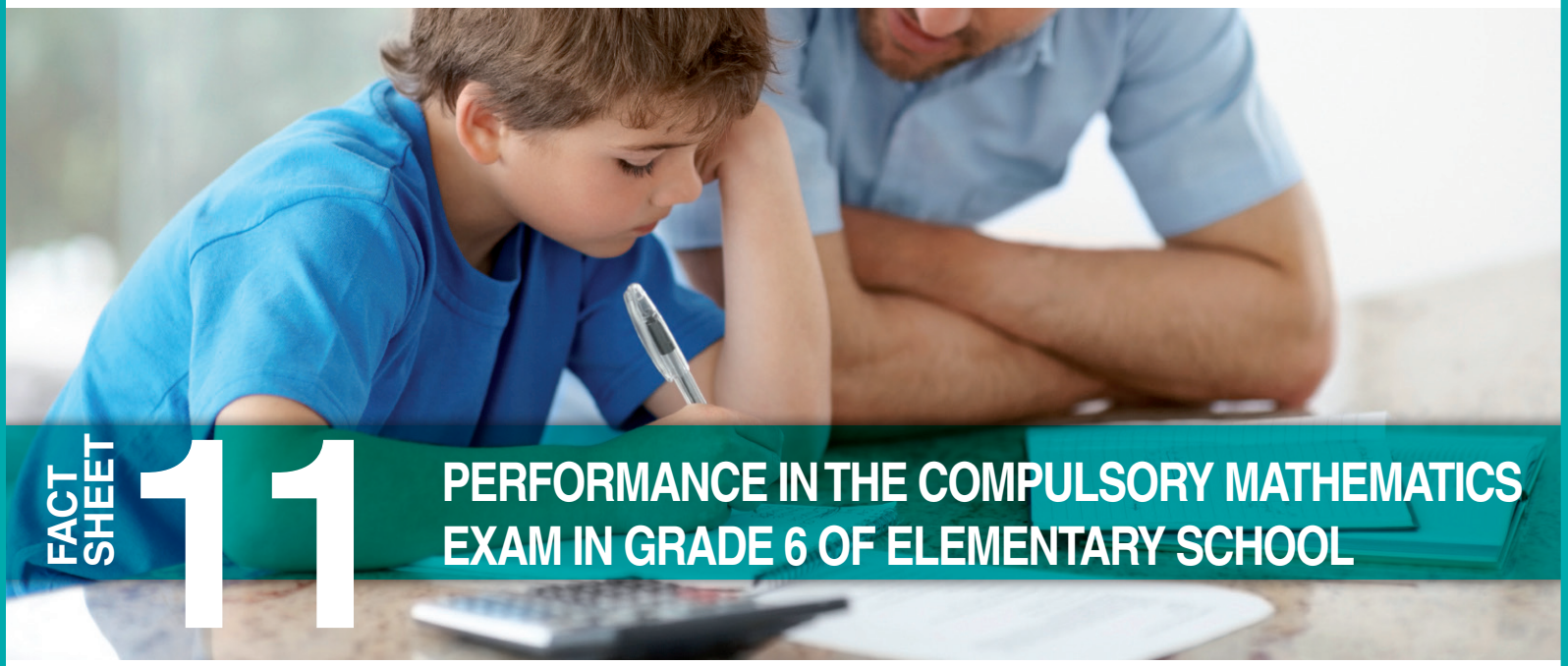
Institut de la statistique Québec

I AM, 'LL BE
THE SURVEY ON THE FUTURE OF A GENERATION

La Fédération des commissions scolaires du Québec

R² Réunir Réussir
Agir ensemble pour la réussite éducative



FACT SHEET 11

PERFORMANCE IN THE COMPULSORY MATHEMATICS EXAM IN GRADE 6 OF ELEMENTARY SCHOOL

1 CONTEXT

Learning mathematical concepts and problem-solving helps children make informed decisions in various situations of daily life – hence the importance of developing skills in mathematics for academic, social and career success.

SOURCE

This fact sheet is a brief summary of the results presented in the following fascicle: TÉTREAULT, Karine, and Hélène DESROSIERS (2013). "Les facteurs liés à la réussite à l'épreuve obligatoire de mathématique en sixième année du primaire : un tour d'horizon," *Québec Longitudinal Study of Child Development (QLSCD 1998-2010) – From Birth to 12 Years of Age*, Institut de la statistique du Québec, Vol. 7, Fascicle 4 (in French only). http://www.stat.gouv.qc.ca/statistiques/education/prescolaire-primaire/epreuve_primaire.html

Note that the QLSCD has been following a cohort of children who were born in Québec in 1997-1998.

2 HIGHLIGHTS

Among children following the regular stream in school, 78% passed the compulsory mathematics exam in Grade 6 of elementary school (with a mark of 60% or higher).

The passing rate showed no difference by sex. However, many factors related to the child or his/her family, school or neighbourhood were associated with performance in the mathematics exam.

Passing the compulsory mathematics exam in Grade 6 was positively associated with the teachers' assessment of the children's performance in other subjects (reading, writing, science and overall academic performance).

The passing rate was lower among children:

- From a family with low socioeconomic status.
- Whose parents had lower educational aspirations for them or ascribed less importance to their academic performance.
- Who reported being less close to their father, and to a lesser degree, their mother.
- Who, according to their teacher, have more behavioural problems such as hyperactivity, inattention, physical aggression or opposition, or who present more symptoms of anxiety or emotional problems. Among these, problems related to attention seemed to be the most determinant.
- Who manifested a lower level of participation in class, namely were less autonomous, cooperated less or posed fewer questions when they did not understand something.
- Who were less motivated in mathematics or who felt less competent in this subject.
- Whose academic aspirations were lower, namely they envisaged obtaining a high school diploma or less.
- Who attended a school in a neighbourhood considered to be disadvantaged.
- Who were living in a rural area or a town of fewer than 10,000 inhabitants.

UNE VERSION FRANÇAISE EST DISPONIBLE.

2 HIGHLIGHTS (continued)

In addition, irrespective of their socioeconomic status, students who spent less than an hour or six hours or more on the internet, excluding activities related to school, were less likely to have passed the math exam than those who spent between one and five hours on the internet.

Among boys, the time spent reading for pleasure was positively associated with the passing rate of the mathematics exam. Moreover, children whose parents considered them to be in better physical condition than other children of the same age and sex presented a higher passing rate.

To learn more about the QLSCD and access the other fact sheets in the kit, visit our website at

www.iamillbe.stat.gouv.qc.ca

School readiness and the preschool years

Passing the compulsory mathematics exam in Grade 6 was also strongly associated with certain characteristics prior to school entry. The passing rate was lower among children:

- Who were not read to by an adult daily around the age of 1½ years.
- Who leafed through books on their own initiative only once a week or less around the age of 2½ years
- Who watched television more than an hour a day around the age of 2½ years
- Who were considered vulnerable in at least one domain of development in kindergarten (see Fact Sheet 2). Examples are children who had more cognitive, motor, attention or class engagement problems.

Among the cognitive skills assessed in kindergarten, basic knowledge of mathematics such as counting up to 20 or recognizing geometric shapes were those that best predicted passing the math exam in Grade 6.

3 OF NOTE

Children in Grade 6 of elementary school who felt more competent in reading comprehension than their peers had a higher passing rate, not only in the compulsory French exams (see Fact Sheet 10), but also the compulsory math exam.

Half of the students who did not pass the mathematics exam had not received any of the three forms of non-parental assistance, namely help with homework at school, help from a tutor, or remedial instruction.

INTERVENTION PATHS

In addition to fostering parents' engagement in reading activities with their child, it would be important to instill basic concepts of mathematics in the preschool years. Parent's involvement in their child's life at school throughout his/her academic trajectory should also be encouraged and supported. Interventions could also focus on improving children's engagement in class and capacity for attention from the very beginning of their years in school.