BOYS' ACADEMIC ACHIEVEMENT:

PUTTING THE FINDINGS INTO PERSPECTIVE

SUMMARY REPORT

Québec

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Introduction

For some time now, there has been widespread media coverage of the differences between the academic achievement of boys and girls. Newspapers feature articles with titles such as: "Girls Come Into Their Own," "Does Education Have a Gender?," "S.O.S. Boys," "Should We Worry About Tomorrow's Men?," "Boys Lagging Behind," "Girls Far Ahead on the Road to Higher Education." In actual fact, the schooling experience of boys and girls is different, whereas studies generally conclude that there is no significant gender difference with respect to intelligence and general abilities. Obviously, there are other factors that explain these differences, at various levels.

In elementary and secondary school, these differences have been observed mainly with respect to academic delay, students' success in learning the language of instruction and the secondary school graduation rate. These gaps have existed for several decades and can be observed in all member countries of the Organization for Economic Cooperation and Development (OECD). However, these findings often gloss over the fact that the graduation rates for both boys and girls have increased over the past few decades and that most boys do well in school.

Media pressure, fuelled by somewhat more controversial findings that periodically emerge from statistical surveys on education, causes schools and the general public to want to take drastic action. For many, the way things were done in the past appears to be the obvious solution, but in light of current research, there is nothing to show that this is the long-awaited panacea.[1]

Boys' academic achievement appears to be a subject of common concern and it alone draws the interest of the entire education community. Several initiatives have been taken in Québec universities and in a number of school boards and schools to try to explain and improve the current situation of boys.

Theoretical frameworks, action research, surveys and other studies are carried out by academics and all agree that the fact that some boys lack interest in and drop out of school is a complex and multifaceted problem. Frontline players are also very active and there are widespread initiatives in schools, many of which are consistent with current ministerial policies and programs. There appears to be not one, but many ways of "reviving" boys' interest in school or supporting them in obtaining academic qualifications.

This document is intended mainly for stakeholders in the education community. Its purpose is to illustrate, using statistical data, certain differences in the academic achievement of boys and girls and to describe current research in this area in Québec and elsewhere in the world. It also provides food for thought and suggests certain courses of action in order to better address this situation.

The ideas and data in this document pertain to elementary and secondary school students in general education, namely those who must attend school. In addition, the document focuses on the findings regarding students as a whole and does not deal with the specific problems of certain groups of students who are likely to experience difficulties (i.e. "at-risk" students). The discussion involves the bulk of the student population, and boys in particular.

1. Excerpt from a speech given by Jean-Claude Saint-Amant, researcher at the Université Laval, during a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (*Chantiers sur la réussite des garçons*).

1 A Few Figures to Illustrate the Differences in Boys' and Girls' Academic Achievement

The following three indicators are used to concretely illustrate boys' lower academic achievement in elementary and secondary school: academic delay, success in learning the language of instruction and graduation rates.

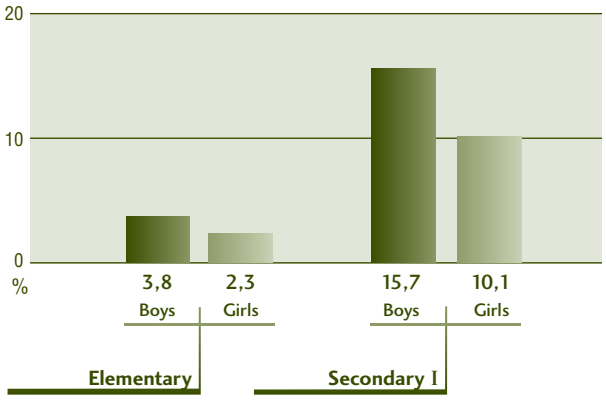
1.1 Academic Delay

It has been noted that in general education, both in elementary and secondary school, boys are more likely to repeat a grade than girls. This gap is particularly significant in the first year of secondary school.

In the school system as a whole, 3.8% of boys and 2.3% of girls repeated a grade in elementary school in 2001-2002. The gender difference is therefore 1.5 percentage points. For Secondary I students,[2] this difference rises to 5.6 percentage points, since the proportion of repeaters is 15.7% for boys and 10.1% for girls[3] (see Graph 1).

GRAPH 1

Proportion of students repeating a year in 2001-2002



Source: Education Indicators, 2003 Edition, MEQ

The cumulative effect of grade repetition is to delay students in their schooling. At the end of the normal six-year period of elementary school, children should be no more than 12 years old. A student aged 13 or over has therefore fallen behind. The cumulative effect of grade repetition is reflected in the student's age.

In 2001-2002, in the school system as a whole, 78.8% of boys were aged 12 or under when they entered secondary school, compared to 85.2% of girls, for a difference of 6.4 percentage points. This relatively large gap is due to a number of factors.

A more in-depth analysis of the data[4] shows that in some school boards,[5] the gender gap in terms of academic delay is very narrow, and in some cases nonexistent. If we consider the five school boards where boys are reported to have the least academic delay, we see that in 2001-2002, there was a difference of only 2 percentage points between boys and girls, while this difference was 7 percentage points in the public sector overall. Thus, in these five school boards, 89.4% of boys and 91.4% of girls were not academically delayed upon entering secondary school. However, if we compare the school boards where the percentage of boys with no academic delay was very low with those where this percentage was very high, the difference is 27.8 percentage points. This difference is 21.1 percentage points for girls (see Graph 2).

2. For students enrolled in Secondary I, repeaters are those who were in the same grade the preceding year.

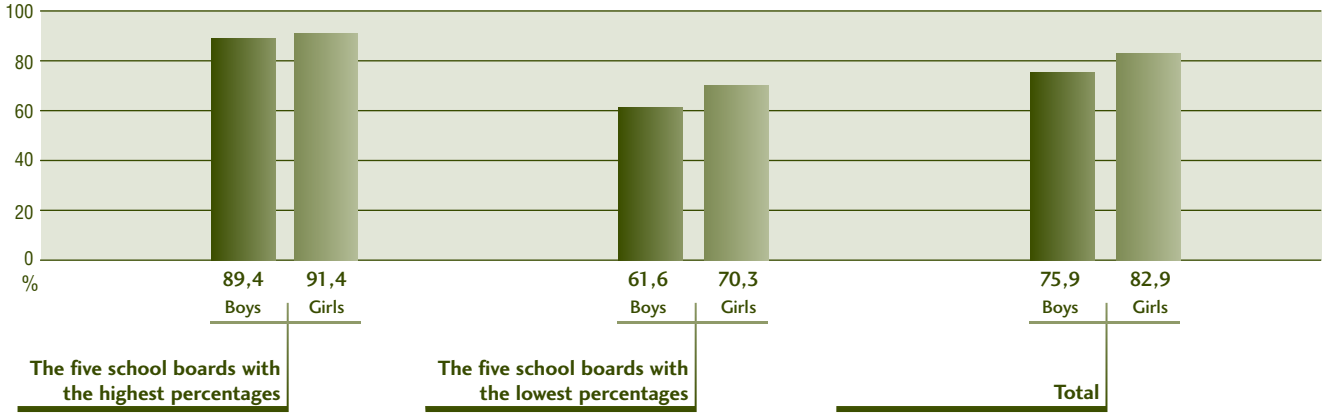
3. Québec, Ministère de l'Éducation, *Education Indicators, 2003 Edition* (Québec: Gouvernement du Québec, 2003).

4. Québec, Ministère de l'Éducation, *Indicateurs nationaux des plans stratégiques,* public sector, special compilations (Québec: Gouvernement du Québec, 2003).

5. The Littoral, Cree and Kativik school boards were excluded. The data are therefore from the other 69 school boards in the public school system. This is the weighted mean of school enrollments.

GRAPH

2 **Students with no academic delay upon entering secondary school in the public sector in 2001-2002**



Source: Indicateurs nationaux des plans stratégiques, special compilations, MEQ

Academic delay is also apparent at the end of secondary school. For the 2001-2002 school year, 26.4% of all students enrolled in Secondary V as at September 30, 2001 were delayed in their schooling. This percentage was 30.2% for boys and 22.8% for girls. If the gap appears to have remained the same rather than widened between the first and last years of secondary school, it is because more boys who experience difficulty in school drop out than girls, particularly in general education.[6] In fact, for the same year, while 80.4% of boys entered Secondary IV, this proportion dropped to 68.6% in Secondary V. For girls, enrollment rates dropped from 88.5% to 77.8%.[7] Thus, if the proportion of boys entering Secondary V had been the same as the proportion of girls entering Secondary V, the gender gap would probably have been wider.

If Québec's academic delay rate is higher for boys than girls and significant differences exist from one school board to another, then it is logical to assume that there are marked differences between the schools themselves.

We know that students who are repeaters in elementary school are at a much higher risk of dropping out than other students, and this risk increases considerably with the number of years of academic delay.[8]

1.2 Success in Learning the Language of Instruction

Grade repetition and academic delay, more prevalent among boys than girls, appear to be mostly related to gender differences in learning the language of instruction since no significant performance gap has been noted for the other subjects.[9]

In Québec's school system overall, girls' results on uniform examinations set by the Ministère de l'Éducation (MEQ) in the language of instruction are higher than those of boys. This is true for both the French and English school systems.[10] The difference between boys and girls is 5.8 percentage points for the French examination, the success rate being 96.0% for girls and 90.2% for boys. The gender gap is not as wide for the English examination: 3.2 percentage points between boys and girls, compared to 5.8 points for the French examination (see Graph 3).

6. Québec, Ministère de l'Éducation, *Statistiques de l'éducation, Enseignement primaire, secondaire, collégial et universitaire*, 2002 edition (Québec: Gouvernement du Québec, 2002), 63.

7. Ministère de l'Éducation, *Education Indicators, 2003 Edition*, 55.

8. Québec, Ministère de l'Éducation, *Retard scolaire au primaire et risque d'abandon scolaire au secondaire* (Québec: Gouvernement du Québec, 1991), 39.

9. These results do not, however, take into account the effect of selection, since a portion of the youth population drops out of school and therefore does not sit for the uniform examinations.

10. Québec, Ministère de l'Éducation, *Indicateurs nationaux des plans stratégiques*, Québec as a whole, Système Agir (Québec: Gouvernement du Québec, 2003).

Although boys generally perform less well than girls, a more in-depth analysis reveals that the gender gaps are very narrow in some school boards.[11] Thus, data analysis for the same five French school boards that reported the highest success rates for boys in the French examination revealed a very small gender difference. In these school boards in 2001-2002, 97% of girls and 95.3% of boys passed the French examination, a difference of only 1.7 percentage points.

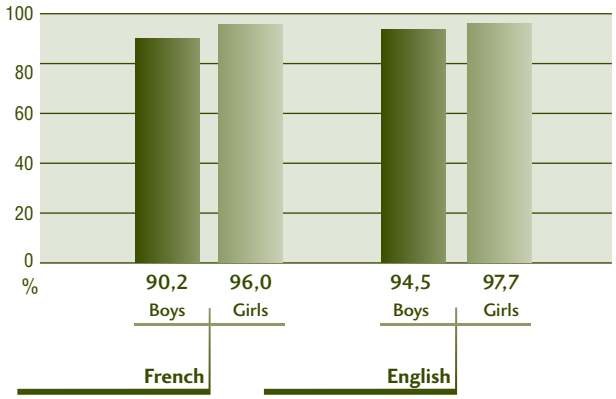
However, an analysis of the data for the five French[12] school boards that have the lowest success rates for boys in the French examination revealed a very wide gap in the success rates of boys and girls (i.e. 14.8 percentage points). Girls in these same school boards obtain results that are fairly close to the average. As well, this analysis indicates even greater differences in performance among the boys themselves, namely 17.4 percentage points (see Graph 4). The data for the English school boards indicate a similar, though less significant, difference for the English, language of instruction, examination.

In Canada, the 2002 School Achievement Indicators Program (SAIP) assessment also confirms that girls' written language skills are much stronger than boys in the country as a whole. The gender differences are not, however, very significant when we look at the highest and the lowest results obtained by 13- and 16-year-old students in the reading test.[13]

Lastly, at the international level, a recent study of the OECD Programme for International Student Assessment (PISA),[14] in which a quarter of a million students participated, highlights the superiority of girls in reading literacy in the 32 participating countries. The difference represents an average of close to half a competency level on a scale of five levels.[15] Thus, when we compare the average results obtained by Québec girls and boys in the context of this study, boys scored an average of 519 and girls, 553, or 6.6% higher than the boys (see Graph 5).

GRAPH 3

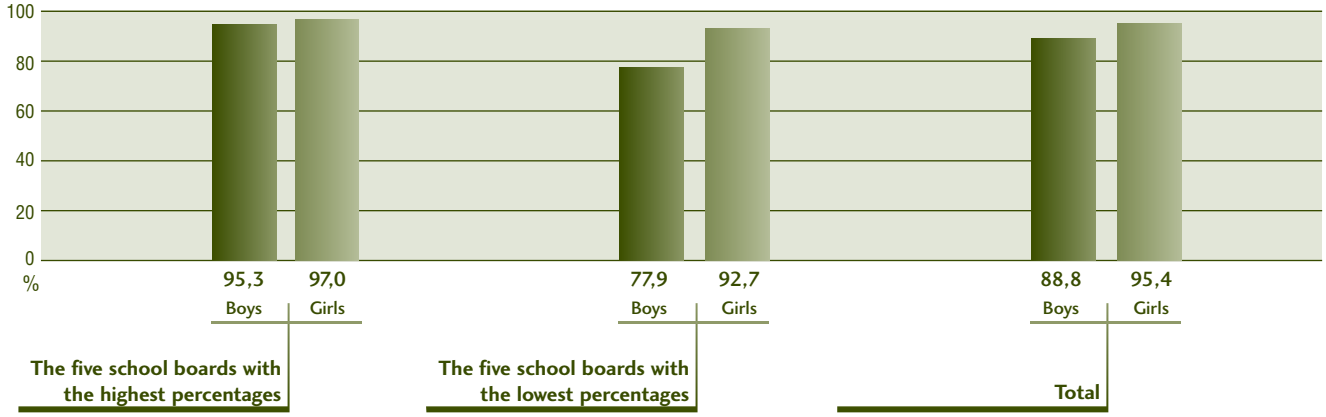
Success rates for the language of instruction uniform examination in 2001-2002



Source: Indicateurs nationaux des plans stratégiques, MEQ

GRAPH 4

Success rates for the French, language of instruction, uniform examination in the French public sector in 2001-2002



Source: Indicateurs nationaux des plans stratégiques, special compilations, MEQ

11. Ministère de l'Éducation, *Indicateurs nationaux des plans stratégiques*, public sector.

12. The Littoral, Cree and Kativik school boards were excluded. The data are therefore from the other 69 French school boards in the public school system. This is the weighted mean of school enrollments.

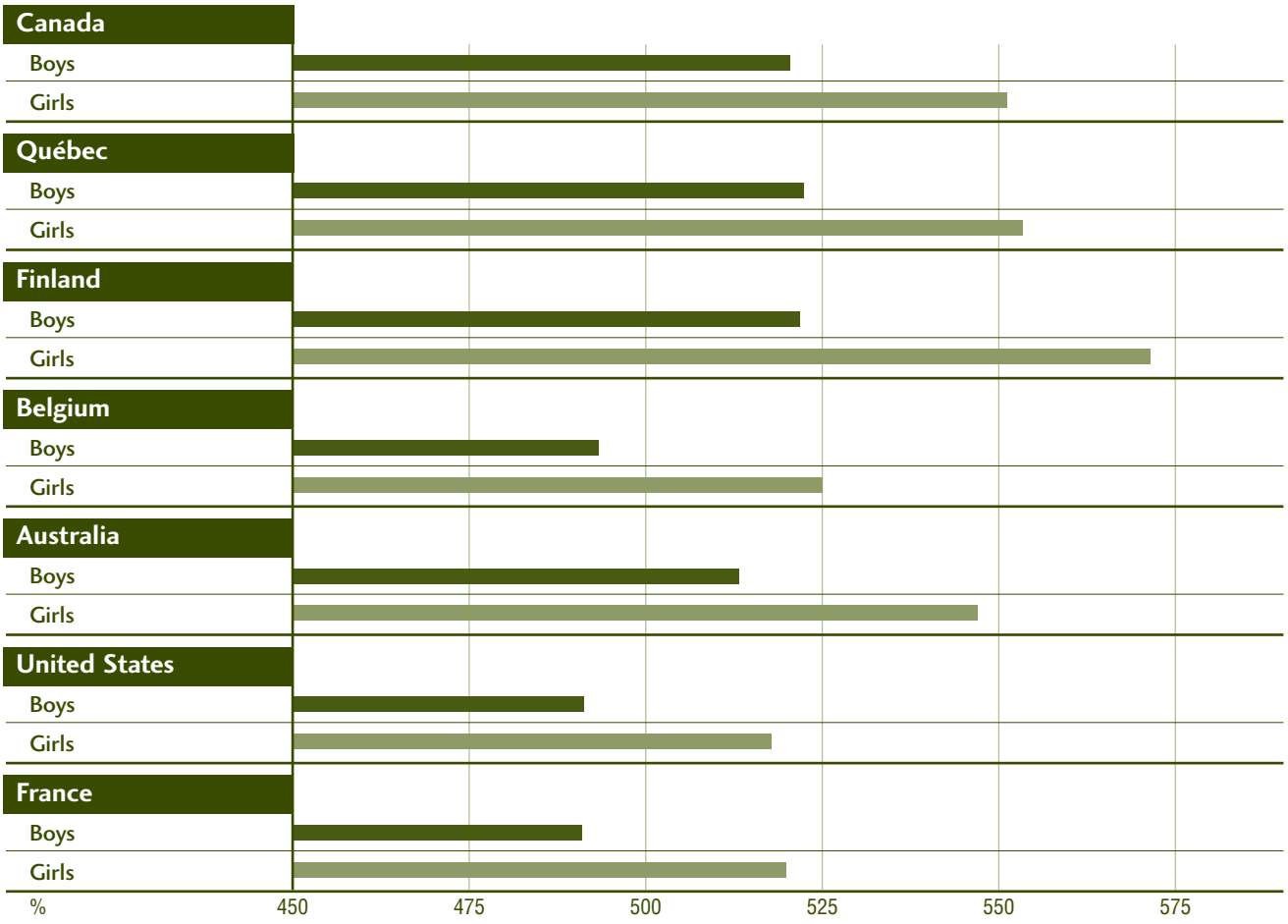
13. Council of Ministers of Education (Canada), *Student Writing: The Canadian Context*, School Achievement Indicators Program (SAIP), 2003.

14. Statistics Canada and Human Resources Development Canada, *Measuring Up: The Performance of Canada's Youth in Reading, Mathematics and Science*, OECD PISA Study, December 2001.

15. International studies conducted over the past 20 years produced similar results and show higher results for girls in the language of instruction.

GRAPH 5

Average reading scores in 2000
Various OECD countries and Québec



Source: Statistics Canada, OECD PISA Study

1.3 Graduation Rates

In Québec, over the last 25 years, the percentage of girls and boys who obtained a secondary school diploma[16] has increased significantly. For young people under age 20, including those in adult education, this proportion rose from 53.5% in 1975-1976 to 68.3% in 2001-2002. Over the past five or six years, however, the secondary school graduation rate has diminished slightly, for both girls and boys under age 20. While this graduation rate has dropped by more than 5 percentage points since 1995-1996,[17] the gender gap has remained at 13% to 14% in favour of girls.

In Québec as a whole, of all the Secondary V[18] students enrolled in general education in the youth sector, 76.3%[19] obtained a secondary school diploma in 2001-2002.[20] This proportion is 70.3% for boys and 81.9% for girls, a difference of 11.6 percentage points. Graduation rates for boys also showed relatively large differences between the French and English public school systems. Thus, in the English sector, 72.5% of boys in Secondary V obtained their diploma compared to 65.5% of boys in the French sector. Note that the dropout rates before the end of Secondary V are the same for boys in both the English and French sectors. There was a slight difference in the graduation rates of girls in each sector (see Graph 6).

16. Secondary School Diploma (SSD) or Diploma of Vocational Studies (DVS).

17. Ministère de l'Éducation. *Education Indicators, 2003 Edition*, 101.

18. This indicator does not take into account young people who dropped out before Secondary V. However, when we consider all the students in Secondary Cycle Two, the differences between the boys and the girls are of the same scale.

19. Ministère de l'Éducation, *Indicateurs nationaux des plans stratégiques*. Québec as a whole.

20. This includes the Secondary School Diploma (SSD), the Diploma of Vocational Studies (DVS), the Attestation of Vocational Specialization (AVS) and the Attestation of Vocational Education (AVE).

Analysis of the data for the five school boards with the highest graduation rates for boys showed that nearly 80% obtained their Secondary School Diploma, which represents a difference of 4.6 percentage points with respect to the girls in these same school boards (see Graph 7). In Québec as a whole, an average of 66.5% of boys and 79.5% of girls graduated in 2001-2002.[21]

If we consider the five school boards with the lowest graduation rates for boys, the proportion of male secondary school graduates falls below the 50% mark, representing a difference of 24.3 percentage points with respect to the girls in these same school boards. Thus, there is a difference of 31.8 percentage points in the proportion of male graduates if we compare the results of the five school boards with the highest graduation rates to those of the five school boards with the lowest rates.[22]

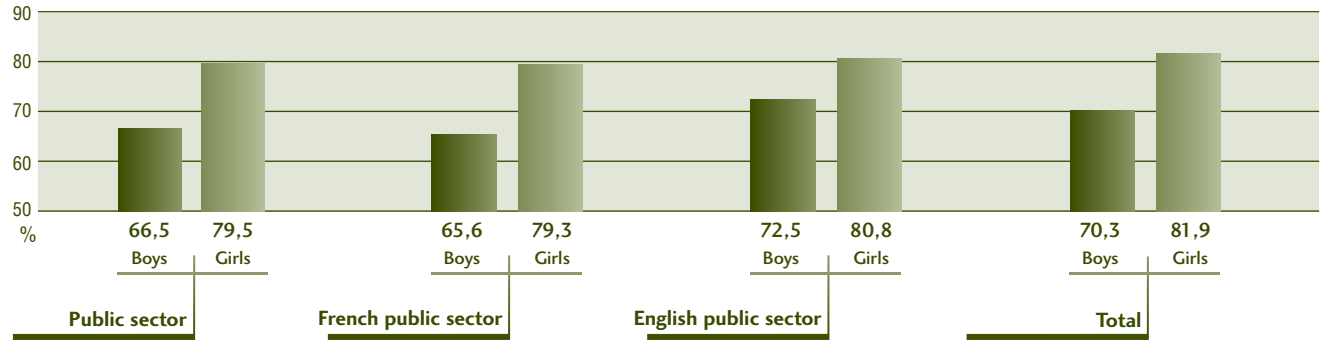
These variations illustrate that when it comes to academic achievement, boys do not make up a homogeneous group and that environment plays an important role.

21. Ministère de l'Éducation, *Indicateurs nationaux des plans stratégiques*. Québec as a whole.

22. Ministère de l'Éducation *Indicateurs nationaux des plans stratégiques*, public sector. The Littoral, Cree and Kativik school boards were excluded. The data are therefore from the other 69 school boards in the public system. This is the weighted mean of school enrollments.

GRAPH 6

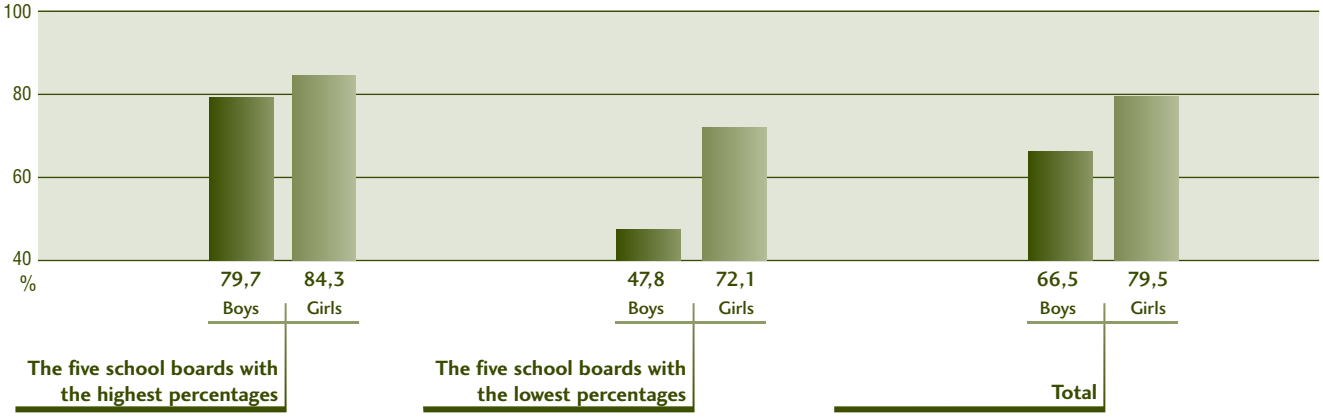
Proportion of Secondary V graduates in 2001-2002



Source: Indicateurs nationaux des plans stratégiques, special compilations, MEQ

GRAPH 7

Proportion of Secondary V graduates in the public sector in 2001-2002



Source: Indicateurs nationaux des plans stratégiques, special compilations, MEQ

Boys in Québec are no exception. In fact, the situation in most OECD countries is similar to Québec's in that the secondary school graduation rate is higher for girls. Furthermore, Québec ranks on a par with countries where the differences between boys and girls are the most significant[23] (see Graph 8).

In Québec, the dropout rate among boys has greatly diminished over the last 20 years. It decreased by half for 17-year-old boys, dropping from 27.6% in 1979 to 12.4% in 2001. Among 19-year-old boys, the rate decreased from 43.8% to 23.9% during the same period. Furthermore, we see that the situation for girls improved to a larger extent during the same period. Among 17-year-old girls, the dropout rate in 1979 was 24.7%. In 2001, it was 7%. For 19-year-old girls, the rate declined from 37.2% in 1979 to 13.4% in 2001.[24] The same trend can be seen in the other Canadian provinces.

Girls tend to stay in school longer than boys at other levels of education as well. For example, although university graduation rates have risen over the years, the statistics for 1976 to 2001 show that the proportion of girls graduating from the school system with a bachelor's degree jumped from 13% to 31%, while for boys it increased from 17% to just 21%.[25]

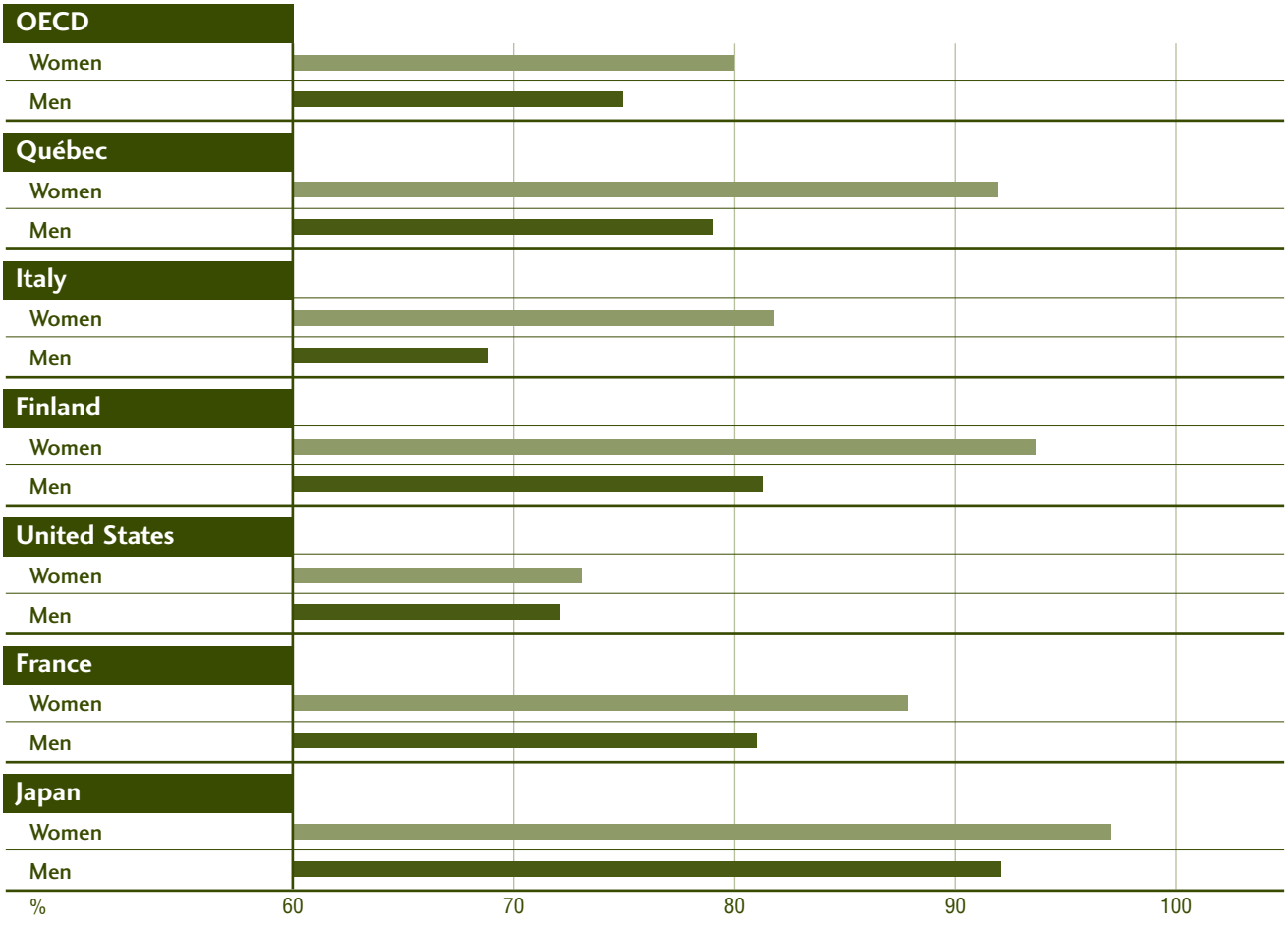
23. Ministère de l'Éducation, *Education Indicators, 2003 Edition*, 107.

24. Ibid., 61.

25. Ibid., 99.

GRAPH

8 **Secondary school graduation rates**
OECD countries and Québec, 2000



Source: Education Indicators, MEQ, 2003

Analysis of the statistical data indicates that there are major differences between the results of boys and those of girls with respect to academic delay, learning of the language of instruction and graduation rates. However, these differences vary depending on the school. It is therefore important for each school to examine its own situation rather than make decisions on the basis of general findings.

The situation of students overall has improved, but that of boys is still worrisome since their lower level of schooling could seriously jeopardize their potential to integrate into society.[26]

The weaker academic performance of many boys has a major influence on their tendency to stay in school and on their career aspirations. Furthermore, staying in school does not necessarily yield the same results for boys and girls when it comes time to enter the work force. Research has shown that girls and boys have different career aspirations and that they fulfill them differently.

We know that over the last few years, girls have taken the same approach as boys when it comes to working while going to school. They nonetheless have a more positive attitude about staying in school. In addition, obtaining a secondary school diploma appears to be as worthwhile for boys as for girls, but the benefits (i.e. type of job and salary level) of a higher level of education seem to be less significant for boys than for girls. Girls appear to be more penalized when they interrupt their schooling before obtaining their secondary school diploma. Studies have shown that salary differences persist between the genders. When men and women have an equivalent diploma at the beginning of their careers, men often earn a better salary than women and these differences increase in the years after graduation. To summarize, although boys are not the only ones to benefit from the advantages related to the labour market, girls must invest more than boys in their education to achieve the same results.[27]

26. Michel Janosz et al, *La prévention du décrochage scolaire-Facteurs de risque et efficacité des programmes d'intervention*, Volume II (Sainte-Foy: Les Presses de l'Université du Québec, 2001), 116-164.

27. Entry into the labour market constitutes a field of study in itself. In this document, the focus is on the academic success of elementary and secondary school students. For more information on boys' and girls' entry into the labour market, read the companion document entitled *La réussite professionnelle des garçons et des filles: un portrait tout en nuances!*, which deals with the career aspirations of boys and girls as well as their experiences in entering the work force.

2 Results of the Research for Orienting Intervention Strategies

Exploring the factors that make certain boys more likely to fail is just as important as understanding the factors that "protect" them from failing. Like failure, success is part of a process in which students interact with the school and their environment. Like failure, success is a cumulative process and there is a pattern associated with dropping out, which can be explained by a series of personal and academic choices and events that are dependent on gender and social class.[28]

2.1 The Influence of Socioeconomic Background[29]

Among the various factors that influence this process, social background is the one that has the most impact on students. In this regard, it is the best predictor of academic outcomes. Over the past several decades, studies carried out in a number of countries show that students from disadvantaged environments are the most likely to experience difficulties in school, to repeat a grade, to be delayed in their schooling or to drop out. In general, research data shows that the performance gap between boys and girls tends to narrow when students are from advantaged environments and to widen the further down students are on the socioeconomic scale. Social background appears to have more impact on boys' academic achievement than on that of girls, and this can be observed in a number of countries. Boys and girls of all backgrounds face different challenges that could lead them to repeat a grade, to experience academic delay or to drop out. We do know, however, that these risk factors are more prevalent in disadvantaged environments. Likewise, we must be careful not to generalize: difficulties that affect only some boys do not necessarily apply to all boys. It should also be pointed out that these factors do not necessarily influence all young people from disadvantaged environments.

Recent research data indicate that Australian children[30] in families that make education a priority—even when the parents are socioeconomically disadvantaged—perform just as well as those from more advantaged environments. The value that parents place on education as well as their ability to assist the child in his or her schooling appear to attenuate the influence of socioeconomic background. In Québec, studies carried out by the MEQ also highlight the fact that the mother's level of education is the best predictor of young people's academic success. A low level of education often goes hand in hand with more unfavourable socioeconomic conditions.

This was also confirmed by a recent OECD report,[31] which points out that 15-year-olds with parents that have a low occupational status but devote a great deal of time to reading achieve better results in written comprehension than those with parents that have a medium or high occupational status but take no interest in reading. The latter obtained 491 points on a scale of 600 points compared to the 540 points obtained by young people with parents that had a low occupational status but took an interest in reading. The results in written comprehension are significantly higher than the OECD average among young people who devote a great deal of effort to reading, regardless of their parents' occupational status. It appears that commitment to reading can attenuate the impact of a modest family background.

28. Excerpt from a speech given by Manon Théorêt, professor at the Université de Montréal, on the occasion of a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (*Chantiers sur la réussite des garçons*).

29. Over the next few months, the MEQ's Direction de la recherche, des statistiques et des indicateurs will undertake statistical studies with a view to better understanding the relationships between socioeconomic characteristics and the educational paths of boys and girls.

30. B. Lingard, W. Martino, M. Mills et al., *Addressing the Educational Needs of Boys*, University of Queensland, University of Murdoch, University of Melbourne, University of Charles Sturt, Australia, 2002.

31. Organization for Economic Cooperation and Development, *Education at a Glance: OECD Indicators–2003 Edition* (Paris: 2003), 121.

Furthermore, some young people are resilient enough to develop positively and succeed in spite of living in less favourable conditions. Despite the proliferation of research studies, it remains difficult to draw up a simple profile of students who succeed against all expectations. They appear to have an inner strength which, together with support from one or more outside sources, allows them to attenuate the effects of the risk factors more often encountered in disadvantaged environments.

Additional protective factors can also come into play. Unlike resilience, these factors are not related to individual characteristics, but to the family, social or school environment. They can attenuate or block the emergence of a risk factor. Examples of these factors include the influence exerted by a stimulating school environment or proper parenting.

2.2 Different Attitudes and Behaviours With Respect to School and Learning

To highlight what sets boys and girls apart in their progress at school, it is necessary to take into account the differences in their attitudes toward school and academic success. Although it is not a hard and fast rule, studies clearly show that girls are more interested in and open to school life than boys.[32]

Effort

We know that success in learning the language of instruction is an important indicator of boys' academic difficulties. Nonetheless, recent research conducted in Québec[33] indicates that many girls have negative attitudes toward French, language of instruction. Like boys, they fail to see its relevance, usefulness or even its value, and these attitudes begin to take root in elementary school. Nevertheless, it has been observed that girls, even if they are not particularly interested in a subject, generally make more of an effort to learn it than boys do. It appears that many boys have difficulty making an effort if their interest level is low and the benefits are not immediate.[34]

Boys and girls do not have the same idea of what leads to success: boys place much more importance on intelligence than on effort. They believe that being intelligent relieves them of having to make an effort, while girls perceive intelligence as an indispensable ingredient of success.[35] Beliefs pertaining to effort, intelligence, success and failure appear to gradually take shape in childhood. These types of beliefs are not innate, and are clearly the result of different socialization processes.[36]

The fact remains that girls naturally tend to attach more importance to school than boys do.[37] This is apparent as early as elementary school and girls' university graduation rates prove that their motivation does not wane. This difference in attitude is even more apparent in disadvantaged environments. Girls perceive academic success as the gateway to a more satisfying personal and professional life, while boys rely more on beliefs concerning the opportunities they will have simply because they are male, an attitude which leads them to underachieve in school.[38]

Girls also devote more time to homework and studying. Adolescent girls do more schoolwork outside classes than boys: 29% of 13-year-old girls and 26% of 16-year-old girls devote more than 5 hours per week to homework, compared to 19% and 12% of boys of the same age, respectively. The results of the *Enquête sociale et de santé auprès des enfants et des adolescents québécois* reveal that 9-year-old boys and girls are no different with respect to the time they spend on homework and studying. It has been noted, however, that they tend to devote less time to homework and studying as they grow older: 76% of 13-year-olds devote 5 or fewer hours per week to homework; at age 16, this proportion rises to 81%.[39]

Proportionally speaking, more boys than girls experience difficulty in learning the language of instruction. In addition, more boys than girls lack commitment to and interest in their schoolwork, which means that boys are more likely to repeat a grade. We also know that grade repetition affects students' self-esteem, feeling of competence and sense of belonging, to such an extent that it is one of the best predictors for dropping out of school. This close relationship between grade repetition and dropping out applies to all students, but is particularly apparent among students from disadvantaged environments.

32. Québec, Conseil supérieur de l'éducation, *Improving Boys' and Girls' Academic Achievement* (Québec: Gouvernement du Québec, 1999).

33. Excerpt from a speech given by Thérèse Bouffard, full professor at the Université de Québec à Montréal on the occasion of a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (*Chantiers sur la réussite des garçons*).

34. Ibid.

35. Roch Chouinard, *La réussite scolaire: une question d'effort*, Forum, Université de Montréal, Vol. 36, No. 4, September 17, 2001 issue, p. 1.

36. Excerpt from a speech given by Thérèse Bouffard, full professor at the Université de Québec à Montréal on the occasion of a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (*Chantiers sur la réussite des garçons*).

37. Ibid.

38. Ibid.

39. Québec, Ministère de l'Éducation, *Pour améliorer les pratiques éducatives: des données d'enquête sur les jeunes*, Fascicule d'accompagnement No. 3: Milieu familial et activités des jeunes, (Québec: Gouvernement du Québec, 2003), document prepared by Sylvie Roy, p. 14-15.

Better results in reading literacy

In all OECD countries, girls are significantly ahead of boys with respect to reading literacy.[40] There is no marked difference between boys and girls with respect to their results in other academic subjects. However, the ability to read, understand and use information is at the heart of cognitive development and personal fulfillment. Reading literacy is the cornerstone for learning in all academic disciplines. This is why difficulties experienced in learning the language of instruction lead to the identification of learning difficulties and are one of the main reasons school authorities use to justify their decision to have a student repeat a grade.

Different learning strategies

Analysis of the differences in girls' and boys' learning strategies[41] shows that boys generally use different strategies than girls, particularly with respect to metacognitive strategies. Most 15-year-old boys tend to prefer development strategies that focus on comprehension and establishing links between concepts. In contrast, girls are more inclined to use memorization techniques that involve rote learning of concepts and sometimes even reciting lessons several times out loud. However, compared with boys, girls make more frequent use of control strategies such as planning, organization and structuring, all of which help them master the learning process. It has also been noted that girls are more likely to adopt a personal learning assessment approach during the learning process, an attitude which reflects the extent to which they have mastered the learning process. There is indeed a close relationship between performance in reading literacy and the extent to which students control their own learning.[42]

As for the learning context, girls generally opt for a collegial approach to learning and tend to support each other in their studies, while boys use more competitive approaches.

A different perception of their abilities

"Most girls have more self-esteem when it comes to their education. And we know that young people's perception of their skills is an important factor in their academic performance."[43] More girls than boys mention that they have academic aptitudes or skills and talents of an intellectual nature.[44] The Programme for International Student Assessment (PISA) has shown that there is a relationship between students' perception of their own abilities and their performance in reading literacy. In all OECD countries, the most striking differences in performance have been noted between students who are certain they can meet learning challenges, even in the face of difficulty, and those who are uncertain of being able to do so.[45] There also seems to be a significant negative gap between some students' actual potential and their assessment of this potential.[46]

Students' convictions in various respects, such as the certainty that objectives can be achieved, that the resources needed to do so are available and that the desired results are worth the effort, are important predictors of their performance, especially in reading literacy.[47]

2.3 The Effect of Stereotypes

In addition to this difference in attitudes that lead to success, girls' greater success in reading and writing is sufficiently apparent to be noticed by students and teachers alike. Many therefore view reading and writing as "feminine."[48] This perception influences teachers' behaviour in the classroom in that they have different expectations of boys and girls. It also influences certain boys who, under peer pressure, try to avoid being associated with these "feminine" areas of learning. Boys and girls build their personal identity by drawing on the store of social gender expectations conveyed by their parents, teachers and wider environment. This dynamic, which structures gender perceptions of effort, intelligence and subject areas, persists year after year and contributes to widening the gap between boys and girls. It appears that identification with gender stereotypes (i.e. social expectations traditionally specific to a gender)[49] is stronger in disadvantaged environments and contributes to widening the gap between girls and boys.

40. Organization for Economic Cooperation and Development, *Education at a Glance: OECD Indicators–2003 Edition*, 71.

41. Ibid., 129.

42. Ibid., 131.

43. Excerpt from a speech given by Thérèse Bouffard, full professor at the Université de Québec à Montréal on the occasion of a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (*Chantiers sur la réussite des garçons*) (free translation).

44. This observation was confirmed by means of a 1995 survey of students in Secondary Cycle Two in general education. Ministère de l'Éducation, Direction de la recherche, *La formation professionnelle au secondaire. Une formation sans les jeunes?*, survey of three groups of students, December 1995.

45. Organization for Economic Cooperation and Development, *Education at a Glance: OECD Indicators–2003 Edition*, 148.

46. Geneviève Marcotte, "Caractéristiques personnelles et environnementales de l'élève du primaire affecté par une illusion d'incompétence," doctoral thesis in progress.

47. Organization for Economic Cooperation and Development, *Education at a Glance: OECD Indicators–2003 Edition*, 126.

48. Conseil supérieur de l'éducation, *Improving Boys' and Girls' Academic Achievement.*

49. Christian Baudelot and Roger Establet, *Allez les filles!* (Paris: Seuil, 1992).

Numerous studies carried out in 1993-1994 and in 1996 by the Centre de recherche et d'intervention sur la réussite scolaire (CRIRES)[50] show that there is a strong correlation between identification with sexual stereotypes and academic failure for both boys and girls. Conversely, dispensing with these stereotypes leads to better performance. A larger proportion of girls than boys succeed in freeing themselves of these stereotypes, and this greater freedom is more apparent in advantaged environments than in more modest ones.[51] Boys who wish to compensate for their academic difficulties tend to take refuge in stereotypical masculine behaviours that distance them from school life.[52]

2.4 The Influence of Peer Groups

The peer group is a factor that influences many boys to adopt a negative attitude toward school. Boys who exhibit disruptive behaviour and who protest against school and schoolwork are perceived as "cool," giving them a certain power which they use to harass "nerds" (docile students who do well in school). It is not "cool" to be perceived by one's peers as someone who works hard. In many secondary schools, good marks are for "sucks," especially if this involves studying and completing school assignments. Only the myth of getting good marks without having to study makes one popular because it is considered "brilliant" by one's peers.[53] This belief is related to the idea that one can learn without making an effort if one is intelligent.

These beliefs are strong, and this negative peer pressure can cause many boys to maintain and develop negative attitudes and behaviours toward school and schoolwork. For example, homophobic comments are often used by young people to insult boys who do not exhibit "male-appropriate" behaviours. Boys who have positive attitudes toward school are often the targets of such comments. The use of homophobic comments such as "fag" or "queer" are not necessarily linked to sexual orientation as such, but rather to behaviours considered unacceptable by one's peers. Peer pressure can be very strong and can help limit possibilities for many boys by influencing the courses they choose, their behaviour and their academic performance. "Schools that are unsuccessful in creating a favourable atmosphere and positive social pressure among their students will have a great deal of difficulty mobilizing male students who are at risk of failure from the outset. If the school enters into competition with the peer group by promoting academic success, it is far from certain that it will win the contest."[54]

However, the influence of this social dynamic within peer groups must be qualified.[55] Many students are able to negotiate their "cool" image in spite of the fact that they get good grades. This ability has to do with how they relate to their peers and the type of activities they participate in at school (e.g. sports).

If school is to be valued, social pressure conducive to academic success must come from all directions, that is, the school, the family, the community and from the students themselves. "Succeeding in school must be perceived as a worthwhile proposition by at-risk students themselves."[56] Young people must understand that their efforts today will bear fruit in the years to come. In this way, they can project themselves into the future and entertain career aspirations.

Research results tend to show that some boys' disinterest in school and tendency to drop out is a systemic problem that affects boys from disadvantaged environments in a more pronounced way. Furthermore, there is a variety of contributing factors and, as we shall see, there is no simple solution to this complex problem.

50. Centre de recherche et d'intervention sur la réussite scolaire, CRIRES newsletter, *Les filles aiment mieux l'école que les gars: pas surprenant qu'elles réussissent mieux*, Université Laval.

51. Excerpt from a speech given by Jean-Claude Saint-Amant, researcher at the Université Laval, on the occasion of a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (*Chantiers sur la réussite des garçons*).

52. Pierrette Bouchard et al, *De l'amour de l'école. Points de vue de jeunes de 15 ans* (Montréal: Les Éditions du remue-ménage, 1997).

53. Richard Cloutier, "La réussite scolaire des garçons: un défi à multiples facettes," *Vie pédagogique*, No. 127, April-May 2003.

54. *Ibid.*

55. B. Lingard et al., A*ddressing the Educational Needs of Boys.*

56. Richard Cloutier, "La réussite scolaire des garçons: un défi à multiples facettes," *Vie pédagogique* (free translation).

3 Types of Intervention Strategies

The preceding chapters described the current situation and presented an analysis of the different factors that exert an influence on the success of young people, notably that of boys. In order to help boys perform better, many schools, both here in Québec and elsewhere in the world, have considered and tested different types of intervention strategies that centre on the following themes: single-sex education, educational approaches, the quality of the teacher-student relationship, greater involvement on the part of fathers, sports and extracurricular activities.

3.1 Single-Sex Education

Single-sex classes are sometimes suggested in order to take greater account of boys' specific characteristics. At present, a number of elementary and secondary schools in Québec are experimenting with single-sex approaches. These include single-sex classes or single-sex student groups for one or more subjects. Using the single-sex approach without moving toward complete single-sex education may mean setting up single-sex areas and environments for certain subjects or educational activities. Among other things, this would make it possible to adapt certain standards that currently govern student behaviour in class, and to provide educational settings that are more attuned to the different learning styles of boys and girls. There is a need for educational innovation and follow-up strategies that take into account the complexity of the interactions in student groups. These experiments are relatively new, however, and have not been formally assessed. A review of single-sex projects carried out in Québec showed that "the results of such experiments appear to be ambiguous, according to school principals. While some people said they saw an improvement in the behaviour of the boys who took part in these projects, others said that these initiatives exacerbated boys' and girls' negative attitudes toward their peers. Most people, however, did not notice any significant change in academic results."[57]

Research results indicate that a single-sex class approach does not necessarily result in greater success for boys.[58] A single-sex educational approach alone does not ensure that boys do better academically or socially, but could nonetheless have some potential benefits if it was implemented by taking other factors into account. Indeed, changing the way classes are organized, without implementing new educational approaches that are more meaningful for students and without increasing teachers' awareness of the effects of the construction of young people's sexual identity, may result in maintaining and even reinforcing learning-related stereotypes for boys and girls. There is therefore a danger of reinforcing certain gender stereotypes and beliefs about boys' and girls' behaviour. The quality of teachers' educational practices has more of an impact on academic success than class composition based on gender.

Studies have shown that girls would outperform boys under a single-sex approach to education, as girls would no longer be exposed to a group dynamic dominated by boys.[59] Indeed, boys tend to monopolize classroom interactions and to receive more attention from teachers. This dynamic appears much more significant in traditionally "male" subjects.[60] In addition, many studies mention the high level of sexual harassment that girls are subject to as soon as they enter secondary school. Furthermore, given that group dynamics are different for boys and girls, varying in intensity according to age, and given also that single-gender groups are heterogeneous, it is extremely important to incorporate differentiated teaching, student guidance and regulation techniques into the learning process.

57. Groupe de réflexion sur l'éducation des garçons (GREG), *Research Report*, October 2003 (free translation).

58. Canberra, the Parliament of the Commonwealth of Australia, *Boys: Getting It Right*, House of Representatives Standing Committee on Education and Training, October 2002.

59. Annick Durand-Delvigne, "Pour la mixité qui travaille," *Égalité des sexes en éducation et formation*, collection under the direction of Nicole Mosconi (Paris: Presses Universitaires de France, 1998), 162.

60. Conseil supérieur de l'éducation, *Improving Boys' and Girls' Academic Achievement.*

Strong concerns have also been voiced about the risk of stigmatizing young people by grouping them according to gender.[61] These groups would help to decrease teachers' general expectations of boys, which would ultimately have a negative impact on their academic performance.[62]

It should be remembered that like groups of girls, groups of boys are not homogeneous. There are more differences from one boy to the next or from one girl to the next than there are overall differences between groups of boys and groups of girls. Thus, seemingly innate gender-based characteristics cannot be attributed to an essentially heterogeneous group.

Over the past few years, in Québec as well as abroad, the concept of single-sex education has evolved a great deal. The answer is not to use an old formula to solve a modern problem. In asking questions and seeking solutions, we must not resort to improvised strategies based on anecdotal evidence, or hastily adopt radical solutions, but instead rely on controlled experiments and initiatives in the spirit of sound research.

3.2 Adapting Educational Approaches

The type of educational approach used appears to be a significant factor in improving student performance, including that of boys. The preferred approaches are those that recognize individual differences.[63] These educational practices take into account students' actual needs and recognize that there may be differences between boys and girls and between the students themselves.

Such practices are consistent with the principle of pedagogical differentiation and involve broader, more complex, complete and meaningful learning situations. They require students to play an active role in their learning, draw on past experiences and adopt the learning style that suits them best. These practices make it possible for the teacher to understand the learning mechanisms at play throughout the student's learning process. The teacher must therefore expect a variety of results from students.

In such learning situations, the emphasis is on learning projects. They offer students concrete experiences and different settings, and require greater commitment on their part. They are therefore useful in engaging some boys who are more attracted to activities that involve hands-on experience rather than cognition and reflection. In this regard, pedagogical differentiation takes into account the characteristics and different learning styles of both male and female students.[64] However, a more differentiated pedagogical approach based on student needs should not be confused with one based on stereotypes, which often serves only to reinforce gender characteristics.[65]

3.3 The Complexity of the Teaching Task

The importance of teachers' professional development can be more fully understood if we consider that they must work toward students' academic success while coping with increasingly complex situations. Development of teachers' knowledge and skills is an important aspect of the application of pedagogical practices that take students' educational needs into consideration. These pedagogical practices are difficult to master and require appropriate knowledge: knowledge of the discipline itself, of the student's development, and of the concept of gender and identity development, as well as an understanding of the goals of schooling and its impact on students' attitudes and learning. The pedagogical practices used by teachers are crucial in ensuring that students achieve good results. Teachers' knowledge, their pedagogical practices and the values they convey, combined with the influence of the school environment and the quality of the teacher-student relationship, appear to have a significant influence on students.[66]

"This professional development cannot occur in a closed environment. The task would be too onerous."[67] Achievement of such training objectives by teachers involves the development of practices in cooperation with other teachers and the creation of professional communities of teachers within the schools themselves.[68] These professional communities create a culture of ongoing professional development in the school. They ensure a structure that promotes the generalized application of effective educational strategies. They lead teachers to reflect on their teaching practices in light of recent research and new findings in the field of education.[69] They fuel their discussions on the factors that influence the participation, commitment and motivation of their male and female students. In this way, they make it possible to transcend the limited view that sees boys' behaviour as predetermined or culturally or biologically influenced.

61. B. Lingard et al., *Addressing the Educational Needs of Boys.*

62. Excerpt from a speech given by Jean-Claude Saint-Amant, researcher at the Université Laval, on the occasion of a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (Chantiers sur la réussite des garçons).

63. B. Lingard et al., *Addressing the Educational Needs of Boys.*

64. Québec, Ministère de l'Éducation, Direction de l'adaptation scolaire et des services complémentaires, *Les difficultés d'apprentissage à l'école-Cadre de référence pour guider l'intervention* (Québec: Gouvernement du Québec, 2003), 62.

65. Excerpt from a speech given by Louise Lafortune, full professor at the Université du Québec à Trois-Rivières, on the occasion of a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (Chantiers sur la réussite des garçons).

66. B. Lingard et al., *Addressing the Educational Needs of Boys.*

67. Jean Archambault and Chantal Richer, "Les difficultés des garçons: un autre symptôme des difficultés de l'école," *Vie pédagogique*, No. 127, April-May 2003, p. 13-17.

68. B. Lingard et al., *Addressing the Educational Needs of Boys.*

69. Canberra, the Parliament of the Commonwealth of Australia, *Boys: Getting It Right.*

3.4 The Teacher-Student Relationship

When asked about which qualities they like in their teachers, young people,[70] regardless of gender, mentioned the teacher's personality and the nature of the relationships he or she establishes with the students. These two aspects appear to have a marked influence on student motivation. Students said that they particularly like teachers who are firm, impartial but friendly, who maintain relationships based on mutual respect, who are available and accessible, who know their subject well and who are able to make it interesting. They also have respect for teachers who know how to relate schoolwork to the student's life, who are committed to their work, who have a marked sense of responsibility toward them, who recognize and support their differences and who know how to empower them with respect to learning. These teachers know how to keep them motivated and to encourage them to succeed.

The students also mentioned that the teacher's kindness, the time he or she spent with them and the interest he or she showed in their experiences outside of school allowed for a relationship to grow and made it possible, especially for boys, to go to the teacher for assistance with personal problems. They added that they did not have a preference for a female or male teacher. Students with academic difficulties tend to prefer the emotional aspect of the relationship with their teachers and some of them even build their school experience on this relationship.[71]

More than gender, the quality of the relationship between the teacher and the student appears to have a much greater influence on the student's learning. Although some studies point out that the absence of male teachers is a disadvantage for both girls and boys because of the lack of a male role model, none of them have shown that greater representation on the part of male teachers at the elementary level would favour boys more than girls. It appears that their presence in greater numbers has no direct impact on the performance of students of both genders.[72] It has even been observed that the performance gap between boys and girls is less significant in certain European countries where the teaching staff is made up mostly of women. Conversely, much more significant gaps have been observed in places where the numbers of men and women on the teaching staff are more equal.[73]

On the other hand, more male teachers for both boys and girls might serve to diversify the gender models presented to them and therefore help to dispel certain stereotypes young people have of men and women. The transmission of positive values related to learning, introduced by appropriate male role models, should be considered.[74] Teachers are not the only gender models available to children. Even if it is desirable to have more male role models in the school, this problem goes beyond the education system.

3.5 Greater Involvement on the Part of Fathers

Many educators mention the importance of fathers playing a more active role in their sons' lives. Thus, some schools organize extracurricular activities that involve boys, their fathers and male educators. The purported aim of this type of intervention strategy is to introduce boys to male role models who can help them develop personally and deal with their environment.

In its brief entitled *Improving Boys' and Girls' Academic Achievement*, the Conseil supérieur de l'éducation recommended encouraging fathers to play a more active role in their sons' lives, not only with regard to sports and social activities, but also by setting an example for them when it comes to reading.[75] The lack of positive and constructive male role models, including men who have been academically successful, is sometimes cited as one of the reasons why boys lack commitment and motivation when it comes to school.

In the United Kingdom, national programs have been launched with a view to altering the public's stereotypical views, particularly with respect to reading. In 2000, a campaign was undertaken which involved asking the public to identify male role models who were also great readers. These role models could be recognized champions in their respective fields or fathers, grandfathers, policemen, businessmen or others. This project is aimed at presenting reading as an activity that is as much masculine as it is feminine.[76]

70. Ibid.

71. Gaëlle Espinosa, "La relation maître-élève dans sa dimension affective: un pivot pour une différenciation des pratiques enseignantes?" taken from *L'affectivité dans l'apprentissage*, collection under the direction of Louise Lafortune and Pierre Mongeau (Sainte-Foy: Presses de l'Université du Québec, 2002), 164.

72. Dianne Sirna Mancus, "Influence of Male Teachers on Elementary School Children's Stereotyping of Teacher Competence," *Sex Roles*, Vol. 26, No. 34, p. 109-128.

73. Conseil supérieur de l'éducation, Improving *Boys' and Girls' Academic Achievement.*

74. Canberra, the Parliament of the Commonwealth of Australia, *Boys: Getting It Right.*

75. Conseil supérieur de l'éducation, *Improving Boys' and Girls' Academic Achievement.*

76. National Reading Campaign, United Kingdom, "Reading Champions," *Teachers Magazine*, July 2003.

With many children living in single-parent families, mostly headed by mothers, one might think that the school has little control over this situation. However, analysis of the data on children growing up in families headed by single mothers, collected through the *National Longitudinal Survey of Children and Youth* (NLSCY), shows that in absolute terms, most children who experience emotional, behavioural, social and academic difficulties did not come from single-parent families. A little more than a quarter of these children came from families headed by single mothers and almost three quarters came from two-parent families. In all, a little more than 16% of children aged 4 to 11 came from families headed by a single mother.[77] This means that growing up in a single-parent family increases a child's likelihood of experiencing such problems, but that children in school who experience difficulties most often come from two-parent families.

Research on the subject shows that parents' influence on both boys' and girls' academic achievement is crucial and that the involvement of both parents is more effective than that of one parent alone.[78] Depending on the circumstances, each parent has different approaches and ways of interacting with the child.

Data collected by means of the *Enquête sociale et de santé auprès des enfants et des adolescents québécois* indicate that the parents' interest in school appears to play a positive role for 9-year-old children. In fact, children of this age who enjoy more sustained interest from their parents are proportionally more numerous than other children in saying they like school. The data nonetheless indicate that the parents' interest in school life decreases radically when their children are between 13 and 16 years of age; about 72% of 13-year-olds fall in the "high" category of the overall composite index in relation to only 53% of 16-year-olds.[79]

3.6 The More Energetic Nature of Boys

Some authors cite the more energetic nature of boys as a fundamental fact which the school does not take into account sufficiently. In addition, different schools are undertaking a greater variety of initiatives involving soccer and other sports or extracurricular activities. This is not really documented in the research and it is important not to attribute to all boys characteristics that describe only some of them. In fact, not all boys are good in sports. We might think that participation in extracurricular activities, whether sports related or not, increases the sense of belonging to the school. According to a number of school principals questioned in a survey of such school-based projects, these initiatives have more of an impact on behaviour, motivation, self-esteem, and school and class attendance than on academic results.

In the United Kingdom, "learning centres" were set up in 1997 to help students with reading, writing and mathematics.[80] These centres are located in various sports clubs, notably in soccer clubs. The focus is on the student's motivation to learn and his or her attitude toward school. Sports are used as a learning and motivational strategy and also serve as a teaching aid.

The group targeted by the program is composed of children whose academic performance is below that normally achieved by children of the same age. Boys account for more than half the group.

This initiative has undergone four assessments[81] since its inception; the results of the last assessment are very positive and were published in April 2003. Elementary school children who attended these centres for two hours a week over six weeks significantly improved their performance in arithmetic tests. With regard to reading comprehension, the performance of secondary school students improved significantly, whereas that of elementary school students did not.

Teachers and parents mentioned that they also noticed an improvement in the students' attitude toward school, positive changes in their self-image and a positive change in their work habits. The authors mentioned that the use of a sports club as a venue for the initiative constituted an important motivational factor for students. Other factors that appear to have helped make the initiative a success were a low teacher-student ratio, and providing students with constant encouragement to take greater responsibility for their studies and to persevere in their school work.

77. Government of Canada, Human Resources Development Canada, "What Do We Know About Children From Single-Mother Families?" *Growing Up in Canada: National Longitudinal Survey of Children and Youth,* prepared by L. Lipman, D. R. Offord and D. D. Martin, Ottawa, p. 95-104.

78. Excerpt from a speech given by Jean-Claude Saint-Amant, professor at the Université Laval, on the occasion of a daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (Chantiers sur la réussite des garçons).

79. Québec, Ministere de l'Éducation, *Pour améliorer les pratiques éducatives: des données d'enquête sur les jeunes*, 9.

80. Department for Education and Skills, United Kingdom, *What is Playing for Success?*, 1997.

81. C. Sharp, J. Blackmore, L. Kendall, K. Greene and W. Keys, *Playing for Success. An Evaluation of the Fourth* Year, 2003.

Conclusion

The research results presented here provide ideas for various courses of action that could be undertaken by different schools. The statistical data suggest that we must avoid making rash generalizations. While it is true that academic delay, failure and dropping out are more prevalent among boys, the fact is that most of them succeed in school. Indeed, three out of four boys graduate with a secondary school diploma. This means that while proportionally more boys than girls experience academic difficulties, these problems are not related to a gender characteristic. In short, boys and girls do not constitute homogeneous groups. When academic difficulties do arise, however, they are amplified by certain traits more frequently encountered among boys.

We must therefore be careful not to think that problems or difficulties affecting only a segment of the male student population apply to the entire male gender.[82] Otherwise, we run the risk of making a sweeping generalization about all boys and thereby condemning teachers, parents and the students themselves to helplessness.

Furthermore, the data for each school board clearly show that the academic achievement gap is often more significant among boys themselves than between boys and girls. This requires schools to examine their own situation so as to have a more accurate understanding of these differences, with a view to better planning their intervention strategies.

The brief review outlined in this document highlights the fact that there is no single solution to a complex problem. Rather, research findings indicate that we should try to create a school environment that is stimulating for all students by paying attention as much to the quality of educational practices and the teacher-student relationship as to other variables that affect boys more specifically.

However, all the studies consulted show that the academic difficulties experienced by boys relate to the language of instruction. We must therefore determine what should be done to support students in learning the language of instruction and, more particularly, with respect to reading. Which intervention strategies would be the most effective in encouraging young people to adopt reading behaviours that are conducive to developing their written comprehension skills? How can the school encourage students to read various types of texts, both inside and outside the classroom, so that they may diversify their reading habits and improve their written comprehension skills? These are only some examples of the questions we might ask.

As well, the proportion of both male and female students who repeat a year upon entering secondary school is an important indicator, among others, of how well students complete the transition from one level of education to another.

Research data also show that socioeconomic background is an important risk factor, especially for boys. Academic difficulties affect boys from disadvantaged environments in particular. Again, this is not always true. Other factors serve to attenuate or reinforce the effect of environment. And schools can, based on an analysis of their situation, exert a certain amount of control over some of these factors.

We also noted that some behaviours or attitudes toward school and studies might have an influence on academic performance. Behaviours and attitudes that are more conducive to students' academic success and their staying in school appear to be more prevalent among girls than boys. These findings give rise to questions about educational intervention strategies that take into consideration differences in learning strategies and attitudes toward school. Appropriate projects or challenges can be used to sustain the motivation of certain students and help them develop a positive perception of their own potential.

Peer pressure may also be an important factor to take into consideration. It appears that schools could use this factor to create pressure that is conducive to success. We know that certain students seek to impose on others their negative image of academic success by often relying on traditional social expectations of their own gender. Schools could respond by relying on the resources offered by the surrounding community and families to put forward other models, encourage other aspirations, and create social pressure conducive to academic success.

All the research studies consulted also show that the type of educational approach used constitutes an important factor for student success, and notably that of boys. Educational differentiation practices appear to be preferred because they allow for individual differences. They involve respect for the students' learning styles and call for meaningful learning activities.

82. Louise Lafortune, *Une pédagogie de la mixité pour la réussite de tous les élèves*, text of the participant's workbook produced for the daylong study session held in Québec City on April 10, 2003, on the theme of boys' academic achievement (*Chantiers sur la réussite des garçons*).

It was also noted that the quality of the teacher-student relationship has a greater positive influence on students' learning than gender.

This document also described initiatives or projects undertaken in various schools, both in Québec and abroad, to narrow the gap between boys and girls. A number of schools have experimented with single-sex classes to better meet the needs of boys. These experiments are relatively new and their assessment to date indicates the need for caution. In a spirit of sound research, attempts have been made through controlled initiatives to develop educational innovation and follow-up strategies that take into account the complexity of the interactions in student groups. In addition, these initiatives provide educational situations that take into account the different learning styles of boys and girls. The results obtained to date indicate that effective educational intervention strategies implemented to improve the performance of all students, even if they are not directed at boys in particular, appear to be more effective for boys.

Research data indicate that parents' involvement is also a factor that has a positive influence on young people's success. The involvement of both parents is more effective in providing the type of support a child needs than the involvement of either just one parent or even that of a father with his son. Parent involvement is indispensable in complementing action taken by school staff and educators to promote students' success, particularly that of boys.

A number of measures have already been implemented under the current education reform with a view to improving the academic achievement of all students. These measures apply not only to boys who do not succeed, but also to girls in the same situation. None of these measures target boys exclusively, as this could lead to a type of stigmatization.

This approach is shared by a number of countries. Australia, among others, which has conducted research in this area for about ten years, has reached similar conclusions. The emphasis there is also placed on educational approaches that involve more meaningful learning situations for students and that promote educational differentiation.

The education reform currently under way in Québec involves a number of major changes in the representations, practices and roles of educators, and proposes changes to the very concepts of learning and teaching. The Québec Education Program is aimed at making the student an active learner. Such an approach gives rise to differentiated educational practices and, in so doing, is more in keeping with the interests of individual students, be they girls or boys. Schools that have experimented with the Québec Education Program in elementary school have noted that projects involving real-life problems and meaningful situations had a motivating effect on boys. The reform also focuses on the development of skills acquired through complex learning situations requiring greater involvement on the part of the student. The new curriculum raises the bar with respect to what is expected of students, and this could present a stimulating challenge for young people.

All of these measures, which are gradually being implemented by the MEQ and the educational community, are aimed at achieving new graduation targets by 2010. The current situation with respect to girls' and boys' graduation rates indicates that there is certainly room for boys to make gains.

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