



**Comité de gestion
de la taxe scolaire**

DE L'ÎLE DE MONTRÉAL

EXECUTIVE SUMMARY

**The impact of socio-economically
underprivileged environments
on graduation rates of students enrolled in
public secondary schools on the Island of Montreal**

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Introduction

Quebec's *Education Act* specifies that each school board on the Island of Montreal must establish regulations to adopt measures ensuring education catch-up measures in disadvantaged areas. For its part, the Comité de gestion de la taxe scolaire de l'île de Montréal (CGTSIM) is responsible for establishing rules for apportioning the balance of the school taxes collected to each of the school boards on the Island of Montreal for education in disadvantaged areas. These rules must result in a fair and non-discriminatory apportionment.

Although these apportionment rules have evolved over the years, certain fundamental issues have still not been fully addressed. Among the most important of these is the nature and strength of the relationship believed to exist between socio-economically disadvantaged areas and academic success – within the context of an ecological approach (also known as the “milieu approach”).

For the past thirty years, the CGTSIM uses a poverty map of families which it updates every five years. The overall index of underprivileged status associated with this map measures the geographical variations among underprivileged Montreal families with at least one child between 0 and 17.

In addition, the CGTSIM produces an annual classification list of the public schools within the five school boards on the Island of Montreal. This classification list is built on an index calculated at the level of the schools which is based on the index associated with the place of residence of students enrolled there.

The results of this exploratory research should enable decision-makers to make a more in-depth assessment of the merits of the ecological-type methodological approach on which the CGTSIM's budgetary allocation is based as well as the relevance and efficiency of the overall index of underprivileged status used to measure geographical variations.

Objective of the study

The objective of this exploratory research is to analyze the relationship between Montreal secondary school graduation rates and socio-economically underprivileged environments.

For the sake of simplicity, the term “high school-leaving certificate” will be used to refer to secondary school diplomas, secondary school vocational diplomas, attestations of vocational specialization, attestations of vocational education, and certificats de formation en entreprise de récupération.

Targeted population and work file

The targeted population is composed of students registered in Secondary III, IV, or V on September 30th 1998, in public schools within the five school boards on the Island of Montreal. Enrolment lists indicate that on September 30th 1998, there were 38 289 students meeting those criteria. Once duplicates and incomplete files were eliminated (primarily involving students living off the Island of Montreal), a work file of 35 462 students remained.

All individual data come either from the enrolment lists as of September 30, 1998, provided by the school boards, or from graduation files provided by the Ministère de l'Éducation du Québec. Population data concerning the socio-economic level of the place of residence of students are taken from the guide accompanying the poverty map of Montreal families created by the Conseil scolaire de l'île de Montréal. The data used to create the poverty map was provided by Statistics Canada and was taken from the 1996 Census of Canada.

Results

Impact of the social environment

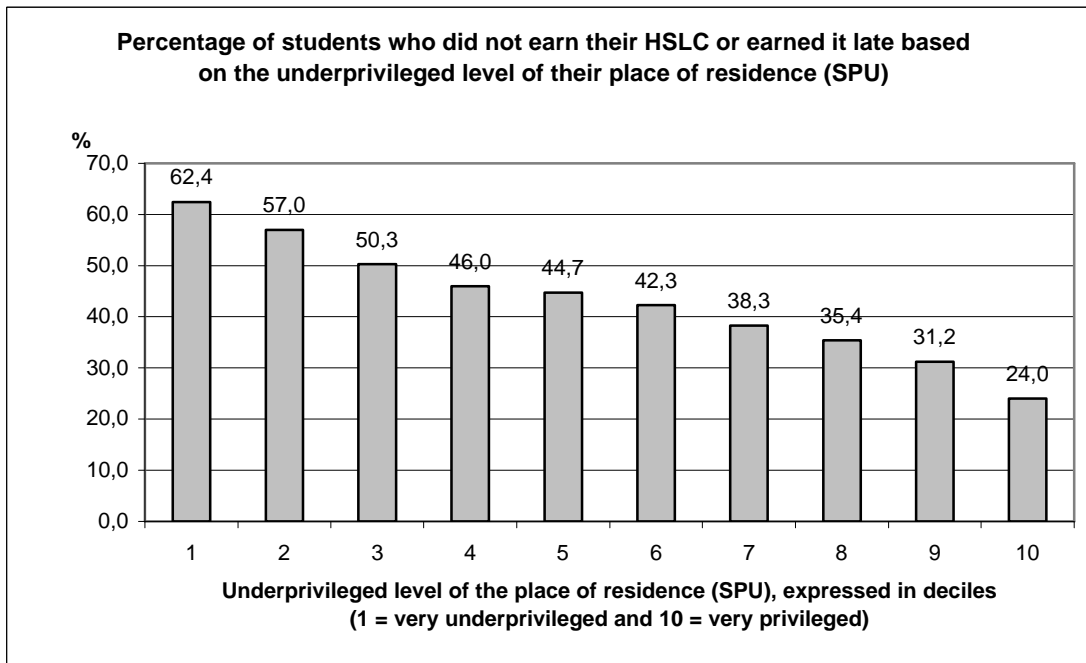
Underprivileged level of the place of residence and graduation rate

The graduation indicator is the percentage of students who did not earn a high school-leaving certificate (HSLC) or earned it late. Students who were 18 years or over when they earned their certificate were considered to have earned it late.

The underprivileged level of the students' place of residence is derived from the overall index of underprivileged status of Montreal families with at least one child aged 0 to 17. This index was calculated for each one of the 407 school planning units (SPU) into which the Island of Montreal is divided. The SPU's have been classified into ten equal parts (deciles) in descending order. The first decile includes the 41 most disadvantaged SPU's, and students are considered to live in a socio-economically disadvantaged environment if their SPU is in one of the first three deciles.

If we distribute the students among the deciles according to the underprivileged level of their place of residence and calculate the percentage of students in each decile that did not earn a certificate or earned it late, we see that this percentage declines gradually as the underprivileged level decreases (figure 1). Moreover, it is **2,6 times higher** among students in the most disadvantaged decile (62,4 %) as among those in the most advantaged one (24,0 %).

Figure 1



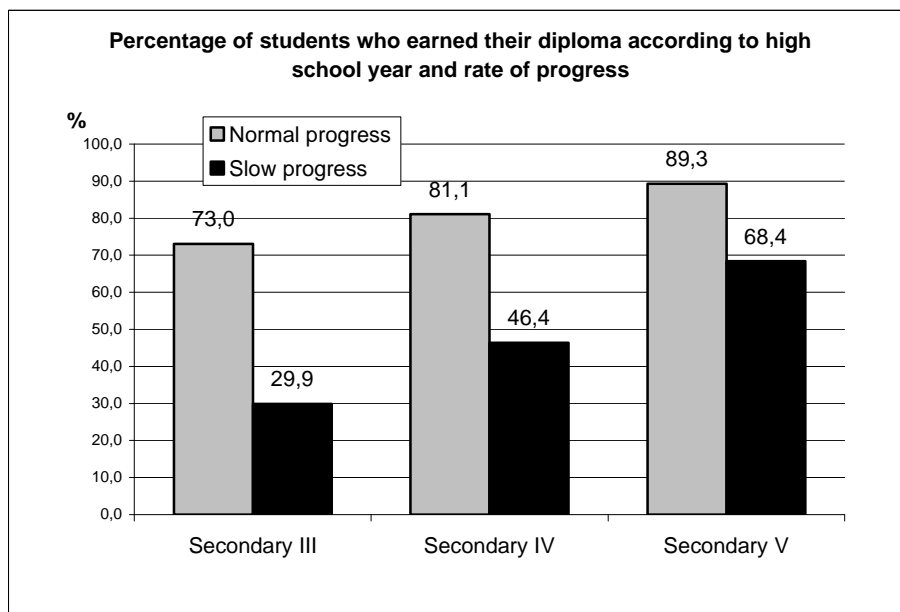
This relationship between being underprivileged and graduation rate holds equally true for both boys and girls and for students of Québec origin and those of foreign origin.¹

Relationship between graduation and slow progress

Slow progress is often a warning sign that students will interrupt or abandon their studies. As shown in figure 2, slow progress is inversely related to earning a diploma. Among the students registered in Secondary III on September 30th 1998, who had slow progress, just 29,9 % had earned their diploma four years later, while this percentage jumped to 73,0 % among those who had progressed at the normal rate.

¹ To be considered of foreign origin, students must either have been born outside Canada of at least one parent born outside Canada or have been born in Canada of two parents born outside Canada.

Figure 2



Among Secondary IV students (who had therefore successfully completed Secondary III), the graduation rates after four years were higher than for Secondary III students. Slow progress nevertheless remained linked to graduation since students who progressed at the normal rate were almost twice as likely to graduate as those who did not (81,1 % compared to 46,4 %).

This trend continued, with Secondary V students more likely to graduate after four years than those in Secondary IV. Slow progress was again linked to graduation, although the gap between those who progressed slowly and those who progressed normally was smaller (89,3 % compared to 68,4 %).

Relationship between ethnic origin and slow progress

Students of foreign origin are more likely to make slow progress in school. This may be true for allophones who have little or no mastery of the French language and for those who have a low education level when they arrive in Canada (Quebec). The percentage of students who make slow progress in school is almost twice as high among those of foreign origin as it is among those of Québec origin.

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Despite the fact that slow progress is more common among students of foreign origin than among those of Québec origin, both types of student exhibit the same relationship between slow progress and graduation rates. Students of foreign origin manage to graduate at about the same rate as students of Québec origin, however, because those who have progressed slowly are proportionally more likely to complete their studies.

Among students who made slow progress, the greater perseverance of those of foreign origin means that a higher percentage of them earned their diploma as adults (Table 1). On average, twice as many students of foreign origin had earned their diploma by age 18 or later as students of Québec origin.

Table 1

**Percentage of students earning their diploma
based on age when they earned it and ethnic origin**

Age when HSLC earned	Québec origin	Foreign origin
15 years	0.07	0.29
16 years	23.35	16.85
17 years	57.60	45.36
18 years	11.98	22.33
19 years	4.62	10.69
20 years	1.69	3.09
21 years	0.57	1.22
22 years	0.12	0.19
Total	100.00	100.00

Relationship with the path taken by students

The path taken by students concerns the way their secondary school studies are concluded and any post-secondary studies undertaken.

Among students registered in Secondary V on September 30th 1998, the major differences in the path taken by students at various underprivileged levels relate to university studies (table 2). With these students, the percentage heading off to university

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increases gradually from one underprivileged level to the next. Specifically, about 10 % of students from underprivileged environments began university studies compared to 15 % of students from intermediate environments and 20 % of students from privileged environments.

Table 2

Students registered in Secondary V on September 30th 1998
according to the level of education they were pursuing in 2001-2002
and the underprivileged level of their place of residence (SPU)

Under-privileged category of place of residence(1)	Level of education in 2001-2002					
	Not registered		Secondary	College	University	Total
	Without HSLC	With HSLC				
Underprivileged	11,4	23,9	15,0	39,5	10,2	100,00
Intermediate	8,7	23,0	12,8	40,7	14,8	100,00
Privileged	7,7	20,8	8,5	42,4	20,6	100,00
Average	9,2	22,7	12,3	40,9	15,0	100,00

(1) The "underprivileged" category includes SPU's in the first three deciles of the overall index of underprivileged status; the intermediate category includes SPU's in the 4th, 5th, 6th, and 7th deciles; and the privileged category includes SPU's in the 8th, 9th, and 10th deciles

The relationship between the path taken by students and the underprivileged level of their place of residence is equally apparent among boys and girls and among students of Québec origin and students of foreign origin. We note, however, that a higher proportion of students of foreign origin had begun college and university studies, while students of Québec origin were proportionately more likely not to be registered in 2001-2002.

All in all, coming from a privileged environment increases the likelihood that students will pursue their studies.

Impact of the school environment

Within the framework of this study it is possible to explore the impact of socio-economically underprivileged environments on graduation rates at the level of the school. We can use the index of underprivileged status associated with the students' place of residence derived from the poverty map to calculate an equivalent measure at the level of the school.

The underprivileged index attributed to each school corresponds to the average of the weighted residential indexes of the students registered there. The schools are classified according to this index in decreasing order, and the number of students in each school is then totaled, from the most underprivileged to the most privileged. The most underprivileged schools are considered to be the schools attended by the first 30 % of all students.

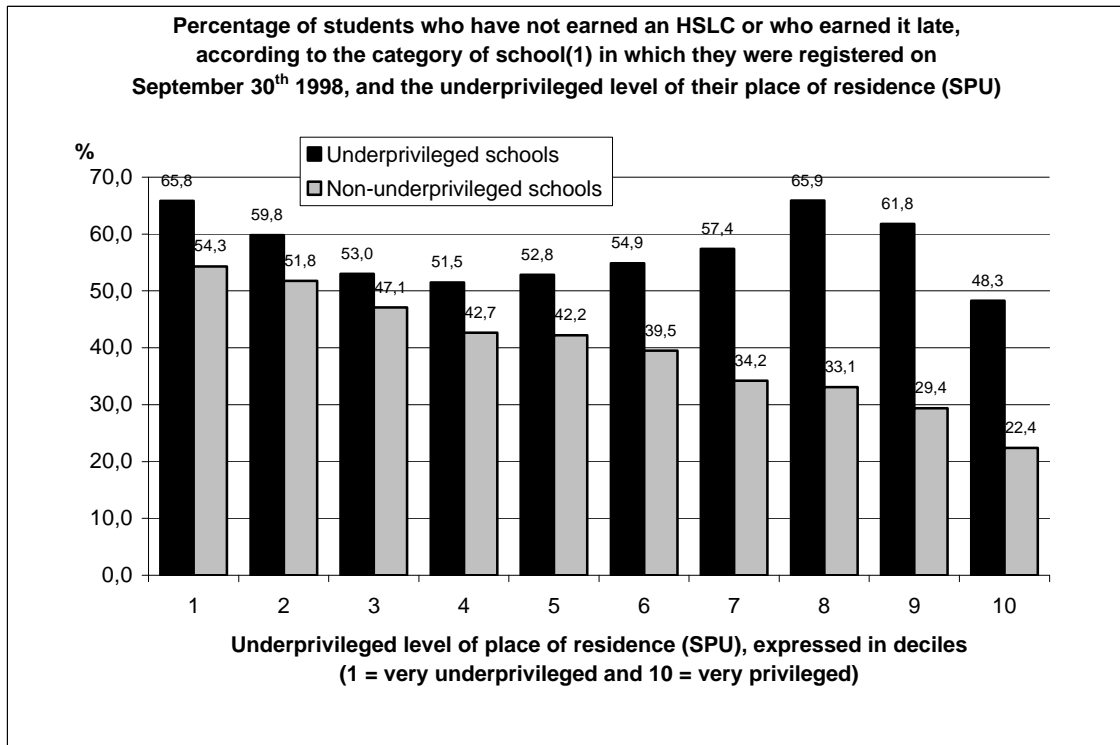
The analysis reveals the overall impact of the school environment in relation to the underprivileged level place of residence of the students. Among students attending an underprivileged school, the percentage of those who have not earned a diploma or earned it late does not increase in relation to the level of the underprivileged category of their place of residence (figure 3). This percentage varies between 48,3 % and 65,9 % without following any distinct trend.

Nevertheless, the relationship between graduation and the socio-economic environment is revealed among students attending schools that are not underprivileged. In fact, the percentage of students that have not earned a HSLC or earned it late decreases according to the level of the underprivileged category of their place of residence (SPU).

But the major finding is that – in every decile – the percentage among students attending underprivileged schools is always higher than that among students registered in non-underprivileged schools.

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Figure 3



(1) Schools are classified in accordance with their index, which takes into account all students who are registered there, including those in Secondary I and II. Schools which, in 1998-1999, had less than 30 students with an index and registered in Secondary III, IV, or V were excluded.

Summary and conclusion

The results show that the impact of slow progress and the probability of earning a school leaving certificate vary in accordance with the level of the socio-economic underprivileged level of the students' place of residence. In fact, **the more the sector of residence is underprivileged, the smaller the chance of earning a high school-leaving certificate.** The relationship is very close and inversely proportional.

The socio-economic underprivileged level of the students' place of residence also has a clear link with the path taken by the students after leaving secondary school. **Students from underprivileged environments are less likely to go on to college or university.**

What distinguishes students of foreign origin from those of Québec origin is that they tend to earn their diploma late. Students of foreign origin are more likely to make slow progress. This may be particularly true of allophones for whom French is not the ancestral language and for those who have little schooling when they arrive in Quebec. **Slow progress is a good predictor of the failure to earn a diploma, but students of foreign origin are less affected by this delay than those of Québec origin.**

Many studies suggest that students are affected not just by their social environment but also by that of their educational environment. The results of this study support this finding.

The percentage of students who have not earned a HSLC or who earned it late is always higher among those registered in underprivileged schools than among those registered in non-underprivileged schools, and this holds true for each one of the ten deciles or socio-economic underprivileged levels of the students' place of residence.

In addition, the study shows that the "ecological approach" may be useful and even necessary within the context of an exploration or analysis of the possible links between graduation and socio-economically underprivileged environments.

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Despite its limitations, this exploratory research also highlights the relevance of management tools such as the poverty map of families and the classification of schools of the Comité de gestion de la taxe scolaire de l'île de Montréal. These tools are critical to the fair and equitable apportionment of allowances for education in underprivileged environments aiming to reduce variations in academic performance.