebec Survey for Child Development in Kindergarten*.

2.2 VULNERABLE CHILDREN PER MOTHER TONGUE BY HEALTH REGION (HR)⁵

BOX 2.1

Presentation of estimates by health region

For regional analyses, only results pertaining to regions with a sufficient number of children to produce data that respects Institut de la statistique du Québec's standards are displayed. When the headcount is too small to be disclosed, an "X" indicates that the data is confidential. Also note that results with a coefficient of variation greater than 25% (estimate of lower precision) are followed by ** and are presented for information purposes only.

This section presents the proportions of vulnerable children per mother tongue by health region (box 1). Figure 2.1 shows that in the Estrie and Outaouais regions, nearly one out of every four English-speaking children is in a vulnerable situation in the "Physical health and well-being" developmental area (24% in both cases) whereas in the Laurentides region, this proportion is closer to one out of every five students (19%). In comparison, the proportions of vulnerable French-speaking children in this area for these same regions are respectively approximately 10%, 13%, and 11%. Approximately 16% of English-speaking kindergarten children in the Montérégie region are vulnerable in the "Physical

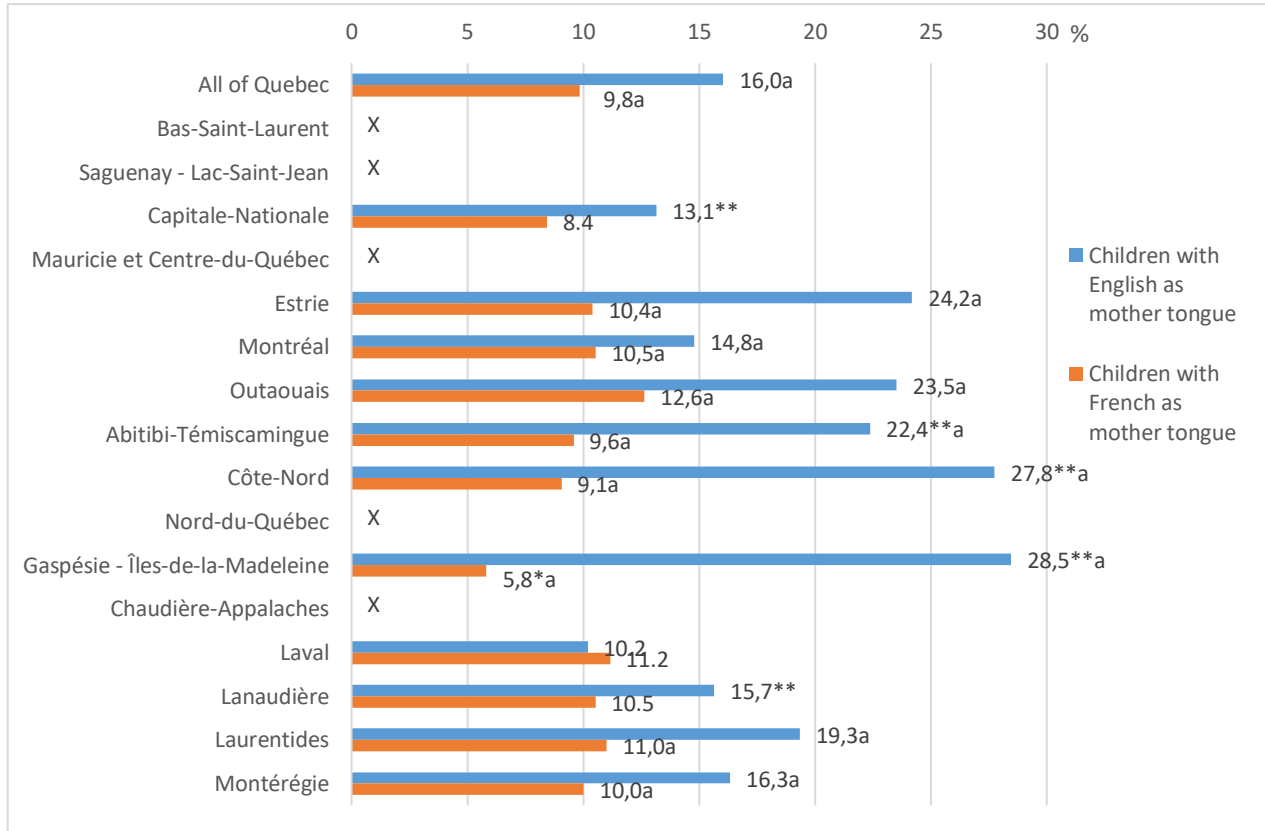
health and well-being" developmental area, whereas in Montreal, this proportion is approximately 15%, which represents higher values than those of vulnerable francophone children for these two same regions (respectively 10% and 11%).

As for the "Social competence" developmental area (figure 2.2), we notice that in the Estrie region, the proportion of English-speaking children considered vulnerable is higher than that of French-speaking children in the same situation (26% compared to 12%). Proportionately, there are also more English-speaking kindergarten students who are vulnerable in this area in Montreal (13% compared to 9%) and in the Montérégie region (12% compared to 10%).

In the Estrie region, vulnerability in the "Emotional maturity" area concerns one out of every five anglophone kindergarten students (20%) compared to 13% of francophone children (figure 2.3). In Montreal, 12% of anglophone children are in a vulnerable situation in this area, compared to approximately 11% of francophone children.

⁵ Analyses by region are based on health regions instead of administrative regions for consistency with what is normally used by the Community Health and Social Services Network (CHSSN).

Figure 2.1
Proportion of vulnerable kindergarten students in "Physical health and well-being" area per mother tongue, health regions, and all of Quebec, 2017



X Confidential data.

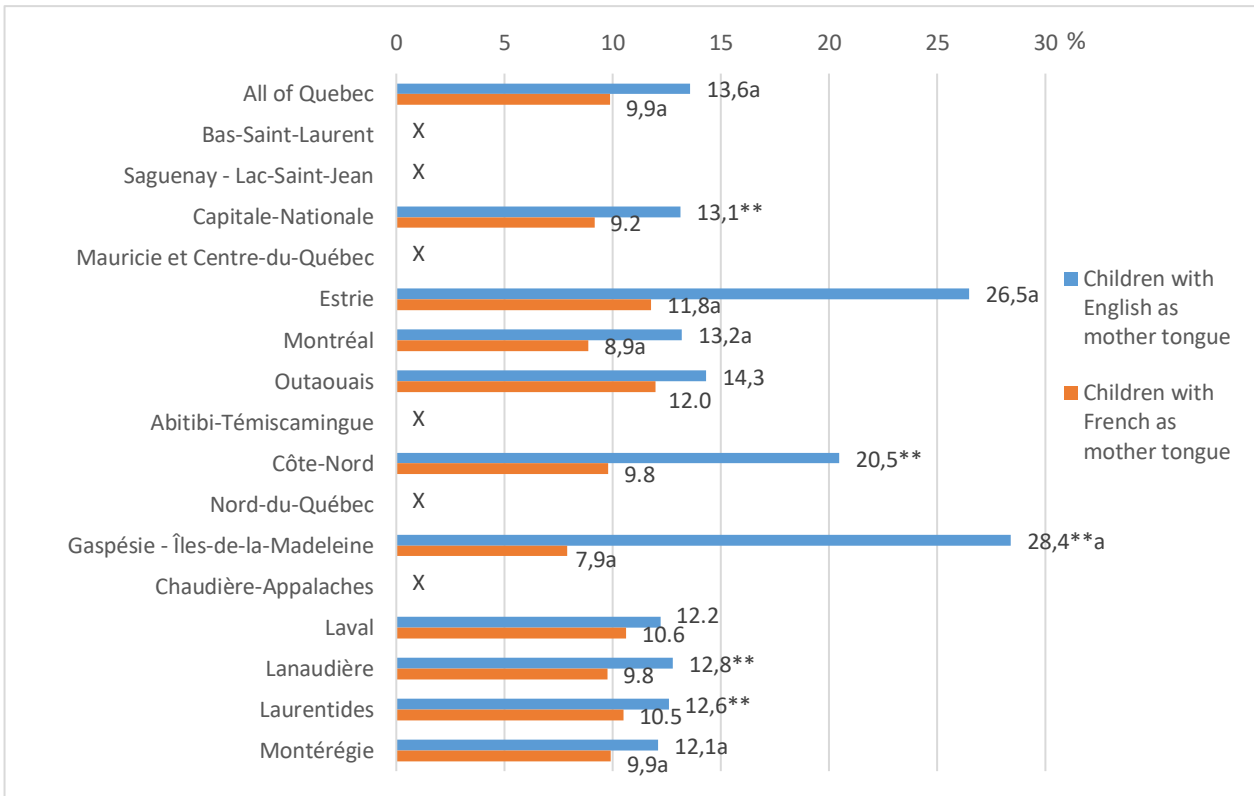
* Coefficient of variation between 15% and 25%; interpret with caution.

** Coefficient of variation above 25%; imprecise estimate provided for information purposes only.

a Expresses a statistically significant difference between the proportions of vulnerable children in both linguistic groups at threshold of 0.01 for all of Quebec and at threshold of .05 for regions.

Source: Institut de la statistique du Québec, 2017 *Quebec Survey of Child Development in Kindergarten*.

Figure 2.2
Proportion of vulnerable kindergarten students in "Social competence" area per mother tongue, health regions, and all of Quebec, 2017



X Confidential data.

* Coefficient of variation between 15% and 25%; interpret with caution.

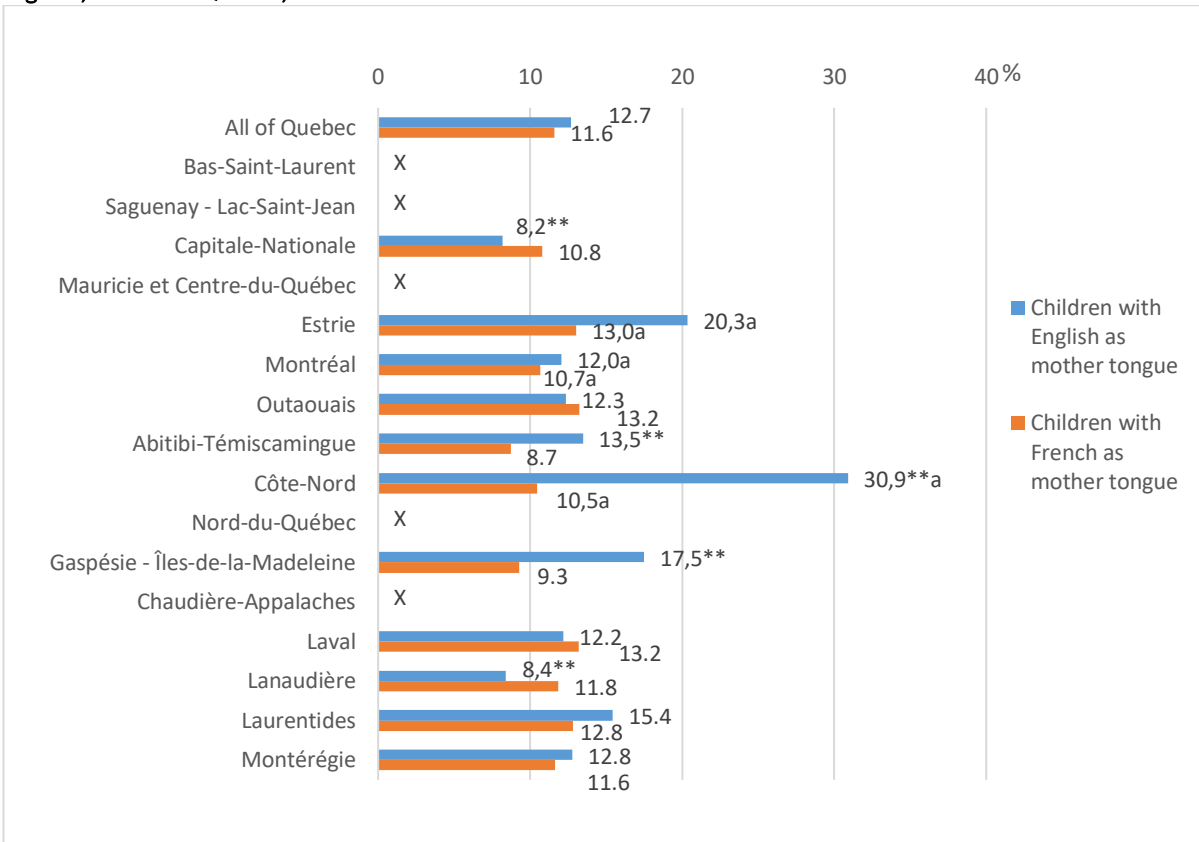
** Coefficient of variation above 25%; imprecise estimate provided for information purposes only.

a Expresses a statistically significant difference between the proportions of vulnerable children in both linguistic groups at threshold of 0.01 for all of Quebec and at threshold of .05 for regions.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

Figure 2.3

Proportion of vulnerable kindergarten students in "Emotional maturity" area per mother tongue, health regions, and all of Quebec, 2017



X Confidential data.

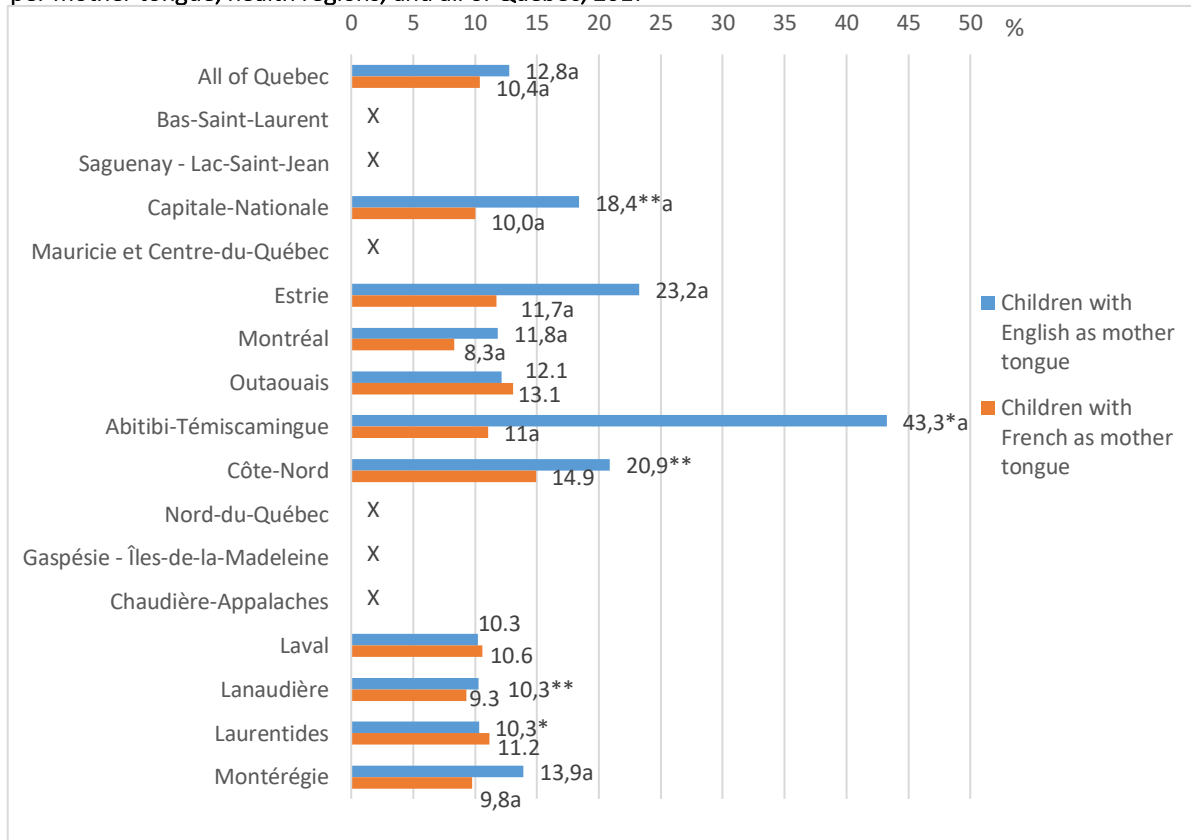
** Coefficient of variation above 25%; imprecise estimate for information purposes only.

a Expresses a statistically significant difference between the proportions of vulnerable children in both linguistic groups at threshold of 0.01 for all of Quebec and at threshold 0.05 for the regions.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

Figure 2.4

Proportion of vulnerable kindergarten students in "Language and cognitive development" area per mother tongue, health regions, and all of Quebec, 2017



X Confidential data.

* Coefficient of variation between 15% and 25%; interpret with caution.

** Coefficient of variation above 25%; imprecise estimate provided for information purposes only.

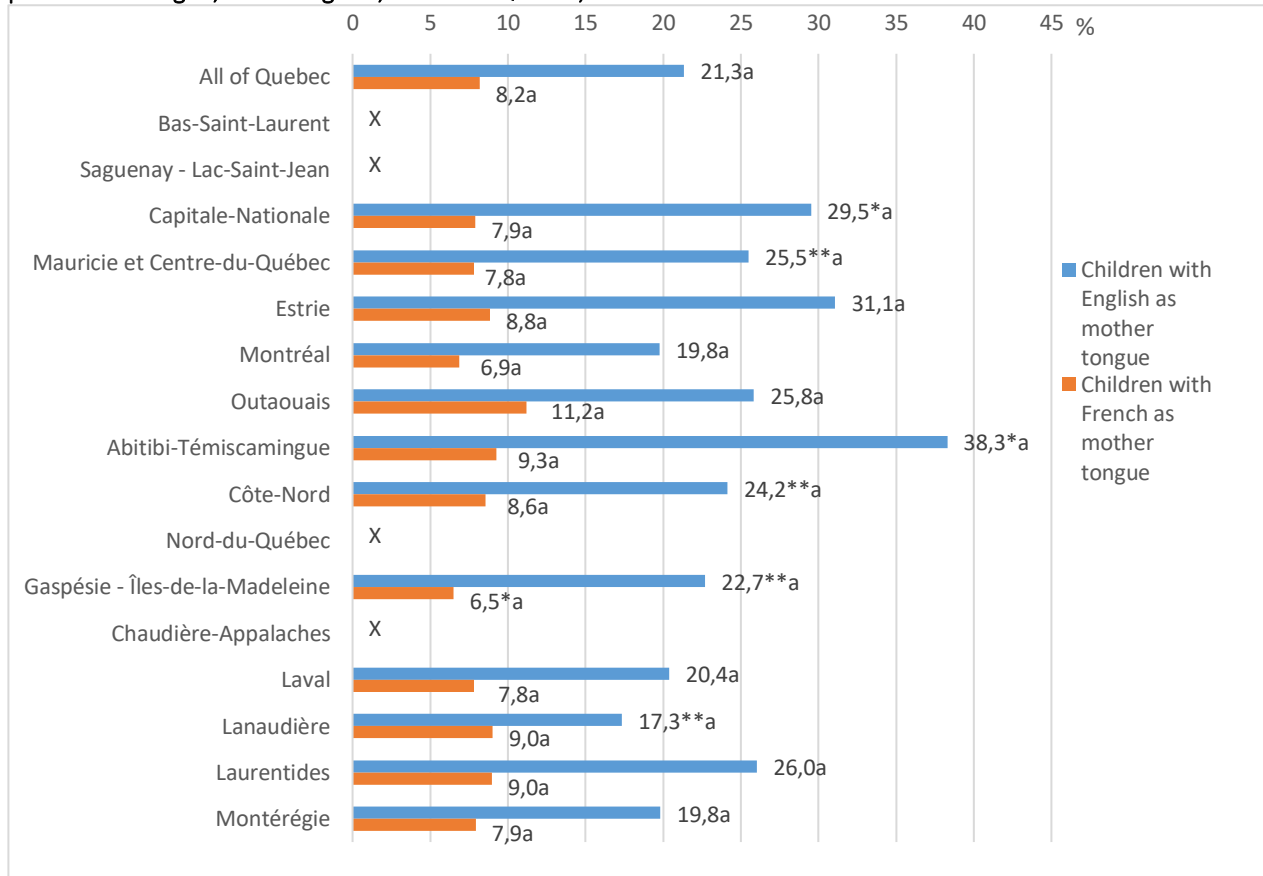
a Expresses a statistically significant difference between proportions of vulnerable children in both linguistic groups at threshold of 0.01 for all of Quebec and at threshold of 0.05 for regions.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

For the “Language and cognitive development” area, figure 2.4 shows that the proportion of anglophone children in this situation is significantly higher than that of francophone children in the Abitibi-Témiscamingue region

(43%* compared to 11%), in the Estrie region (23% compared to 12%), in the Montérégie region (14% compared to 10%), and in Montreal (12% compared to 8%).

Figure 2.5
Proportion of vulnerable kindergarten students in the "Communication skills and general knowledge" area per mother tongue, health regions, and all of Quebec, 2017



X Confidential data.

* Coefficient of variation between 15% and 25%; interpret with caution.

** Coefficient of variation above 25%; imprecise estimate provided for information purposes only.

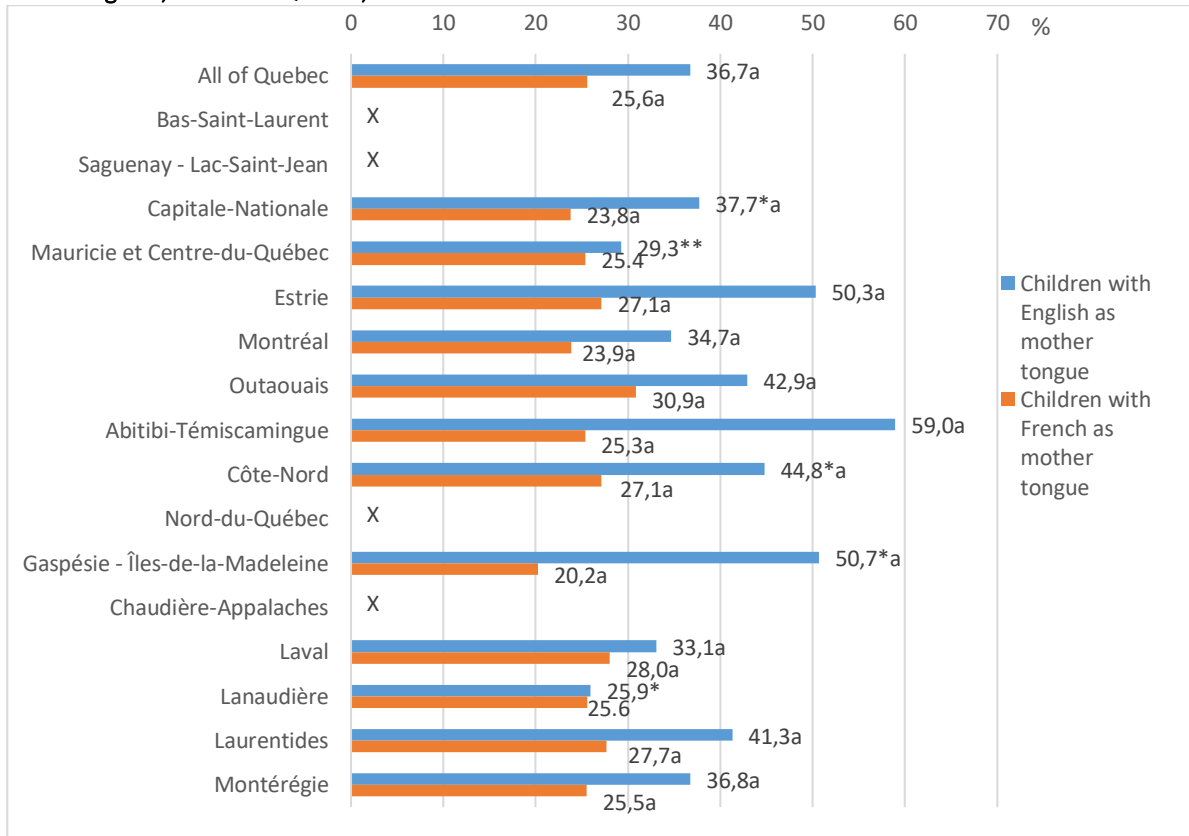
a Expresses a statistically significant difference between proportions of vulnerable children in both linguistic groups at threshold of 0.01 for all of Quebec and at threshold of 0.05 for regions.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

As we can see in figure 2.5, vulnerability in the “Communication skills and general knowledge” area affects approximately 38%* of English-speaking children in the Abitibi-Témiscamingue region, 31% in the Estrie region, 30% in the Capitale-Nationale region, 26% in the Outaouais region, and 26% in the Laurentides region. This proportion represents

approximately one out of every five anglophone children for the Montréal, Laval, and Montreal regions (respectively 20%). In all regions for which estimates are presented, proportions of vulnerable English-speaking kindergarten children in this developmental area are significantly higher than those of francophone children.

Figure 2.6
Proportion of vulnerable kindergarten students in at least one developmental area per mother tongue, health regions, and all of Quebec, 2017



X Confidential data.

* Coefficient of variation between 15% and 25%; interpret with caution.

** Coefficient of variation above 25%; imprecise estimate provided for information purposes only.

a Expresses a statistically significant difference between proportions of vulnerable children in both linguistic groups at threshold of 0.01 for all of Quebec and at threshold of 0.05 for regions.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

In terms of vulnerability in at least one area (figure 2.6), we note that in the Abitibi-Témiscamingue region, nearly six out of ten

English-speaking kindergarten students (59%) are vulnerable, compared to one quarter (25%) of French-speaking kindergarten students⁶. For the

⁶ In Abitibi-Témiscamingue, among English-speaking kindergarten students, 40*% of children are of aboriginal descent. For comparison purposes, they represent 1.8*% of French-speaking children in this region. Thus, complimentary analyses reveal that, proportionately throughout Quebec, a greater number of students of aboriginal descent are vulnerable in each developmental area than non-Aboriginals (data not presented). Results obtained for the Abitibi-Témiscamingue region corroborate these results: we see a significantly higher proportion of vulnerable children in at least one developmental area among Aboriginals than among non-Aboriginals (55% compared to 25%; data not presented). That being said, for the Abitibi-Témiscamingue region, when we examine aboriginal status and the mother tongue, we see a statistically significant difference between the proportion of vulnerable Aboriginal and non-Aboriginal kindergarten students among francophones (54*% compared to 25%), but not among anglophones (60*% compared to 56*%). In other words, for English-speaking

Estrie and Gaspésie-Îles-de-la-Madeleine regions, approximately one out of every two anglophone kindergarten students is in a vulnerable situation (respectively 50% and 51*), whereas this proportion is respectively approximately 27% and 20% among francophone children at the same academic level. In the Outaouais and in the Laurentides regions, vulnerability in at least one area affects just over 40% of English-speaking

children, compared to approximately 31% and 28% among francophones. Statistically significant differences also exist between the proportions of vulnerable children from both mother tongue groups for the Laval, Capitale-Nationale, Montérégie, and Montreal regions, where percentages vary between 33% and 38*% for anglophones and 24% and 28% for francophones.

2.3 VULNERABLE ENGLISH-SPEAKING CHILDREN – COMPARISON OF REGIONS WITH THE REST OF QUEBEC

Does a significant difference exist between the portion of vulnerable anglophone kindergarten students in a certain region when we compare it to the rest of Quebec? If yes, in which developmental areas?

Table 2.2 provides a portrait of statistically significant differences for each health region compared to the rest of Quebec in terms of the proportion of English-speaking kindergarten students considered vulnerable per developmental area as well as in at least one developmental area. The Estrie region distinguishes itself from the rest of Quebec by a

higher proportion of vulnerable English-speaking students, for each vulnerability indicator. In Abitibi-Témiscamingue, higher proportions of vulnerable children compared to the rest of Quebec exist for the “Language and cognitive development” and “Communication skills and general knowledge” indicators as well as the composite indicator. In the Outaouais region, proportionately speaking, more anglophone children are vulnerable compared to the rest of Quebec for the “Physical health and well-being” and “Communication skills and general knowledge” indicators, as well as in at least one developmental area. Contrarily, in Montreal and Laval, we notice that the portion of vulnerable English-speaking children is inferior to what is found in the rest of Quebec for respectively four and two vulnerability indicators.

children living in the Abitibi-Témiscamingue region, Aboriginals seem just as likely to be vulnerable in at least one developmental area than non-Aboriginals.

Table 2.2

Proportion of vulnerable English-speaking kindergarten students per developmental area, health regions, 2017

	Physical health and well-being	Social competence	Emotional maturity	Cognitive development	Communication skills	Vulnerable in at least one developmental area
	(%)					
Bas-St-Laurent	x	x	x	x	x	x
Saguenay-Lac-St-Jean	x	x	x	x	x	x
Capitale-Nationale	13.1 **	13.1 **	8.2 **	18.4 **	29.5 *	37.7 *
Mauricie-Centre-du-Québec	x	x	x	x	25.5 **	29.3 **
Estrie	24.2	+ 26.5	+ 20.3	+ 23.2	+ 31.1	+ 50.3
Montréal	14.8	- 13.2	12.0	11.8	- 19.8	- 34.7
Outaouais	23.5	+ 14.3	12.3	12.1	25.8	+ 42.9
Abitibi-Témiscamingue	22.4 **	x	13.5 **	43.3 *	+ 38.3 *	+ 59.0
Côte-Nord	27.8 **	20.5 **	+ 30.9 **	+ 20.9 **	24.2 **	44.8 *
Nord-du-Québec	x	x	x	x	x	x
Gaspésie-Îles-de-la-Madeleine	28.5 **	28.4 **	+ 17.5 **	x	22.7 **	50.7 *
Chaudière-Appalaches	x	x	x	x	x	x
Laval	10.2	- 12.2	12.2	10.3	- 20.4	33.1
Lanaudière	15.7 **	12.8 **	8.4 **	10.3 **	17.3 **	25.9 *
Laurentides	19.3	12.6 *	15.4	10.3 *	26.0	41.3
Montérégie	16.3	12.1	12.8	13.9	19.8	36.8

X Confidential data.

* Coefficient of variation between 15% and 25%; interpret with caution.

** Coefficient of variation above 25%; imprecise estimate provided for information purposes only.

+/- Proportion for the region statistically greater than or less than that of rest of Quebec at threshold of 0.05.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

MAIN FINDINGS

Comparison between English-speaking and French-speaking kindergarten students – regions and Quebec in general

- On a provincial level, apart from the “Emotional maturity” area, the proportion of vulnerable children is higher among anglophone children than among francophone children for all vulnerability indicators.
- That being said, the differences observed on a provincial level in terms of the relative proportion of vulnerable anglophone and francophone children for five of the six vulnerability indicators are not necessarily reflected in all health regions.
- Statistically significant differences are observed between the proportion of vulnerable anglophone and francophone children in the “Physical health and well-being” and “Communication skills and general knowledge” areas in most health regions.
- Nonetheless, in terms of vulnerability in the “Social competence” and “Language and cognitive development” areas, statistically significant differences are present between the proportions of both linguistic groups in respectively four and five of the ten regions for which results are available.

Comparison between the regions and the rest of Quebec – English-speaking kindergarten students

- Compared with the rest of Quebec, the relative portion of vulnerable English-speaking children is higher for the Estrie region for each of the five developmental areas as well as the composite indicator.
- Contrarily, in Montreal and Laval, the proportions of vulnerable English-speaking children are inferior to those of the rest of Quebec in respectively three and two developmental areas, as well as for the composite indicator in the case of Montreal.

3 CHARACTERISTICS OF CHILDREN AND THEIR HOME ENVIRONMENT PER MOTHER TONGUE AND VULNERABILITY

In the QSCDK report, associations between vulnerability in different developmental areas and demographic, socio-economic, and academic characteristics are highlighted for 2017 kindergarten students (Simard, Lavoie, and Audet, 2018). Thus, we learn that children born outside of Canada are more likely to be vulnerable in the “Physical health and well-being”, “Language and cognitive development”, and “Communication skills and general knowledge” areas, as well as in at least one developmental area, than children born in Canada. Per the Material and Social Deprivation Index (MSDI) (see appendix 1) and per the Socio-Economic Status Index (SES) (see appendix 2), kindergarten students living in a highly disadvantaged area on a material and social level or attending a school located in a disadvantaged area are proportionately more likely to be vulnerable, in each of the developmental areas (including the composite indicator), than those living in highly privileged or privileged sectors or

attending a school that is not located in a disadvantaged sector.

Contrarily, QSCDK results show lower proportions of vulnerable children in each developmental area among those having participated in a Passe-Partout preschool program in the year prior to starting kindergarten compared to other kindergarten students⁷ (for more details on public preschool programs, see appendix 3). As for 4-year-old kindergarten, children who attended full-time are more likely to be vulnerable than those who did not attend a preschool program⁸. It is, however, important to recall that 4-year-old kindergarten targets low-income families⁹. Finally, not attending school in one’s mother tongue is linked to vulnerability in certain developmental areas. Thus, in the QSCDK report (Simard, Lavoie, and Audet, 2018, p. 57, box 3.2), we note that, proportionately, there are more children in this situation who are vulnerable in the “Physical health and well-being”, “Language and cognitive development”, and “Communication skills and general knowledge”

⁷ It is, however, important to note that in volume 2 of the QSPPKS report, multivariate analyses show that compared to children not having participated in a preschool program, those having participated in the Passe-Partout program were less likely to be vulnerable in the “Physical health and well-being” and “Emotional maturity” areas as well as the composite indicator. See Lavoie (2019), p. 44.

⁸ Children who attended 4-year-old kindergarten part-time are proportionately more likely to be vulnerable in the “Physical health and well-being” and “Language and cognitive development” areas as well as in at least one developmental area than children who did not attend a public preschool program.

⁹ In fact, multivariate analyses performed as part of volume 2 of the QSPPKS report show that once the socio-economic and demographic variables considered, children who attended 4-year-old kindergarten (full-time or part-time) are not more likely to be vulnerable than the others, with one exception: for the emotional maturity area, only when compared to children having participated in the Passe-Partout program. See Lavoie (2019), p. 44.

areas as well as in at least one developmental area than those attending school in their language.

What about English-speaking kindergarten students? What are their socio-economic, demographic, and academic characteristics? Are findings the same on provincial and regional levels? Finally, are these characteristics linked to children's mother tongue, which could contribute to explaining the higher proportion of vulnerable anglophone children when compared to francophone children in a vulnerable situation?

3.1 CHARACTERISTICS PER MOTHER TONGUE FOR ALL OF QUEBEC

Results from Table 3.1 indicate that for the province of Quebec, proportionately more English-speaking kindergarten students were born outside of Canada (5%) than French-speaking children (2.7%).

When we study the level of material deprivation of the residential sector, results make it impossible to conclude that there is a statistically significant difference between the proportion of anglophone and francophone children living in a highly disadvantaged environment on a material level (quintile 5). However, proportionately more anglophone children live in a highly disadvantaged environment on a social level (16% compared to 14%). Furthermore, they are less likely to attend a disadvantaged school (MSDI 8, 9, or 10) than French-speaking children

(18% compared to 27%). A complimentary analysis reveals that this result is not limited to English-speaking children living in higher-income neighbourhoods on a material level. In fact, among children living in highly disadvantaged environments on a material level, anglophones are less likely to be registered in a disadvantaged school than francophone children (54% compared to 63%; data not presented).

As for the preschool path, participation in the *Passe-Partout* program is less widespread among English-speaking children than among those whose mother tongue is French (2.2% compared to 17%). It is, however, important to mention that this program is not offered in Montreal nor in Laval, two regions where an important part of Quebec's anglophone population lives. That being said, anglophone children are more likely to have attended 4-year-old kindergarten full-time (1.7% compared to 1.2%) and part-time (8% compared to 4.0%) than francophone children. A greater number of English-speaking children attended no public preschool program than French-speaking children (88% compared to 78%).

We should add that three out of five anglophone children attend English school, whereas nearly all francophone children are registered in a school where the language of instruction is French. In other words, proportionately more English-speaking children attend a school where the language of instruction is not their mother tongue (40% compared to 2.3%).

Table 3.1

Certain characteristics of kindergarten students and their environment per their mother tongue, Quebec, 2017

	Children whose mother tongue is English	(%)	Children whose mother tongue is French
Place of birth			
Canada	94.7 ^a		97.3 ^a
Outside of Canada	5.3 ^a		2.7 ^a
Material deprivation			
Quintile 1 – Highly privileged	29.7 ^a		20 ^a
Quintile 2	21.8		22.8
Quintile 3	17.8 ^a		21.4 ^a
Quintile 4	14.5 ^a		19.6 ^a
Quintile 5 – Highly disadvantaged	16.2		16.4
Social deprivation			
Quintile 1 – Highly privileged	24.5 ^a		22.8 ^a
Quintile 2	20.9 ^a		23.5 ^a
Quintile 3	19.4 ^a		22.2 ^a
Quintile 4	19.6 ^a		17.9 ^a
Quintile 5 – Highly disadvantaged	15.5 ^a		13.6 ^a
School's Socio-Economic Status Index			
Non-disadvantaged - Deciles 1 to 7	81.5 ^a		72.9 ^a
Disadvantaged - Deciles 8 to 10	18.5 ^a		27.1 ^a
Participation in one of the public preschool programs			
Attended 4-year-old kindergarten full-time	1.7 ^a		1.2 ^a
Attended 4-year-old kindergarten part-time	8.4 ^a		4 ^a
Participated in the Passe-Partout program	2.2 ^a		16.8 ^a
Participated in no public preschool program	87.7 ^a		78 ^a
Language of instruction corresponds to mother tongue			
Yes	60.2 ^a		97.7 ^a
No	39.8 ^a		2.3 ^a

^a Expresses a statistically significant difference between the proportions of children from both linguistic groups at threshold of 0.01 for all of Quebec.

Source: Institut de la statistique du Québec, 2017 *Quebec Survey of Child Development in Kindergarten*.

In short, we observe that anglophone children present certain characteristics generally associated with a higher probability of vulnerability in kindergarten, namely being born outside of Canada, living in a highly disadvantaged sector on a social level, and not attending school where the language of instruction corresponds to their mother tongue. Proportionately, they are, however, less likely to have participated in the *Passe-Partout* program, a characteristic linked to a lower risk of vulnerability in the “Physical health and well-being”, and “Emotional maturity” areas as well as in at least one developmental area, once various demographic and socio-economic variables are considered (see Lavoie, 2019).

What’s more, fewer English-speaking children than French-speaking children attend school in a disadvantaged area, a characteristic generally associated with vulnerability in kindergarten.

3.2 CHARACTERISTICS PER MOTHER TONGUE BY HEALTH REGION (HR)

The previous analyses provide a comparative portrait of the characteristics of kindergarten students per their mother tongue. Are the same results present in different health regions?

As was observed for the province of Quebec, anglophone children from the *Montréal* region are more likely to have been born outside of Canada than francophone children

(3.8% compared to 2.2 % in Table 3.2). However, the opposite result is observed in *Montréal* (7% compared to 10%).

Results vary from one region to the next in terms of residing in a highly disadvantaged sector on a material level. Whereas for the province of Quebec, no significant difference is observed between the two linguistic groups, English-speaking children from the *Estrie* region, the *Outaouais* region, and *Laval* are more likely to be in this situation (approximately 22% for the first region and 17% for the two other regions) than French-speaking children (17%, 13%, and 10%). Contrarily, still considering the extreme material disadvantage of the residential sector, in *Montréal* and in the *Montréal* region, the proportion of English-speaking children living in this type of neighbourhood is lower (19% and 6%) than that of French-speaking children (25% and 11%).

Unlike the result obtained for the province of Quebec, in general, there are proportionately fewer anglophone children from the *Montréal*, *Laval*, and *Montréal* regions who live in highly disadvantaged environments on a social level (respectively 21%, 6*, and 8%) than francophone children (35%, 11%, and 12 %). In the other regions (*Capitale-Nationale*, *Estrie*, *Outaouais*, *Laurentides*), the study does not make recognizing statistically significant differences between the two linguistic groups possible. However, we observe that three of these regions present a tendency much like the provincial data.¹⁰

¹⁰ As well as the *Mauricie* and *Centre-du-Québec* region, which offers an estimate with a great deal of imprecision (**).

English-speaking kindergarten students from Montreal, Laval, Lanaudière, and Montérégie regions are less likely to be registered in a disadvantaged school than French-speaking children, a result that is in line with provincial data. Contrarily, in Abitibi-Témiscamingue, 74% of anglophone children attend school in a disadvantaged environment compared to 48% of francophone children.

As for participation in the Passe-Partout program prior to starting kindergarten, as is the case for the province of Quebec, a proportionately smaller number of English-speaking children from the Estrie region and the Montérégie region (respectively 12*% and 2.9*%) participated compared to francophone children (39% and 12%). However, in the Outaouais region, a greater proportion of anglophone children participated in this public preschool program compared to francophone children (9% compared to 3.5%).

Finally, in all regions for which sufficiently precise results are available, proportionately more English-speaking kindergarten students do not attend a school where the language of instruction is their mother tongue compared to francophone students.

Table 3.2

Proportion of kindergarten students having a specific characteristic per mother tongue, health region, and all of Quebec, 2017

	Born outside of Canada	Living sector highly disadvantaged on material level	Living sector highly disadvantaged on social level	Registered in a school in a disadvantaged sector	Participated in Passe-Partout program	Language of instruction corresponds to mother tongue
	(%)					
Bas-Saint-Laurent						
Mother tongue is English	x	x	x	x	x	x
Mother tongue is French	x	x	x	x	x	x
Saguenay–Lac-Saint-Jean						
Mother tongue is English	x	x	x	x	x	x
Mother tongue is French	x	x	x	x	x	x
Capitale-Nationale						
Mother tongue is English	13.4 ** a	x	23.4 *	8.2 **	x	35.7 * a
Mother tongue is French	3.1 a	x	14.2	10.1	x	97.3 a
Mauricie et Centre-du-Québec						
Mother tongue is English	x	39.5 *	21.0 **	35.2 **	x	48.3 * a
Mother tongue is French	x	22.7	11.9	27.8	x	98.3 a
Estrie						
Mother tongue is English	2.6 **	22.3 a	16.0 *	32.2	11.7 * a	69.2 a
Mother tongue is French	1.1	17.1 a	14.7	29.1	38.8 a	96.0 a
Montreal						
Mother tongue is English	6.5 a	19.3 a	20.6 a	20.2 a	...	57.2 a
Mother tongue is French	9.9 a	25.1 a	35.2 a	46.6 a	...	97.8 a
Outaouais						
Mother tongue is English	3.3 *	16.9 a	16.6	24.6	8.7 a	66.3 a
Mother tongue is French	2.5	12.8 a	14.8	28.0	3.5 a	98.5 a
Abitibi-Témiscamingue						
Mother tongue is English	x	31.7 *	x	74.2 a	x	44.1 * a
Mother tongue is French	x	27.2	x	47.7 a	x	98.9 a

Côte-Nord																
Mother tongue is English	X		19.3	**		X		X		X		X				
Mother tongue is French	X		20.1			X		X		X		X				
Nord-du-Québec																
Mother tongue is English	X		X			X		X		X		X				
Mother tongue is French	X		X			X		X		X		X				
Gaspésie-Îles-de-la-Madeleine																
Mother tongue is English	X		64.7	*		X		80.4		X		77.6	a			
Mother tongue is French	X		60.3			X		63.6		X		98.4	a			
Chaudière-Appalaches																
Mother tongue is English	X		X			X		X		X		49.7	**	a		
Mother tongue is French	X		X			X		X		X		99.1		a		
Laval																
Mother tongue is English	4.3	*	16.8	a		5.8	*	a		9.3	a	...	49.4	a		
Mother tongue is French	4.1		9.9	a		11.2		a		15.3	a	...	97.8	a		
Lanaudière																
Mother tongue is English	X		8.8	**		X		19.8	*	a		X	55.5	a		
Mother tongue is French	X		17.9			X		31.4		a		X	98.2	a		
Laurentides																
Mother tongue is English	5.6	**	a	8.2	*	8.5	*			18.5		X	62.0	a		
Mother tongue is French	1.2		a	12.2		9.4				19.4		X	98.0	a		
Montérégie																
Mother tongue is English	3.8		a	5.9	a	8.3	a			8.8	a	2.9	*	a	70.8	a
Mother tongue is French	2.2		a	10.6	a	12.1	a			21.7	a	12.0		a	96.7	a

X Confidential data

Figures not applicable

* Coefficient of variation included between 15% and 25%; interpret with caution.

** Coefficient of variation above 25%; imprecise estimate provided for information purposes only.

a Expresses a statistically significant difference between proportions of vulnerable children in both linguistic groups at threshold of 0.01 for all of Quebec and at threshold of 0.05 for regions.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

MAIN FINDINGS

The previous analyses show that, proportionately, more English-speaking kindergarten students than francophone students are born outside of Canada, live in a highly socially disadvantaged environment, and attend a school where the language of instruction is not their mother tongue, characteristics that can be linked to vulnerability in certain developmental areas. They are also more likely than francophone students to have attended 4-year-old kindergarten full-time, but proportionately less likely to have participated in the *Passe-Partout* preschool program, and participation in the latter is linked to a lower probability of vulnerability in the “Physical health and well-being” and “Emotional maturity” areas, as well as for the composite indicator, once the other demographic, socio-economic, and preschool factors have been considered (Lavoie, 2019). However, no significant difference is detected between anglophones and francophones in terms of the relative portion of children living in highly disadvantaged sectors on a material level, a factor generally linked to vulnerability. Finally, compared to French-speaking children, there are proportionately fewer anglophone children who attend schools in disadvantaged socio-economic sectors, even when they live in highly disadvantaged sectors on a material level¹¹.

On a regional level, the low number of English-speaking children in several regions prevents the

presentation of data for confidentiality reasons or leads to imprecise estimates, which limits the conclusions that may be formulated. Nonetheless, one result remains consistent for all regions examined. Proportionately, fewer anglophone children attend schools where the language of instruction is their mother tongue compared to francophone children, which could be linked to their probability of being vulnerable in certain developmental areas, particularly in the “Communication skills and general knowledge” area, even when other factors are considered (Lavoie, 2019, Table 10, p. 39).

3.3 CHARACTERISTICS AND VULNERABILITY

Up until now, analyses reveal few characteristics of anglophone children that may help us understand why there are proportionately more English-speaking children in a situation of vulnerability in four developmental areas when we compare them to francophone children. For the province of Quebec, certain explanations could, however, be invoked, including the fact that, proportionately, a greater number of English-speaking children were born outside of Canada and are less likely to attend school where the language of instruction is their mother tongue.

We also observe a lack of consistency in the results among health regions in terms of the relation of the mother tongue and socio-economic factors that can be linked to

¹¹ Because there are fewer English schools in Quebec, and these must cover a vast territory (especially outside of urban centres), they may have to welcome students from a wide range of socio-economic sectors. Thus, an anglophone child living in a highly disadvantaged sector would not necessarily attend school in his “neighbourhood”, but in a school located in a more “favourable” socio-economic neighbourhood. It is, however, difficult to evaluate the effects of such a situation on anglophone children presenting a greater probability of vulnerability in one of the developmental areas.

vulnerability. For example, in certain regions, proportionately, a greater number of anglophone children attending kindergarten live in highly disadvantaged environments on a material level than francophone children (ex. Estrie, Outaouais, Laval), whereas in other regions, the opposite situation is observed (ex. Montreal, Montérégie). English-speaking kindergarten students therefore seem to have varied socio-economic profiles per the region they live in. Unfortunately, the lack of headcount makes drawing a complete regional portrait difficult. For this reason, the following analyses are only presented on a provincial level.

3.3.1 Vulnerability in each area of development and in at least one area according to certain characteristics by mother tongue

In the previous section, we observed that English-speaking and French-speaking kindergarten students do not share all the same individual and socio-economic characteristics. What about children in a situation of vulnerability in one of the five developmental areas? Can differences be observed per children's mother tongue? To explore these questions, let's examine the number of vulnerable anglophone and francophone children for each developmental area per the previously mentioned characteristics. We remind you that these results have limitations since they do not allow for simultaneous control of several factors that may be linked to vulnerability and do not account for possible interactions between variables.

Data from the QSCDK report shows that for three of the five developmental areas ("Physical health and well-being", "Language and cognitive development", and "Communication skills and general knowledge"), the proportion of

vulnerable kindergarten students is greater among those born outside of the country compared to children born in Canada. Thus, within the framework of the present analyses, we detect this association only among French-speaking children for the "Physical health and well-being" area (Table 3.3). When we look at anglophones, the data does not make it possible to detect statistically significant differences between this characteristic and vulnerability indicators (Table 3.4). Hence, although proportionately, more English-speaking children are born outside of the country than French-speaking children (Table 3.1), this characteristic does not appear to be linked to the proportion of vulnerable children for this precise linguistic group.

In general, results from Tables 3.3 and 3.4 show that, compared to children living in a highly favourable environment on a material and social level, those who live in a highly disadvantaged sector are proportionately more likely to be vulnerable in the different developmental areas, with the exception of anglophone children in the "Emotional maturity" area. In fact, no statistically significant difference is detected between the proportions of vulnerable children in this area per the level of material deprivation of their residential sector. That being said, for both anglophone and francophone children, results between this socio-economic characteristic and vulnerability in the different developmental areas remain similar.

For both the group of francophone kindergarten students (Table 3.3) and the group of anglophone kindergarten students (Table 3.4), we observe a higher proportion of vulnerable children among those attending school in a disadvantaged area, namely a school ranked 8, 9, or 10 by the MSDI.

Among French-speaking kindergarten students, those having participated in the Passe-partout program are proportionately less likely to be vulnerable in the different developmental areas compared to the other categories of children (Table 3.3). Among anglophone children (Table 3.4), those who participated in the Passe-Partout program are proportionately less likely to be vulnerable in the “Physical health and well-being”, “Social competence”, “Emotional maturity”, and « Communication skills and general knowledge » areas, but only compared to children having attended 4-year-old kindergarten full-time. Although different in many regards, the association between the Passe-Partout program and vulnerability in different developmental areas also comprises certain similarities among these two linguistic groups.

A greater proportion of vulnerable francophone children is found in each developmental area among those attending school where the language of instruction is not their mother tongue compared to those studying in their mother tongue (Table 3.3). Hence, among anglophone kindergarten students (Table 3.4), those who are attending school where the language of instruction is not their mother tongue are more inclined to be vulnerable than those studying in their mother tongue in the “Language and cognitive development” and “Communication skills and general knowledge” areas. However, they are proportionately less likely to be vulnerable in the “Physical health and well-being” and “Social competence” areas than anglophones studying in their mother tongue.

Table 3.3

Proportion of vulnerable kindergarten children per different characteristics, children whose mother tongue is French, Quebec, 2017

	Physical health and well-being		Social competence		Emotional maturity		Language and cognitive development		Communication skills and general knowledge		Vulnerable in at least one developmental area	
	%											
Total	9.8		9.9		11.6		10.4		8.2		25.6	
Place of birth												
Canada	9.8	a	9.8		11.6		10.4		8.1		25.5	
Outside of Canada	12.4	a	10.7		11.4		10.4		9.2		27.7	
Material deprivation												
Quintile 1 – Highly privileged	7.5	a	7.5	a,b	9.8	a,b,c,d	7.5	a	6	a,b	20.8	a
Quintile 2	8.5	a	8.8	a,b	10.9	a,e,f	8.6	a	7.3	a	23.2	a
Quintile 3	9.7	a	10.2	a	11.6	b,g	10.3	a	7.8	b	25.5	a
Quintile 4	11.1	a	10.9	b	12.2	c,e,h	12.4	a	9.3	a,b	28	a
Quintile 5 – Highly disadvantaged	13.2	a	12.3	a,b	14	d,f,g,h	14	a	11	a,b	31.9	a
Social deprivation												
Quintile 1 – Highly privileged	7.4	a,b	8.1	a,b,c	9.8	a,b,c,d	8.5	a,b	6.5	a,b,c,d	22	a,b
Quintile 2	9.2	a	8.9	d,e	11	a,e,f	10	a	7.8	a,e,f	24.6	a
Quintile 3	9.4	b	9.8	a,f,g	11.8	b,g,h	10	b	7.9	b,g,h	25.3	b
Quintile 4	11.3	a,b	11.2	b,d,f,h	12.9	c,e,g	11.6	a,b	9.3	c,e,g	27.9	a,b
Quintile 5 – Highly disadvantaged	13.5	a,b	12.6	c,e,g,h	13.7	d,f,h	12.9	a,b	10.2	d,f,h	30.7	a,b
School's Socio-Economic Status Index												
Non-disadvantaged - Deciles 1 to 7	9.1	a	9.3	a	11.1	a	9.4	a	7.6	a	24.1	a
Disadvantaged - Deciles 8 to 10	11.8	a	11.3	a	13	a	13.1	a	9.7	a	29.6	a
Participation in one of the public preschool programs												
Attended 4-year-old kindergarten full-time	16.9	a	14	a,b	15.4	a,b	17.4	a	12	a	37.6	a
Attended 4-year-old kindergarten part-time	12.8	a	11	c	13.2	c	12.2	a	10.1	b	30.2	a
Participated in Passe-Partout program	7.8	a	8.2	a,c,d	10	a,c,d	9.4	a	7.4	a,b	22.6	a
Participated in no public preschool program	10	a	10.1	b,d	11.8	b,d	10.4	a	8.2	a,b	25.8	a
Language of instruction corresponds to mother tongue												
Yes	9.8	a	9.8	a	11.5	a	10.3	a	7.7	a	25.3	a
No	13.5	a	14.7	a	14.6	a	14	a	29.7	a	40.8	a

a-h For a given variable, the same exponent expresses a significant difference between proportions within the same column at threshold 0.01.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

Table 3.4

Proportion of vulnerable kindergarten students per different characteristics, children whose mother tongue is English, Quebec, 2017

	Physical health and well-being		Social competence		Emotional maturity		Language and cognitive development		Communication skills and general knowledge		Vulnerable in at least one developmental area	
	%											
Total	16		13.6		12.7		12.8		21.3		36.7	
Place of birth												
Canada	16.1		13.5		12.6		12.7		20.9		36.4	
Outside of Canada	12.1		13.5		12		10.5		25.7		37	
Material deprivation												
Quintile 1 – Highly privileged	12.8	a,b,c	11.5	a,b	12.1		10.3	a,b,c	17.4	a,b,c	32.2	a,b,c
Quintile 2	13.1	d,e,f	12.1	c,d	10.9		9.7	d,e,f	18.3	d,e,f	31.9	d,e,f
Quintile 3	18	a,d	14.3		13.1		14.6	a,d	23.6	a,d	39.9	a,d
Quintile 4	19.3	b,e	16	a,c	14		14.8	b,e	23.1	b,e,g	40.4	b,e
Quintile 5 – Highly disadvantaged	19.8	c,f	16.3	b,d	14.4		16.9	c,f	28.3	c,f,g	44.6	c,f
Social deprivation												
Quintile 1 – Highly privileged	12	a,b	11.2	a,b	10.9	a	9.3	a,b,c,d	16.3	a,b,c,d	31	a,b,c
Quintile 2	14.6	c,d	12.1	c	11.5	b	13	a	20.2	a,e,f	34.7	d,e
Quintile 3	15.2	e	13.9		12.8		12.7	b	20.7	b,g,h	36.2	a,f
Quintile 4	18.2	a,c	14.5	a	13.4		15	c	25.8	c,e,g	40.2	b,d
Quintile 5 – Highly disadvantaged	21.6	b,d,e	17.5	b,c	16.1	a,b	14.7	d	25.5	d,f,h	44.5	c,e,f
School's Socio-Economic Status Index												
Non-disadvantaged-Deciles 1 to 7	14.9	a	13	a	12.1	a	11.7	a	19.5	a	34.7	a
Disadvantaged-Deciles 8 to 10	21.2	a	16.1	a	15	a	17.4	a	29.4	a	45.8	a
Participation in one of the public preschool programs												
Attended 4-year-old kindergarten full-time	35.1	a,b,c	24.3	* a,b,c	26.5	a,b,c	18.1	*	34.1	a,b	59.7	a,b,c
Attended 4-year-old kindergarten part-time	18.7	a	13.9	a	12.1	a	15.8		24.6		39.4	a
Participated in a public preschool program	13.1	* b	9.9	* b	9.4	** b	15.1	*	19.7	* a	33	b
Participated in no public preschool program	15.4	c	13.4	c	12.5	c	12.2		20.8	b	36.1	c
Language of instruction corresponds to mother tongue												
Yes	18.3	a	14.6	a	12.7		11.3	a	15.9	a	34.7	a
No	12.6	a	12	a	12.7		15	a	29.6	a	39.8	a

* Coefficient of variation between 15% and 25%; interpret with caution.

** Coefficient of variation above 25%; imprecise estimate provided for information purposes only.

a-h For a given variable, the same exponent expresses a significant difference between the proportions within a same column at threshold 0.01

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

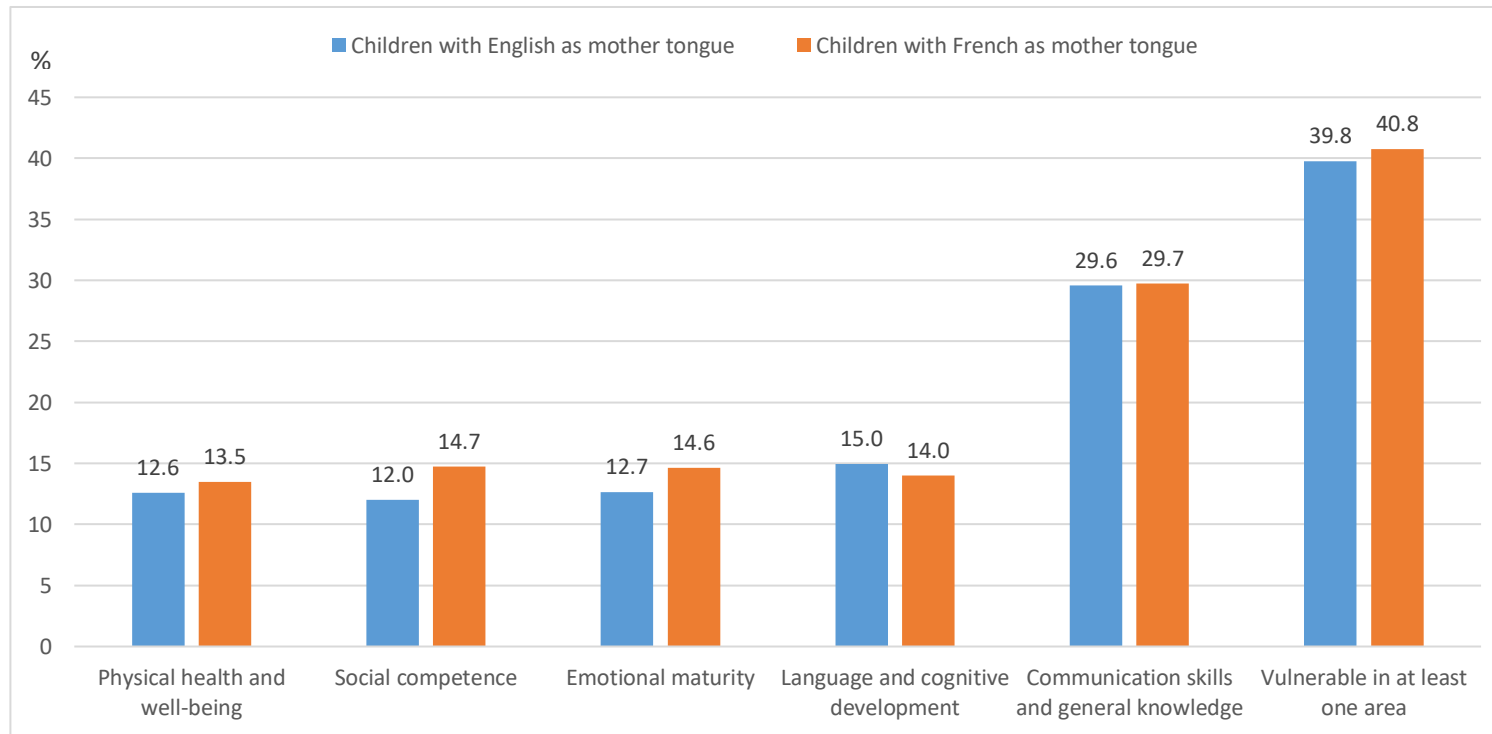
3.3.2 Vulnerability per language of instruction and mother tongue

The previous analyses showed that anglophone children attending a school where the language of instruction is not their mother tongue are proportionately more likely to be vulnerable in the “Language and cognitive development” and “Communication skills and general knowledge” areas, but less likely to be vulnerable in the “Physical health and well-being” as well as the “Social competence” areas than children studying in their language. For their part, when we compare them to those studying in their mother tongue, francophone children that are not in this situation are more likely to be vulnerable in each developmental area. Thus, if we examine children separately according to whether they attend school in their mother tongue, can differences be observed between the proportions of vulnerable children per their mother tongue?

Results for children not studying in their mother tongue show that the proportions of English-speaking and French-speaking children in a situation of vulnerability are similar for all developmental areas (figure 3.1): no statistically significant differences are detected between these two groups. In other words, studying in a language that is not their mother tongue would influence the development of both francophone and anglophone children. What’s more, since proportionately, there are more anglophones who attend schools where the language of instruction is not their mother tongue (Table 3.1), this factor could explain, in part, the higher proportion of vulnerable anglophone children overall.

Figure 3.1

Proportion of vulnerable kindergarten students for each developmental area and for at least one area per mother tongue, children whose language of instruction is not their mother tongue, Quebec, 2017¹



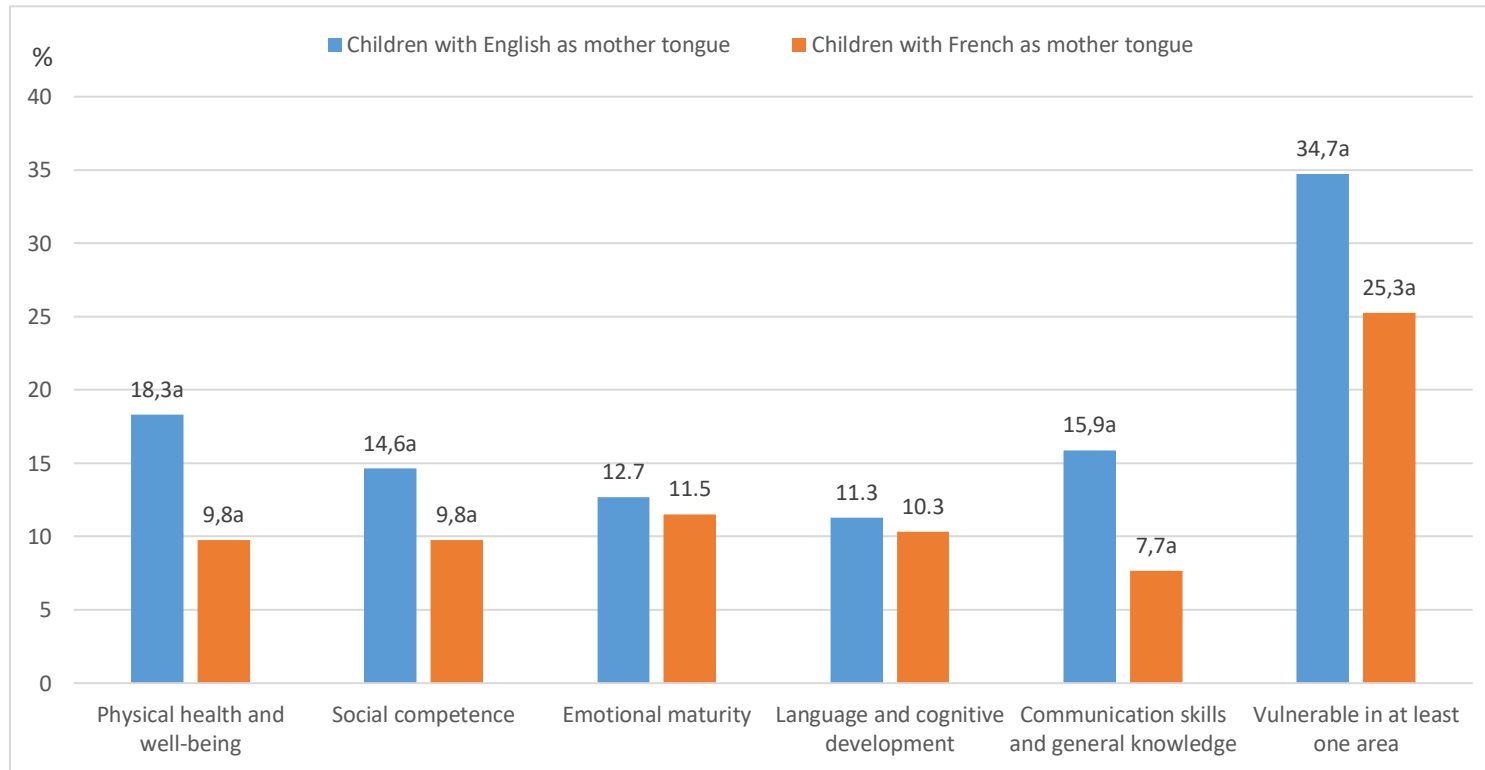
¹ The association tests performed do not make detecting a statistically significant difference between both linguistic groups possible at threshold of 0.01. Estimates are presented for information purposes.

Source: Institut de la statistique du Québec, 2017 *Quebec Survey of Child Development in Kindergarten*.

However, when we examine the results pertaining to children who attend school where the language of instruction is their mother tongue, we notice that for the “Physical health and well-being”, “Social competence”, and “Communication skills and general knowledge” areas (figure 3.2), the proportion of vulnerable English-speaking children is greater than that of French-speaking children. In other words, even when they attend English school, a proportionately greater number of anglophone children remain vulnerable in these three developmental areas compared to francophone children who attend French school. Consequently, this contributes to the gap between these two linguistic groups on the composite indicator.

Figure 3.2

Proportion of vulnerable kindergarten students for each developmental area and for at least one area per mother tongue, children whose language of instruction corresponds to their mother tongue, Quebec, 2017



a Expresses a statistically significant difference between proportions of vulnerable children in both linguistic groups at threshold of 0.01 for all of Quebec.

Source: Institut de la statistique du Québec, 2017 Quebec Survey of Child Development in Kindergarten.

MAIN FINDINGS

- Globally, despite certain differences, the characteristics associated with vulnerability for each developmental area are somewhat the same among English-speaking and French-speaking children. However, the relationship between studying in one’s mother tongue or not and vulnerability offers contrasting results between the two linguistic groups.
- Among children not studying in their mother tongue, no statistically significant difference is detected between the proportions of vulnerable anglophone and francophone children for each developmental area. That being said, since the proportion of English-speaking children studying in a language that is not their mother tongue is higher than that of French-speaking children, this factor contributes to, in part, accounting for the difference between the two linguistic groups in terms of the proportions of vulnerable children.
- When we examine children who study in their mother tongue, there are proportionately more English-speaking children who are vulnerable, compared to French-speaking children in the “Physical health and well-being”, “Social competence”, and “Communication skills and general knowledge” areas. Consequently, not studying in one’s mother tongue does not appear to be the only explanation for differences detected between anglophones and francophones in terms of their developmental level. Other factors that were not measured in the QSCDK must be considered.

4 CHARACTERISTICS MEASURED IN THE QSPPKS PER MOTHER TONGUE

For a clearer picture of the situation of anglophone kindergarten students and to develop explanatory leads that account for their vulnerability in certain developmental areas compared to francophone children, we searched for socio-economic or preschool factors that could be linked to vulnerability in another data source, namely the 2017 Quebec Survey on the Preschool Path of Kindergarten Students (QSPPKS).

4.1 A FEW RESULTS FROM THE QSPPKS REPORT

Volume 2 of the 2017 QSPPKS report studied the link between the developmental level of kindergarten children and the different characteristics of daycare attendance using multivariate analyses. The results, which make simultaneously taking into account several factors linked to the preschool path possible, include the fact that kindergarten students whose parents have little education or those from low-income families are more likely to be vulnerable in each developmental area than those from families where at least one parent has a university degree or average or high-income families (Lavoie, 2019, p. 39). Furthermore, we note in this report that compared to children from intact families, children from single-parent

families are more likely to be vulnerable in the “Physical health and well-being”, “Social competence”, and “Emotional maturity” areas, whereas those from blended families are more likely to be vulnerable in each developmental area, with the exception of the “Emotional maturity” area. Furthermore, results indicate that attending daycare during the preschool phase decreases the probability of children’s vulnerability in “Communication skills and general knowledge”, but increases it in the “Social skills” and “Emotional maturity” areas.

As for children who were in daycare and their daycare-related characteristics, we notice, among other things, that they are more likely to be vulnerable in the “Physical health and well-being” and “Communication skills and general knowledge” areas when they started attending daycare at 36 months or older compared to those who were in daycare earlier, prior to the age of 12 months (Lavoie, 2019, p. 47)¹². Children who were in daycare at some point during their preschool path are also more likely to be vulnerable in the “Physical health and well-being” and “Social competence” areas when they attended three or more different daycare environments compared to just one as well as in the “Emotional maturity” area when they attended two daycare environments or more.

¹² In the case of vulnerability in the “Communication skills and general knowledge” area, children who began attending daycare at 18 months or older are also more likely to be vulnerable than those who began attending daycare before 12 months.

Finally, children who were in daycare, on average, from 35 hours to under 45 hours per week or 45 hours and more are also more likely to be vulnerable in the “Social competence” and “Emotional maturity” areas than those who were in daycare less than 25 hours per week on average.

4.2 CERTAIN CHARACTERISTICS OF KINDERGARTEN STUDENTS AND THEIR ENVIRONMENT PER MOTHER TONGUE

Do the characteristics of kindergarten students examined in the QSPPKS report that appear to be linked to vulnerability in certain developmental areas differ per children’s mother tongue? Here are a few results from bivariate analyses that, despite the fact they do not simultaneously account for several factors, provide interesting, thought-provoking elements about the situation of English-speaking kindergarten students.

As Table 4.1 shows, children whose mother tongue is English are more likely than

francophone children to live in an intact family (82% compared to 74%) and less likely than the latter to live with a single parent (11% compared to 15%) or in a blended family (7*% compared to 11%). As for their socio-economic conditions, anglophone children are proportionately more likely to come from a low-income family than francophone children (26% compared to 21%).

We also note that regular use of daycare services prior to starting kindergarten is less common, proportionately speaking, among English-speaking children than among French-speaking children (88% compared to 94%). Among children who attended daycare during a period of at least three consecutive months during their preschool path, those whose mother tongue is English were more likely to have begun attending daycare at the age of 3 or older compared to French-speaking children (17% compared to 8%). Proportionately, there are also more anglophone children than francophone children who attended a single daycare environment (46% compared to 39%) and proportionately fewer anglophone children attended three or more daycare environments (17% compared to 23%).

Table 4.1

Certain characteristics of kindergarten students and their environment per mother tongue, Quebec, 2017

	Children whose mother tongue is English		Children whose mother tongue is French	
	%			
Highest diploma obtained by one parent or the other or by single parent				
No diploma	2.4	**	3.8	
High school diploma	19.8		21.3	
College diploma	21		23.3	
University diploma	56.8		51.6	
Type of family				
Single-parent family	10.8	a	15.1	a
Blended family	7.4	* a	10.9	a
Intact family	81.8	a	74.1	a
Low income indicator				
Low-income households	26.5	a	21.5	a
Other households	73.5	a	78.5	a
Daycare attendance				
Children who attended daycare	87.9	a	93.7	a
Children who did not attend daycare	12.1	a	6.3	a
Number of daycare environments attended				
One	45.5	a	39.1	a
Two	37.3		38	
Three or more	17.2	a	22.9	a
Age of daycare enrollment				
Under 12 months	25.8	a	44.5	a
Between 12 months and under 36 months	56.8	a	47.4	a
36 months or older	17.4	a	8	a
Average number of weekly hours in daycare				
Less than 25 hours	16.8		12.4	
Between 25 hours and less than 35 hours	24.9		26.1	
Between 35 hours and less than 45 hours	47		50.7	
45 hours or more	11.3		10.7	

MAIN FINDINGS

- When compared to French-speaking children, anglophone children are proportionately less likely to come from single-parent or blended families, two characteristics linked with a greater probability of vulnerability in different developmental areas.

- However, anglophone children are more likely than francophone children to be part of a low-income family, a characteristic associated with an increased probability of vulnerability in each of the developmental areas (Lavoie, 2019). Also, proportionately fewer English-speaking children attended a daycare environment prior to starting kindergarten, which, as previously mentioned, may be a

favourable factor for the development of social competences and emotional maturity, while constituting an unfavourable characteristic regarding communication skills and general knowledge.

- Among children who attended daycare prior to kindergarten, proportionately more anglophones than francophones began attending daycare from the age of 36 months or older and remained at the same daycare throughout their preschool path. Later daycare enrollment is associated with a higher probability of vulnerability in two developmental areas (“Physical health and well-being”; “Communication skills and general knowledge”) whereas contrarily, remaining in the same daycare environment reduces the risks of vulnerability for children in three of the five developmental areas.
- Finally, no statistically significant difference is detected between both linguistic groups in regard to one parent having a higher

education diploma or the average number of hours spent in daycare each week.

In summary, QSPPKS data analyses show that, compared to francophone children, proportionately more English-speaking children cumulate characteristics linked to a higher probability of being vulnerable in certain developmental areas (for ex., living in a low-income household, not attending daycare prior to starting school, beginning to attend daycare later) and other characteristics associated with a lower probability of vulnerability (living in an intact family, not attending daycare before starting school¹³, attending a single daycare environment).

That being said, these are hypothetical links. Additional analyses would be necessary to confirm the existence of associations between these characteristics and vulnerability for English-speaking kindergarten students specifically.

¹³ This characteristic is present in both categories since it is linked to a greater risk of vulnerability in the “Communication skills and general knowledge” area, but it is also associated with a lower probability of vulnerability in the “Social competence” and “Emotional maturity” areas.

5 CONCLUSION

BRIEF SUMMARY OF MAIN RESULTS

The purpose of this report was to answer the following question: how can we explain that when compared to children whose mother tongue is French, proportionately more English-speaking children are vulnerable in four of the five developmental areas measured by the Early Development Instrument (EDI)? A second interrogation pertained to a regional consideration: is the situation of anglophone children the same in all Quebec health regions?

An initial factor that stands out from QSCDK data analyses is that proportionately more English-speaking children do not attend a school where the language of instruction is their mother tongue. In fact, nearly 40% of anglophone kindergarten students are in this situation, whereas this proportion corresponds to 2.3% among francophone children. Let us recall that for all children (see Simard, Lavoie and Audet, 2018), this factor is associated with vulnerability in the “Physical health and well-being”, “Language and cognitive development”, and “Communication skills and general knowledge” areas as well as in at least one developmental area.

Since this situation is more common among anglophone children, “studying in a language that is not one’s mother tongue” represents a factor that may, in part, explain the results pertaining to the developmental level of English-speaking kindergarten students, as measured in the QSCDK, particularly in areas linked to cognitive and communication skills. In fact, compared to

anglophone children studying in their mother tongue, those for whom this is not the case are proportionately more likely to be vulnerable in the “Language and cognitive development” and “Communication skills and general knowledge” areas as well as for the composite indicator, which is in line with results obtained in the QSCDK report. However, among English-speaking children, those who study in a language that is not their mother tongue are proportionately less likely to be in a situation of vulnerability in the “Physical health and well-being” and “Social competence” areas than those studying in their language.

Furthermore, when we examine the proportions of vulnerable children per mother tongue and the fact that they are studying in their language or not, no statistically significant difference is detected between anglophone and francophone children who are studying in a language that is not their mother tongue. However, if we focus on children studying in their mother tongue, we observe that the proportion of vulnerable anglophone children remains significantly higher than that of francophone children for four of the six developmental indicators. In other words, the language of instruction represents an insufficient factor for explaining the relatively higher proportion of anglophone children in a situation of vulnerability compared to francophone children.

Although few intersecting variables available in the QSCDK and QSPPKS provide results that foster a better understanding of the situation of anglophone children, two characteristics appear to be more relevant in this regard, namely participation in the Passe-Partout program and the low-income measure.

We know that proportions of vulnerable children are lower among those having participated in the Passe-Partout program (Simard, Lavoie and Audet, 2018). More specifically, QSPPKS multivariate analyses show that, even considering other factors, participation in this program reduces the probability of a kindergarten student being considered vulnerable in the “Physical health and well-being” and “Emotional maturity” areas as well as in at least one developmental area (Lavoie, 2019) compared to those having participated in no public preschool program before starting kindergarten. Thus, compared to French-speaking children, proportionately fewer English-speaking children participated in the Passe-Partout program before starting kindergarten (approximately 2.2% compared to 17%) and a proportionately greater number participated in no public preschool program (respectively 88% compared to 78%). This situation may not be unrelated to the fact that the Passe-Partout program is not offered in the Montreal region nor in the Laval region, two regions where important anglophone communities are present. Yet, results from this report for English-speaking children are in line with QSCDK and Volume 2 of the QSPPKS reports, with a few small variations: anglophone children who participated in the Passe-Partout program are less likely than children having attended 4-year-old kindergarten full-time to be vulnerable in four out of five developmental areas. However, they did not distinguish themselves from those who did not take part in a preschool program.

As for the low-income measure, analyses showed that the proportion of anglophone children living in a low-income household is higher than among francophone children (26% compared to 21%).

Thus, as outlined in Volume 2 of the QSPPKS report, even when a set of factors is considered, children living in a low-income household are more likely to be vulnerable in each developmental area than those living in a household with an average-high or high income. As such, the low-income measure, which measures households’ level of disadvantage, appears to be more helpful in terms of understanding the situation of anglophone children than indicators of disadvantaged areas linked to children’s territory of residence (MSDI and SES).

For their part, regional results indicate that for each developmental area, when a statistically significant difference exists between children, English-speaking children are proportionately more likely to be vulnerable than French-speaking children. That being said, for each vulnerability indicator, with the exception of vulnerability in the “Communication skills and general knowledge” area, the situation varies from one region to the next, since we do not observe significant differences between these two groups of kindergarten students in all health regions.

In fact, for the five developmental areas, the situation of vulnerability of English-speaking children is far from homogeneous. For example, when we focus specifically on anglophone children, we observe that the Estrie region presents higher proportions of vulnerable children compared to the rest of Quebec for each developmental area and for the composite indicator, whereas in the Outaouais region and the Abitibi-Témiscamingue region, this is the case for two developmental areas as well as for the composite indicator. Contrarily, Laval and Montreal show a more favourable portrait. In

these regions, we find a proportionately lower number of vulnerable children in respectively two and three developmental areas (plus the composite indicator for Montreal) than in the rest of Quebec.

Do the socio-economic and academic characteristics of anglophone children living in the different regions help us understand why they are proportionately more or less vulnerable than English-speaking children in the rest of the province? Partially, since as for vulnerability, the socio-economic and academic portrait of English-speaking children varies according to the region¹⁴. Thus, compared to francophone children, anglophone children from the Estrie region and the Outaouais region are more likely to live in a highly disadvantaged neighbourhood on a material level, whereas in the Abitibi-Témiscamingue region, they are proportionately more likely to attend a disadvantaged school. Thus, these represent two factors that may be linked to vulnerability, but they were not included in the characteristics of anglophone children throughout the province of Quebec. Certain regions can therefore comprise a larger portion of anglophone families in a situation of social or economic vulnerability than the rest of Quebec.

In short, despite certain interpretive possibilities, no clear tendency between the proportion of vulnerable English-speaking children and the portion of anglophone children having certain socio-economic and academic characteristics that can be associated with vulnerability emerges from regional data. Moreover, the analysis

contained in this publication has certain limits. On the one hand, let's note that other factors linked to a child's family and academic environment that were not measured as part of the surveys these analyses are based on should be considered to improve the results. On the other hand, the limited number of English-speaking children attending kindergarten in certain health regions greatly hindered an in-depth, refined analysis on a regional level. Finally, this report only presents bivariate analyses that do not simultaneously consider a combination of factors that may be linked to children's vulnerability in different developmental areas.

PATHS THAT MAY BE EXPLORED

Despite its limits, this report provides a set of unprecedented results pertaining to anglophone kindergarten students on a provincial and regional level. Although they remain modest, certain elements of response were identified for the initial questions. That being said, questions pertaining to the vulnerability of English-speaking children are far from being fully exhausted. We can identify a few paths that may orient future research on the subject.

3) Analyses showed that certain QSCDK and QSPPKS variables associated with vulnerability in different developmental areas can contribute to the interpretation, in part, of differences that exist between anglophone and francophone kindergarten students. That being said, it may be interesting to have a more refined portrait of the anglophone

¹⁴ We must recall that, for the province of Quebec, anglophone children are more likely than francophone children to be born outside of Canada and live in a highly disadvantaged sector on a social level. Nonetheless, proportionately fewer anglophone children attend school in a disadvantaged environment and participated in the Passe-Partout program, but proportionately, a greater number study in a language that is not their mother tongue.

population at this age. Other variables linked to the social and family environment, particularly in the regions where the portrait of vulnerable anglophone children is different than in the rest of the province of Quebec, could help provide a more precise idea of the situation.

- What characterizes the family environment of anglophone children living in a highly disadvantaged material or social situation? What are their parents' family practises? What are their cultural and linguistic characteristics?
 - Which services, beyond public preschool programs and childcare services, did they have access to before they started attending school (ex. social services, community)?
- 4) Even when they study in their mother tongue, anglophone children are more likely to be vulnerable in three of the five developmental areas compared to francophone children. Thus, despite this vulnerability when they reach elementary school, graduation and secondary school qualification rates are superior among students attending anglophone schools compared to francophone schools (see Ministry of Education and Higher Education, 2019, Table 1, p.14). It would therefore be pertinent to examine the characteristics of schools that are part of the network of anglophone public schools in the geographical sectors where we find the highest proportions of children in a situation of vulnerability, beyond the deprivation index.
- What are the characteristics of the children attending these schools? What is the classroom composition (ex. children's origin,

proportion of children having more than one mother tongue, proportion of children who attended daycare before starting kindergarten)?

- Which services are offered by the school for kindergarten students? What are the characteristics of the preschool and elementary school teachers (seniority, mother tongue) as well as the school staff? Which resources do these schools have? How involved in school life are both parents and the community?
- 5) This report only presents bivariate analyses that, let's recall, are subject to limitations. A few references were made to the results of multivariate analyses drawn from Volume 2 of the QSPPKS, but unfortunately, these did not precisely concern anglophone children. It is therefore impossible to generalize the results for this population. Thus, if the purpose of future research is to identify factors that "directly impact" the vulnerability of anglophone children in different developmental areas, the production of multivariate models may be relevant.

In conclusion, in addition to their unique character, the results obtained in this report lead to interesting pathways that are conducive to the pursuit of future research to better understand the vulnerability of anglophone kindergarten students compared to francophone kindergarten students.

BIBLIOGRAPHY

- BAILLARGEON, G. (2005). *La carte des unités de peuplement de 2003. Les principales données socio-économiques et démographiques du recensement de 2001 selon les territoires des commissions scolaires*, [online], Quebec, Ministère de l'Éducation, du Loisir et du Sport, Direction de la recherche, des statistiques et des indicateurs, 76 p. [www.education.gouv.qc.ca/fileadmin/site_web/documents/PSG/statistiques_info_decisionnelle/CarteUnitePeuplement2003.pdf]. (Consulted October 16th 2019).
- CAPUANO, F., and collab. (2001). *L'impact de la fréquentation préscolaire sur la préparation scolaire des enfants à risque de manifester des problèmes de comportement et d'apprentissage à l'école*, *Revue des sciences de l'éducation*, [online], vol. 27, n° 1, p. 195-228. [www.erudit.org/fr/revues/rse/2001-v27-n1-rse369/000314ar/]. (Consulted October 16th, 2019).
- COMMISSION DE L'ÉDUCATION EN LANGUE ANGLAISE (2013). *Au-delà du modèle unique : Des solutions distinctes pour des besoins distincts*, *Avis présenté au ministre de l'Éducation, du Loisir et du Sport*, [online], Quebec, Commission de l'éducation en langue anglaise, 32 p. [http://www.education.gouv.qc.ca/references/publications/resultats-de-la-recherche/detail/article/au-dela-du-modele-unique-des-solutions-distinctes-pour-des-besoins-distincts/?no_cache=1&cHash=1f5df47b1987e890f6bf4b0906cf4b0b] (October Consulted 16th, 2019).
- CONSEIL SUPÉRIEUR DE L'ÉDUCATION (CSE) [Quebec] (2012). *Mieux accueillir et éduquer les enfants d'âge préscolaire, une triple question d'accès, de qualité et de continuité des services. Avis à la ministre de l'Éducation, du Loisir et du Sport*, [online], Quebec, Government of Quebec, 142 p. [www.cse.gouv.qc.ca/fichiers/documents/publications/Avis/50-0477.pdf] (Consulted October 16th, 2019).
- FALCONER, J., and A. QUESNEL-VALLÉE (2014). *Les disparités d'accès aux soins de santé parmi la minorité de langue officielle au Québec*, *Recherches sociographiques*, [online], vol. 55, n° 3, p. 511-529. 10.7202/1028377ar. (Consulted October 16th, 2019).
- GAMACHE, P., D. HAMEL and R. PAMPALON (2017). *L'indice de défavorisation matérielle et sociale : en bref*, [online], Institut national de santé publique du Québec, 9 p. [<https://www.inspq.qc.ca/sites/default/files/santescopes/indice-defavorisation/guidemethodologiquefr.pdf>] (Consulted October 16th, 2019).
- JANUS, M., and D. R. OFFORD (2007). Development and Psychometric Properties of the Early Development Instrument (EDI): A Measure of Children's School Readiness, *Revue canadienne des sciences du comportement*, [online], vol. 39, n° 1, p. 1-22. 10.1037/cjbs2007001. (Consulted July 2nd, 2019).
- LAVOIE, A. (2019). *Enquête québécoise sur le parcours préscolaire des enfants de maternelle 2017. Tome 2 : Examen du lien entre la fréquentation des services de garde et le développement des enfants de maternelle*, [online], Québec, Institut de la statistique du Québec, 81 p. [http://stat.gouv.qc.ca/statistiques/education/prescolaire-primaire/eqppem_tome2.pdf] (Consulted July 2nd, 2019).

- LAVOIE, A., L. GINGRAS and N. AUDET (2019). *Enquête québécoise sur le parcours préscolaire des enfants de maternelle 2017. Tome 1 : Portrait statistique pour le Québec et ses régions administratives*, [online], Quebec, Institut de la statistique du Québec, 154 p. [http://stat.gouv.qc.ca/statistiques/education/prescolaire-primaire/egppem_tome1.pdf] (Consulted July 2nd, 2019).
- LUSSIER, M.-H. (2012). *La situation socioéconomique des anglophones du Québec*, [online], Quebec, Institut national de santé publique du Québec, 65 p. (La langue, déterminant de l'état de santé et de la qualité des services). [<https://www.inspq.qc.ca/publications/1493>] (Consulted June 20th, 2019).
- MINISTÈRE DE L'ÉDUCATION (2003). *Passe-Partout. Un soutien à la compétence parentale. Cadre d'organisation destiné aux gestionnaires, aux intervenantes et aux intervenants*, [online], Quebec, Government of Quebec, 33 p. [www.education.gouv.qc.ca/fileadmin/site_web/documents/dpse/formation_jeunes/Passe-Partout_s.pdf] (Consulted October 16th, 2019).
- MINISTÈRE DE L'ÉDUCATION, DU LOISIR ET DU SPORT (2013). *Projet de programme d'éducation préscolaire. Maternelle 4 ans à temps plein en milieu défavorisé*, [online], Quebec, Government of Quebec, 39 p. [www.education.gouv.qc.ca/fileadmin/site_web/documents/dpse/formation_jeunes/maternelle_4.pdf] (Consulted October 16th, 2019).
- MINISTÈRE DE L'ÉDUCATION ET DE L'ENSEIGNEMENT SUPÉRIEUR (2019). *Diplomation et qualification par commission scolaire au secondaire (Édition 2018)*, [online], Quebec, Direction des communications du Ministère, 27 p. [http://www.education.gouv.qc.ca/fileadmin/site_web/documents/PSG/statistiques_info_decisionnelle/taux-diplomation-secondaire-CS-Edition2018-CD.pdf] (Consulted October 16th, 2019).
- MINISTÈRE DE L'ÉDUCATION ET DE L'ENSEIGNEMENT SUPÉRIEUR (2018). *Statistiques de l'éducation. Éducation préscolaire, enseignement primaire et secondaire, (Édition 2015)*, [online], Quebec, Government of Quebec, 124 p. [http://www.education.gouv.qc.ca/fileadmin/site_web/documents/PSG/statistiques_info_decisionnelle/15-00503_statistiques_2015_edition_v25oct.pdf] (Consulted October 16th, 2019).
- MINISTÈRE DE L'ÉDUCATION ET DE L'ENSEIGNEMENT SUPÉRIEUR (2017). *Programme de formation de l'école québécoise. Éducation préscolaire 4 ans*, [online], Quebec, Government of Quebec, 36 p. [www.education.gouv.qc.ca/fileadmin/site_web/documents/PFEQ/Prescolaire_4ans.pdf] (Consulted October 16th, 2019).
- PAMPALON, R., and G. RAYMOND (2000). *Un indice de défavorisation pour la planification de la santé et du bien-être au Québec, Maladies chroniques au Canada*, vol. 21, n° 3, p. 104-113.
- TREMBLAY, M.-E., and M. SIMARD (2018). *Méthodologie de l'Enquête québécoise sur le développement des enfants à la maternelle 2017*, [online], Quebec, Institut de la statistique du Québec, Santé). [<http://www.stat.gouv.qc.ca/statistiques/sante/enfants-ados/eqdem-rapport-methodologique-2017.pdf>] (Consulted July 2nd, 2019).

APPENDIX 1 – MATERIAL AND SOCIAL DEPRIVATION INDEX (MSDI)¹⁵

The material and social deprivation index is an ecological indicator of deprivation created by Pampalon and Raymond (2000) using data collected during censuses. It provides a relative measure of deprivation for small territories, namely the dissemination area, the smallest geographic unit for which data is published. Each dissemination area contains 400 to 700 people.

This deprivation index includes two dimensions. The first, the material dimension, involves the environment's economic conditions. It is made up of three indicators: the proportion of people who do not have a high school diploma, the average individual income, and the proportion of employed people among those who are 15 years old and older.

The second, the social dimension, refers mainly to the environment's social conditions and is composed of the three following indicators: the proportion of individuals living alone, the proportion of people separated, divorced, or widowed among those who are 15 years old or older, and the proportion of single-parent families.

Each dissemination area receives a deprivation rating for these two dimensions. The distribution of ratings in ascending order is then divided into quintiles, each representing 20% of the population; quintile 1 represents the most

privileged 20%, whereas quintile 5 represents the most disadvantaged 20% (Gamache and others, 2017).

For the 2017 QSCDK, each child was assigned the deprivation index associated with the dissemination area corresponding to his postal code. The indexes were produced from the census and the 2011 *National Household Survey* (NHS), since 2016 data was unavailable at the time of writing this report.

¹⁵ Excerpt Simard, Lavoie and Audet 2018, p. 32

APPENDIX 2 – SOCIO-ECONOMIC STATUS INDEX (SES)¹⁶

Produced annually by the Ministry of Education and Higher Education (MEES), the objective of the socio-economic status index (SES)¹⁷ is to classify public schools per the level of deprivation of students' place of residence. This classification is particularly useful for the Ministry of Education and Higher Education, school boards, or organizations collaborating with schools for the implementation of programs intended for schools having an important proportion of students from disadvantaged environments, whether it be, among other things, for the *Agir autrement*¹⁸ intervention strategy, investments in *Mesures probantes et innovantes pour la réussite des élèves*¹⁹, or the implementation of full-time 4-year-old kindergarten in disadvantaged environments.

For the 2016-2017 school year, the SES produced by the MEES is based on data from the 2006 census for each of the 3 568 geographic units on the map of population units. It is composed of two indicators, namely the proportion of under-

educated mothers (with no high school diploma) among families with a child or children (accounts for two thirds of the weight of the index) and the proportion of families with two unemployed parents (represents one third of the weight of the index). What's more, we must note that as the gap between the index calculation year and the census year increases, the index becomes less and less precise and accurate.

The SES of a student corresponds to that of the population unit where he lives, and the SES of a school refers to the average of all SES' associated with students registered for the 2016-2017 school year. Quebec public schools are assigned a decile rank after being sorted in ascending order per their index value. Thus, 10% of schools, where registered students are mainly from disadvantaged environments, are assigned rank 1. Rank 10, for its part, includes schools having a large proportion of students who live in highly disadvantaged areas (Baillargeon, 2005).

¹⁶ Excerpt from Simard, Lavoie and Audet 2018, p. 33

¹⁷ Schools' SES and the calculation method are available on the MEES website at the following address: www.education.gouv.qc.ca/references/publications/resultats-de-la-recherche/detail/article/indices-de-defavorisation/ (Consulted December 13th, 2017).

¹⁸ For information regarding the *Agir autrement* intervention strategy, the reader is invited to consult the MEES website at the following address: www.education.gouv.qc.ca/enseignants/aide-et-soutien/milieux-defavorises/agir-autrement/publications-et-references/ (Consulted December 13th, 2017).

¹⁹ Information concerning the *Mesures probantes et innovantes pour la réussite des élèves* investment program is available at the following address: www.education.gouv.qc.ca/fileadmin/site_web/documents/daai/15-234_R%C3%A9p.pdf (Consulted on April 4th, 2018).

For analyses purposes, schools considered “disadvantaged” are those with ranks 8, 9, and 10. These schools are generally targeted by departmental measures or selected by school boards to benefit from additional resources.²⁰

Contrarily, schools with ranks 1 to 7 are not considered disadvantaged. Since the SES is not calculated for private schools, the latter (and the children who attend them) were included in the “non-disadvantaged” school category.

²⁰ We must also note that the MEES does not produce an SES for the Littoral School Board. The thirty or so students registered in kindergarten in this school board are therefore excluded from analyses performed with this variable.

APPENDIX 3 – PUBLIC PRESCHOOL PROGRAMS OFFERED AT 4 YEARS OF AGE²¹

4-year-old full-time kindergarten in disadvantaged environments

4-year-old full-time kindergarten, implemented since 2013-2014, provides educational services to children living in disadvantaged environments to better prepare them for school and foster their overall development (Ministry of Education, Recreation, and Sports [MELS], 2013). This program aims to provide all children with equal opportunities so they can develop optimally in all developmental areas. In conjunction with the educational program used in daycares and the 5-year-old kindergarten program, full-time 4-year-old kindergarten also aims to develop children's faith in their capacities, ensure they enjoy learning, and feel welcome at school (MEES, 2017).

Part-time 4-year-old kindergarten

Part-time 4-year-old kindergarten, implemented in 1973-1974, also targets children from disadvantaged environments and points towards the same objective as full-time kindergarten, namely, to offer children better chances of succeeding their academic path. It aims to foster

the overall development of the handicapped child or that of the child living in a disadvantaged area by promoting the abilities required for positive academic and social integration (Superior Council of Education, 2012; Capuano and others, 2001).

Passe-Partout animation program

Launched in 1978, the Passe-Partout²² animation program, at the time of its implementation, mainly targeted families from disadvantaged neighbourhoods. It offers activities for 4-year-olds, but also their parents. On the one hand, its goal is to foster children's social development and facilitate their adaptation to school. On the other hand, it also aims to enhance parents' competences and support them in the role they play alongside their child. The program (Quebec Ministry of Education, 2003) involves a minimum of 8 meetings with parents and 16 meetings with children.

We must mention that these three programs are not necessarily offered in all Quebec regions, school boards, or schools.

²¹ Excerpt from Lavoie 2019, p. 45-46.

²² Also known as "Passe-Partout animation service".

APPENDIX 4 – DEFINITIONS OF A FEW INDICATORS

Age of enrollment in daycare: Indicator created from a single question pertaining to the age at which the child began attending daycare on a regular basis.

Studies in his mother tongue: This indicator is created using two variables, the child's mother tongue and the language of instruction at the school he attends in kindergarten. This is a dichotomous indicator: 1) children who study in their mother tongue; 2) children whose language of instruction is not the same as their mother tongue.

Daycare attendance or non-attendance: Indicator created using a single question pertaining to a child's daycare attendance or non-attendance on a regular basis, at one time or another before starting kindergarten.

Low-income measure²³: the low-income measure (LIM) is calculated using the pre-tax income and the household's size. The indicator is divided into two categories: household income below the low-income threshold and household income equal or above the low-income threshold.

Place of birth: Indicator created using a single question pertaining to the child's place of birth. This indicator has three categories: 1) Quebec; 2) Canada outside of Quebec and 3) Other country.

Within the framework of this publication, the first two categories were grouped together.

Number of daycare environments attended: Indicator created using a single question pertaining to the number of daycare environments children attended on a regular basis from birth until they started kindergarten.

Average number of hours spent in daycare per week²⁴: This indicator takes into account the age at which children began attending daycare as well as the average number of weekly hours indicated by parents for each age period where their child attended daycare, weighted per the number of months considered in each age period. Thus, we obtain an average number of hours spent in daycare per week by children in all types of daycare services attended prior to starting kindergarten. The indicator is divided into four categories: 1) less than 25 hours; 2) between 25 and less than 35 hours; 3) between 35 and less than 45 hours; 4) 45 hours or more.

Highest diploma obtained by one parent or the other or single parent: For children living in a two-parent family, we must consider the highest diploma obtained by the mother (or the father's spouse) or the father (or the mother's spouse). For children living in a single-parent family, it is the diploma obtained by the parent having

²³ For more information on the LIM, consult Statistics Canada's website: www.statcan.gc.ca/pub/75f0002m/2012002/lim-mfr-fra.htm

²⁴ For more information on the construction of this indicator, see box 3.6 of Volume 1 of the QSPPKS.

completed the survey. This indicator has four categories: 1) no diploma; 2) high school diploma (DES, DEP, ASP); 3) college diploma (DEC, AEC, CEC); 4) university diploma (undergraduate or graduate).

Type of family: Description of family type that accounts for all family members and their relationship. Three categories were established: 1) intact family 2) single-parent family 3) blended family. The intact family is made up of a couple with children, where all biological or adopted children are from this union. The blended family is made up of a couple that lives together and has at least one biological or adopted child from another union. The single-parent family is made up of a parent, mother or father, who lives alone (with no spouse living under the same roof) with one child or several children.