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# Comparison by gender of students with behavior problems who dropped out of school

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## Abstract

The main objective was to identify personal, family and school-related factors which distinguish students presenting behavior problems who drop out from those who persist. A multidimensional evaluation process shows that these students: do not cooperate in class; benefit from little supervision at home; show low achievement; and that teachers harbor negative attitudes towards them. No gender differences were found on the vast majority of factors even though a large percentage of girls with behavior problems do succeed in obtaining their high school diploma.

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*Keywords:* School dropout; high school; behavior problems; gender differences.

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## 1. Introduction

In 2006, the dropout rate in Quebec reached 28.1 % for students who were 19 years or younger and this rate evidently varied according to gender as it was 31.8 % for boys and 18.5 % for girls (MELS, 2006). Moreover, it was particularly high for students presenting behavior problems as only 14 % of them obtained their high school diploma. These statistics have not varied over several years and they suggest a strong link between behavior problems and school dropout. A dropout is defined as a student who attends school during a school year and fulfills both of the following criteria: he or she does not obtain a high school diploma and does not re-enroll in school the following year (MELS, 2006).

The consequences associated with dropping out of school at the personal, social and economical level are burdensome. On the personal level, many dropouts present social misadaptations such as behavior problems or delinquency (Battin-Pearson, Newcomb, Abbott, Hill, Catalano & Hawkins, 2000; Fortin & Picard, 1999). On the social and economical levels, they do not obtain the technical training required to enter the work force and maintain a steady employment record. They show a very high unemployment rate and they benefit from welfare and unemployment insurance at a higher rate than do graduates (Garnier, Stein & Jacobs, 1997). Improving the graduation rate has become a social priority in Quebec. As a case in point, the Ministry of Education, Leisure and Sports (MELS) has asked schools to establish dropout prevention programs such as *Agir Autrement* and has also contributed to the creation of strong coalition efforts in each region in the form of Regional Tables where actors from different institutions and businesses converge.

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Many studies have aimed to better understand the school dropout phenomenon over the past two decades. Researchers have identified several cognitive, affective and behavioral characteristics associated with dropouts. On the cognitive level, learning difficulties and school failure constitute two of the most important and prevalent variables cited in the literature (Battin-Pearson *et al.*, 2000 ; Dunn, Chambers & Rabren, 2004; Garnier *et al.*, 1997; Jimerson, Anderson & Whipple, 2002). In terms of affective characteristics, students who drop out can be distinguished from those who do not by their lack of motivation and interest towards school (Dunn *et al.*, 2004; Vallerand, Fortier & Guay, 1997). Moreover, other disorders have been observed in the dropout population such as social withdrawal, high levels of anxiety and depression (Marcotte, Fortin, Royer, Potvin & Leclerc, 2001). The dropouts do not value school success and do not adhere to school values (Alexander, Entwisle & Horsey, 1997). Finally, they do not believe that school will help them integrate society (Dunn *et al.*, 2004).

It is now widely documented that several factors and the accumulation of events push students to leave school without a high school diploma and that behavior problems constitute one of the strongest factors associated with school dropout. Studies have shown that behavior problems also represent one of the early predictors of school dropout (Garnier *et al.*, 1997), their severity at the end of primary school being the strongest predictor of school dropout (Jimerson, Egeland, Sroufe & Carlson, 2000). Moreover, the different theoretical models built to explain this phenomenon show that deviant behavior and low school achievement in adolescents contributed the most to increase the dropout rate (Battin-Pearson *et al.*, 2000; Newcomb, Abbott, Calalano, Hawkins, Battin-Pearson & Hill, 2002). But the data gathered through research show that school dropout is a complex, multidimensional phenomenon and that in order to understand it fully, one must not only analyze the student characteristics, but also characteristics linked to the school and the family.

The family context is particularly important as several of its characteristics are significantly tied to school dropout. Battin-Pearson *et al.* (2000) reported that low parental expectations towards school outcomes are strongly associated with the child's dropout probability. Both the lack of supervision and inefficient parental practices have been documented (McNeal, 1999). Similarly, Fortin, Marcotte, Potvin, Royer and Joly (2001) reported that deficient parental practices such as offering little affective support, not being attentive to school activities and providing little structure and guidance in the family are variables strongly associated with school dropout. Finally, the lack of cohesion within the family also contributes significantly to increasing the dropout risk (Lagana, 2004).

A number of studies have shown that the school context also contributes to explaining the dropout phenomenon. In fact, dropouts often report negative experiences in school as their main reason for leaving school. Dropouts who justify their departure by invoking school-related reasons describe a particularly tortuous school trajectory associated with low school achievement, conflicts with teachers, negative attitudes towards school, boredom and a lack of motivation (Lessard, Fortin, Royer, Potvin, Marcotte & Joly, 2006). Students with behavior problems are reported as being more negatively affected by a deficient school environment than students who show good intellectual and social skills (Janosz, Georges & Parent, 1998).

Results from a number of studies tend to show that the relationship between behavior problems and school dropout may be different for girls. Newcomb *et al.* (2002) postulate that being a girl is predictive of fewer behavior problems and of a better school competency. A study conducted by Picard, Fortin and Bigras (1995) with a group of students at-risk of school dropout indicates that compared to boys, girls show more cooperation in class, are more receptive to classroom expectations, and show less impulsivity and antisocial behavior. However, girls who drop out show more behavior problems and fewer social skills than those who persevere. Fortin, Royer, Potvin, Marcotte and Yergeau (2004) observed that the variables associated with the dropout risk vary according to gender. In fact, five variables were more significant for boys while three were more prevalent in girls. In order of importance for boys, the variables, which contributed the most to the dropout risk, were depression, family cohesion, family conflicts, lack of affective support from parents and negative attitudes from teachers. There are thus personal, family and school-related variables. But the variables, which affected the risk for girls, were essentially personal and family-related. In order of importance, they were depression, the lack of family cohesion and organization problems within the family.

Regardless of the number of studies conducted in this field, there are still very few findings documenting the relationship between behavior problems and school dropout in girls. This shortcoming can probably be explained by the fact that compared to boys, girls are both fewer to present behavior problems and to drop out of school (MELS, 2006). Whatever the case may be, most studies conducted on characteristics associated with school dropout report results indiscriminate of gender. However, documenting the specific characteristics of boys and girls who show behavior problems who drop out and those of students who obtain their diploma is essential to better understand this phenomenon and ultimately, to put forth more targeted prevention programs in secondary schools.

The purpose of this study is to shed a new light on this phenomenon using the data collected in a 10-year longitudinal study focusing on learning and behavior problems in high school students who were selected at the beginning of their secondary schooling. By comparing boys and girls who showed behavior problems, this study aims to 1) examine the relationship between

behavior problems and school dropout; 2) to compare personal, family and school-related characteristics associated with school dropout.

## 2. Methodology

### 2.1. Participants

The convenience sample consisted of 810 Grade 7 students from three cohorts attending four high schools in three Quebec regions: Quebec City (184 students), Trois-Rivières (389 students) and Sherbrooke (237 students). The French-Canadian participants were 12–13 years old; 54 % were boys and 46 % were girls. The 376 girls and 432 boys who participated were enrolled in their first year of secondary school. For the present study, 740 students were found to have all the data required for the analyses. For each of the five years of secondary school, the behavior problems criterion was assigned when a student's score on Gresham and Elliot's Social Skills Rating System for externalizing behavior problems was found to be one standard deviation above the group mean for boys and for girls at each scoring event.

Based on this criterion, 154 boys and 102 girls were found to present behavior problems over a period of at least one year during their five years in secondary school whereas 274 girls and 219 boys showed none. Among the 256 students who showed behavior problems, 104 boys and 86 girls persevered, whereas 30 % of boys and 15 % of girls dropped out by age 20. From data gathered by the Ministry of Education (MELS), dropouts were identified eight years after the start of their secondary schooling based on the following criteria: the youth was not enrolled in school and had not obtained a high school diploma. The designation of students to the control group ( $n = 190$ ) was based on the fact that they had not displayed behavior problems during their five years in secondary school.

According to the Ministry's socioeconomic indicators (Gouvernement du Québec, 2002), the cohorts located in Sherbrooke and Quebec City were located in neighborhoods considered to be socioeconomically disadvantaged whereas the cohort living in Trois-Rivières was located in a middle class neighborhood.

The participants came from the first year of an extensive longitudinal correlational 10-year repeated-measures study focusing on adolescents' school achievement and social adaptation. In this large-scale research project, the independent variables were characteristics associated with the family, the school and the student, while the dependent variable was the risk score obtained on the Decisions test (Quirouette, 1988). However, the present study has used the clustering technique based on analysis of interdependence among the different factors associated with dropout risk. Thus, in this context, identification of independent or dependent variables was not relevant.

### 2.2 Measures

**2.2.1 Analysis of school records.** Using the data contained in the school records, student profiles were drawn up based on such variables as achievement in French and Mathematics and truancy.

**2.2.2 Social Skills Rating System (SSRS) (Gresham & Elliot, 1990).** This questionnaire provided a multivariate assessment of the social behaviors of students in school. The teacher's version consists of 51 statements divided into three subscales: social skills (cooperation, assertion, self-control), problem behaviors (externalizing problems and internalizing problems) and academic competence. The SSRS shows adequate reliability (test-retest: .90; Cronbach's alpha: .90) and concurrent validity with the following test scales: Social Behavior Assessment (Stephens, 1978 in Gresham & Elliot, 1990), The Harter Teacher Rating Scale (Harter, 1978 in Gresham & Elliot, 1990) and the Child Behavior Checklist (Achenbach, 1982 in Gresham & Elliot, 1990). Principal-axes factor analyses with Varimax rotation conducted with 810 high school students indicated that the Quebec version had the same factorial structure as the American version. The internal consistency coefficients ranged from .79 to .92.

**2.2.2 Beck Depression Inventory (BDI) (Beck, 1978).** This self-report measure consists of 21 items assessing the intensity of emotional, behavioral, cognitive and somatic symptoms characteristic of depression. Each item offers a choice of four answers graduated from 0 to 3. The psychometric qualities of the BDI have been confirmed for Quebec adolescents, with internal consistency coefficients ranging from 0.86 to 0.88 (Bourque & Beaudette, 1982). A cut-off score of 16 has been suggested to identify subjects manifesting characteristics of clinical depression.

**2.2.3 Self-reported Delinquency Questionnaire (LeBlanc, 1994).** This instrument provided a self-reported measure of the adolescent's violent and antisocial behavior. It comprises 29 questions on different delinquent activities (vandalism, petty theft, more serious theft, assault, drug use, alcohol use and other behaviors). Response choices on a 4-point Likert scale enable the

adolescent to specify the frequency of his/her delinquent behavior. This questionnaire was previously validated with 6,604 participants aged from 10 to 18.

**2.2.4 Parental Style** (Steinberg, Lamborn, Dornbusch & Darling, 1992). This self-report instrument assessed three dimensions of the parenting style using the following three subscales: (a) parental involvement (9 items), (b) parental supervision (8 items), and (c) encouragement of autonomy (9 items). The internal consistency indices of these Likert scales are adequate and the construct and content validity have been demonstrated in Quebec studies of adolescents (Deslandes *et al.* 1995).

**2.2.5 Parental Participation in School Follow-up** (Epstein, Connors & Salinas, 1993 in Deslandes *et al.*, 1995)

This self-report questionnaire consists of 20 statements presented in five subscales: parental emotional support; communication with teachers; parent-adolescent interactions pertaining to school; parent-school communication and parent-adolescent communication.

**2.2.6 Classroom Environment Scale** (Moos & Trickett, 1987). This self-report questionnaire assessed the classroom social climate. The condensed version includes nine scales of five statements each (a total of 45 statements), with a choice of true or false answers. The scales are: engagement, affiliation, teacher support, task orientation, competition, order and organization, clarity of rules, teacher control and innovation. The questionnaire has been shown to have adequate reliability (Cronbach's alpha between 0.52 and 0.75) and concurrent validity with other instruments (between 0.16 and 0.40).

**2.2.7 Ways of Coping** (Lazarus & Folkman, 1984). This questionnaire measures three types of coping strategies, namely the quest for social support, the positive reevaluation/problem solving and distancing/avoidance. The abridged version used by students included 21 items. The internal consistency coefficients, which varied between 0.61 and 0.81 were obtained with French Canadian youth samples.

**2.2.8 Teacher's Attitudes towards the Student Scale** (Potvin & Rousseau, 1991). This questionnaire is answered by the teacher, assesses the teachers' attitudes towards the student. It consists of 18 bipolar adjectives; each pair of adjectives has a value of -3 to +3, providing a minimum total score of -54 and a maximum total of +54. The instrument's reliability is adequate (Cronbach's alpha between 0.50 and 0.86).

## 2.3 Procedure

In September 1996, all Grade 7 students at each of the selected schools were invited to participate to the study. The only students excluded were those exhibiting intellectual disabilities, as these students very rarely obtain a high school diploma. All participants were contacted through the teachers. The percentage of students who accepted to participate was 78,1 % and there was no attrition. Each teacher was informed about the purpose of the study by the principal, and was subsequently met by one of the researchers, who explained the main research objectives and invited the teacher to participate. The parents or legal guardians were also contacted and asked for consent; they were given a guarantee that all collected information would remain confidential. The English questionnaires were translated into French and were then administered in class to the participants, always in the same order. Two research assistants, trained in administering the tests, were assigned to each school. While the students answered their questionnaires, the teacher completed the teacher questionnaires for each participating student in his/her class. The data collection took place in October and March at the three sites over the course of each of the five years of secondary schooling for this cohort.

## 3. Results

The first objective was to examine the relationship between behavior problems and school dropout for boys and girls. The results show that the majority of girls with behavior problems succeeded in obtaining their high school diploma whereas the situation was different for boys also displaying behavior problems. More specifically, among the 102 girls who showed such problems, only 15 % ( $n = 16$ ) dropped out of school, leaving 86 girls still attending school. Among the 154 boys, 30 % ( $n = 50$ ) had dropped out whereas 104 boys persevered and obtained their high school diploma. However, for the 274 girls who did not present behavior problems during their five years attending secondary school, the dropout rate represented 8.8 % whereas for the 210 boys who belonged to the control group, the dropout rate was 9.8 %. This difference between the groups of girls with and without behavior problems, although not statistically significant is still very close to the significance threshold [ $Khi^2(3.46) p = 0,06$ ] whereas the difference between the two groups of boys is significant [ $Khi^2(33,20); p = 0,00$ ].

It is also interesting to note that the group of students who dropped out can be distinguished into four sub-groups who followed different trajectories: the stable, the withdrawers, the late bloomers and the unstable. More specifically, there were 17 boys (50 %) in that group who presented stable behavior problems, which means that they presented those problems during at least three of their five years in secondary school, whereas seven girls (30 %) belonged to that group. The withdrawers, who are characterized by behavior problems, which subsided after the first year in high school, were composed of 11 boys (25 %) and six

girls (25 %). The behavior problems of the late bloomers appear only after their third year in high school. This group was represented by 13 boys (25 %) and four girls (16.7 %) who dropped out. Finally, the last group, the unstable, is characterized by behavior problems apparent rather randomly throughout the five years in secondary school. Nine boys (36 %) and two girls (9.3 %) belonged to this sub-group of dropouts.

The second objective of this study was to compare the personal, family and school-related characteristics associated with school dropout according to gender. As there was a large number of variables under study, the Bonferroni correction was applied to avoid the risk of type 1 error, which is related to identifying differences between the groups in the absence of such differences. Consequently, the significance threshold for the analyses was fixed at  $p < 0.002$ . However, a consequence of this strategy may be to commit the type 2 error, relating to not identifying differences between the groups when these differences do in fact exist. Table 1 shows the results associated with the comparison between the different types of students according to gender. Univariate analyses of variance were applied to personal, family and school-related variables. A Post-hoc test was then performed and shows how the groups are distinct.

The analysis of variance performed for personal, family and school-related variables show significant differences according to gender for 11 variables: mischief ( $F = 16.04$ ;  $p = 0.00$ ), physical aggression ( $F = 13.71$ ;  $p = 0.00$ ), cooperation ( $F = 45.94$ ;  $p = 0.00$ ), self-control ( $F = 14.14$ ;  $p = 0.00$ ), assertion ( $F = 6.90$ ;  $p = 0.00$ ), achievement in French ( $F = 34.59$ ;  $p = 0.00$ ), achievement in Mathematics ( $F = 37.85$ ;  $p = 0.00$ ), task orientation ( $F = 8.00$ ;  $p = 0.00$ ), teacher attitudes towards the student ( $F = 60.33$ ;  $p = 0.00$ ), truancy ( $F = 9.61$ ;  $p = 0.00$ ) and parental structure ( $F = 9.74$ ;  $p = 0.00$ ). Post-hoc tests show that the groups can be distinguished from one another on specific personal, family and school-related variables and that there are two variables, which show significant gender differences, namely mischief ( $F=9.99$ ;  $F=00$ ) and physical aggression ( $F = 34.68$ ;  $p = 0.00$ ).

On the personal level (Table 1), compared with students who do not show behavior problems (BP), youths who show such problems report on average more mischief (BP dropouts: Boys (B) = 6.20; Girls (G) = 4.35; BP perseverant: B = 5.78; G = 4.52; control group: B = 3.62; G = 2.79) and they express more aggressive behavior (BP dropouts: B = 1.98; G = 0.88; BP perseverant: B = 1.74; G = 0.99; control group: B = 1.09; G = 0.42). On these variables, the two groups with behavior problems cannot be distinguished, however, there is a gender difference as far as mischief and physical aggression where boys show a higher frequency for such behavior. The control group can be distinguished from the two behavior problem groups by their social skills pertaining particularly to their level of cooperation in the classroom. The two groups of student with behavior problems are distinct from each other and from the control group on cooperation (BP dropouts: B = 12.25; G = 13.12; BP perseverant: B = 15.49; G = 16.33; control group: B = 16.90; G = 18.91). On self-control, only the students belonging to the dropout group are distinct from the control group (BP dropouts: B = 12.42; G = 10.47; BP perseverant: B = 13.05; G = 14.05; control group: B = 14.72; G = 14.65). On assertion, the students belonging to the persevering behavior problems group show the highest level of affirmation and can be distinguished from the other two groups (BP dropouts: B = 9.47; G = 8.24; BP perseverant: B = 10.62; G = 10.96; control group: B = 8.67; G = 9.94).

Table 1. Comparison between the different types of students: Univariate analysis of the variance for personal variables

Dependent Variables	Means						Statistical Tests			
	BP dropouts		BP perseverant		Control group		F (group)	Ttest post-hoc	F (sex)	F (sex * group)
	(1)	G	(2)	G	(3)	G				
	n=66		n=190		n=190					
Personal	B	G	B	G	B	G				
Mischief	6.20 (4.20)	4.35 (2.94)	5.78 (4.24)	4.52 (3.70)	3.62 (3.15)	2.79 (2.61)	16.04*	1,2>3	9.99*	0.46
Physical Aggressions	1.98 (1.38)	0.88 (1.17)	1.74 (1.39)	0.99 (1.28)	1.09 (1.25)	0.42 (0.75)	13.71*	1,2>3	34.68*	0.63
Depression	8.94 (10.16)	11.44 (9.63)	7.48 (8.55)	11.20 (10.85)	6.53 (5.92)	8.22 (7.65)	3.67		6.68	0.65
Cooperation	12.25 (4.75)	13.12 (4.17)	15.49 (3.75)	16.33 (3.61)	16.90 (3.59)	18.91 (1.95)	45.94*	1<2<3	8.94	1.41
Self-Control	12.42 (3.67)	10.47 (4.45)	13.05 (3.82)	14.05 (3.41)	14.72 (3.86)	14.65 (4.63)	14.14*	1<3	0.55	2.95
Assertion	9.47 (3.83)	8.24 (3.80)	10.62 (4.46)	10.96 (4.58)	8.67 (4.53)	9.94 (4.50)	6.90*	2>1,3	0.06	1.68
Avoidance	1.49 (0.58)	1.57 (0.59)	1.45 (0.55)	1.40 (0.54)	1.27 (0.58)	1.42 (0.59)	2.20		0.81	1.46
Positive Re-evaluation	1.71 (0.63)	1.53 (0.50)	1.68 (0.53)	1.54 (0.53)	1.56 (0.57)	1.65 (0.52)	0.02		1.30	2.60



Bonferroni Correction: \* $p \leq 0,002$  Test post-hoc : Least Significant Difference (LSD)

At the school level (Table 2), the three groups show significant differences for achievement in French, mathematics and as far as the teacher's attitudes towards the student. The behavior problem dropout group shows the lowest achievement in French (BP dropouts:  $B = 64.37$ ;  $G = 65.06$ ; BP perseverant:  $B = 71.54$ ;  $G = 75.05$ ; control group:  $B = 73.96$ ;  $G = 78.46$ ) and in mathematics (BP dropouts:  $B = 65.17$ ;  $G = 62.88$ ; BP perseverant:  $B = 77.26$ ;  $G = 74.77$ ; control group:  $B = 80.24$ ;  $G = 80.37$ ). Students from the control group have a stronger task orientation than do students with behavior problems (BP dropouts:  $B = 2.65$ ;  $G = 2.53$ ; BP perseverant:  $B = 2.73$ ;  $G = 2.68$ ; control group:  $B = 3.03$ ;  $G = 3.11$ ). Teachers show the most negative attitudes towards the behavior problem dropout group, a slightly better attitude towards the behavior problem perseverant group and much more positive attitudes towards students belonging to the control group (BP dropouts:  $B = 11.49$ ;  $G = 6.71$ ; BP perseverant:  $B = 25.07$ ;  $G = 30.78$ ; control group:  $B = 33.70$ ;  $G = 42.12$ ). Students in the behavior problem dropout group showed much higher truancy than did the other students with behavior problems whereas this group was not significantly different from the control group on this variable (BP dropouts:  $B = 24.53$ ;  $G = 24.25$ ; BP perseverant:  $B = 12.36$ ;  $G = 15.02$ ; control group:  $B = 11.81$ ;  $G = 11.36$ ).

Table 2. Comparison between the different types of students: Univariate analysis of the variance for school-related variables

Dependent Variables	Means						Statistical Tests			
	BP dropouts (1) n=66		BP perseverant (2) n=190		Control Group (3) n=190		F (group)	Test post- hoc	F (sex)	F (sex * group)
	B	G	B	G	B	G				
School-related										
Achievement in French	64.37 (8.57)	65.06 (7.46)	71.54 (8.35)	75.05 (9.24)	73.96 (8.98)	78.46 (7.82)	34.59*	1<2<3	8.17	0.95
Achievement in Mathematics	65.17 (12.63)	62.88 (10.58)	77.26 (11.20)	74.77 (13.24)	80.24 (11.30)	80.37 (10.23)	37.85*	1<2<3	1.27	0.64
Engagement (classroom)	1.96 (1.28)	1.71 (1.40)	1.90 (1.32)	1.82 (1.36)	2.19 (1.23)	1.88 (1.36)	1.00		1.92	0.37
Affiliation to peers	2.78 (1.09)	2.94 (1.30)	2.94 (1.08)	3.11 (1.05)	3.24 (0.91)	3.25 (0.92)	3.73		0.86	0.30
Teacher support	2.26 (1.26)	2.60 (1.12)	2.18 (1.41)	2.18 (1.54)	2.42 (1.28)	2.48 (1.40)	1.95		0.66	0.29
Task orientation	2.65 (1.06)	2.53 (1.12)	2.73 (1.03)	2.68 (1.03)	3.03 (0.93)	3.11 (0.99)	8.00*	1,2<3	0.06	0.28
Competition	1.44 (0.87)	1.41 (1.06)	1.43 (0.84)	1.21 (0.89)	1.35 (0.81)	1.11 (0.74)	1.26		2.81	0.35
Order & organization	1.53 (1.17)	1.41 (1.23)	1.77 (1.33)	1.86 (1.35)	2.04 (1.40)	2.08 (1.35)	4.33		0.00	0.12
Clarity of rules	2.81 (1.01)	3.18 (0.73)	3.02 (1.03)	2.94 (1.11)	3.11 (0.99)	3.19 (0.99)	1.43		1.04	0.99
Teacher Control	2.48 (1.29)	2.24 (1.25)	2.33 (1.24)	2.45 (1.30)	1.94 (1.22)	1.95 (1.43)	5.87		0.06	0.40
Innovation	2.35 (1.13)	2.56 (1.21)	1.98 (1.13)	2.05 (1.25)	2.22 (1.14)	2.26 (1.23)	3.67		0.60	0.10
Teacher attitudes towards the student	11.49 (20.03)	6.71 (24.30)	25.07 (18.63)	30.78 (18.02)	33.70 (15.81)	42.12 (9.55)	60.33*	1<2<3	2.50	3.03
Truancy	24.53 (30.13)	24.25 (21.91)	12.36 (12.22)	15.02 (19.07)	11.81 (18.63)	11.36 (11.30)	9.61*	1>2,3	0.09	0.38

Bonferroni Correction: \* $p \leq 0,002$  test post-hoc : Least Significant Difference (LSD)

Finally, at the family level, the results indicate another significant difference between students who belonged to the behavior problem dropout group and perseverant on the parental structure variable. More specifically, results indicate that dropouts perceive less parental structure than do students who belonged to the other two groups (BP dropouts:  $B = 2.00$ ;  $G = 2.09$ ; BP perseverant:  $B = 2.33$ ;  $G = 2.30$ ; control group:  $B = 2.26$ ;  $G = 2.47$ ).

Table 3. Comparison between the different types of students: Univariate analysis of the variance for family-related variables

Dependent Variables	Means						F (group)	F (sex)	F (sex * group)
	BP dropouts (1) n=66		BP perseverant (2) n=190		Control Group (3) n=190				
	B	G	B	G	B	G			
Family-related									
Parental structure	2.00 (0.45)	2.09 (0.56)	2.33 (0.44)	2.30 (0.48)	2.26 (0.47)	2.47 (0.42)	9.74*	2.52	3.22
Encouragement towards autonomy	2.35 (0.66)	2.33 (0.62)	2.26 (0.56)	2.34 (0.58)	2.48 (0.53)	2.51 (0.56)	5.94	0.18	0.17
Parent-child school-related interaction	3.02 (0.62)	3.24 (0.54)	3.32 (0.54)	3.17 (0.65)	3.14 (0.59)	3.27 (0.69)	0.82	0.85	3.23
Parent- school communication	2.16 (0.78)	2.27 (0.74)	2.24 (0.65)	2.18 (0.65)	2.20 (0.63)	2.07 (0.62)	0.69	0.09	0.67
Parent-child communication	2.20 (0.69)	2.39 (0.65)	2.33 (0.62)	2.18 (0.67)	2.29 (0.68)	2.29 (0.81)	0.11	0.04	1.38
Parental affective support	2.78 (0.62)	2.88 (0.56)	2.99 (0.61)	2.81 (0.65)	2.95 (0.68)	3.05 (0.61)	1.94	0.01	2.47
Communication with teachers	2.21 (0.80)	2.15 (0.63)	2.15 (0.63)	2.07 (0.71)	2.06 (0.70)	1.91 (0.46)	2.59	1.49	0.16

Bonferroni Correction: \*p <= ,002 Test post-hoc : Least Significant Difference (LSD)

#### 4. Discussion

The first aim of this study was to examine the relationship between behavior problems and school dropout. Analyses performed by gender show that there exists a relationship between the boys' behavior problems and school dropout, but this trend is not visible for girls. It is very interesting to realize that the vast majority of girls with behavior problems do not drop out whereas a large number of boys leave school without obtaining their high school diploma. More specifically, while 15.68 % of girls who showed behavior problems dropped out, twice as many boys (32.54 %) left school prematurely. This proportion (2:1) corresponds to that found in the general population and clearly holds true also for students with behavior problems. The scientific literature shows that there is a significant relationship between behavior problems and school dropout. However, this relationship deserves to be scrutinized further and nuances brought forth as one could understand that all students identified by their teacher as having behavior problems will drop out when the reality shows that only a fraction of those students leave school without obtaining their diploma. Moreover, several studies communicate results on school dropout without considering gender differences, which could in turn prevent a full understanding of the intricacies related to this phenomenon. One consequence of this type of undifferentiated results could be the application of undifferentiated prevention efforts put forth for a large number of students who will not drop out. In the context of limited professional resources, it is preferable to appropriately target the students who are at-risk of school dropout so as to offer them prevention programs from which they will truly benefit. The results presented in this study are enlightening and encouraging as the majority of students with behavior problems, as evaluated by their secondary school teacher, still succeed in obtaining a high school diploma, both boys and girls.

Does the teacher identify a student who disrupts the classroom climate as having behavior problems? One can ponder over the severity of behavior problems presented by these students. However, students were identified according to a standardized test and studies show that teachers are normally good evaluators for externalized behavior problems. Moreover, the students identified show results one standard deviation above the group mean, a criterion used to select students who show learning or behavioral difficulties. Finally, they are significantly different from students belonging to the control group.

Research has shown that students with behavior problems form a heterogeneous group, which can be parted into sub-groups. Thus, for the students who belong to the sub-group, the behavior problems displayed are stable over the five years of their secondary school and are more severe than those displayed within other sub-groups. It could be argued that this sub-group contributes proportionately more individuals to the dropout ranks. Our results indicate that only 36 of students who composed this sub-group dropped out. Consequently, dropouts also came from other sub-groups characterized by instability, discontinuity and tardiness in the apparition of behavior problems. This particular finding is significant as it allows us to go beyond the initial analyses to better discriminate between students with behavior problems who drop out and those who persevere.

Our results show that one must take into account the fact that boys and girls who ultimately drop out are exposed to an accumulation of over 10 risk factors either personal, family or school-related, which all contribute to increasing the difficulties associated with obtaining a high school diploma. Compared to a student with behavior problems who persevered, one who dropped out can be distinguished by more severe problems on the personal, family and school levels. On the personal level, this student shows a lower level of cooperation and self-control. On the school level, achievement is lower, truancy is higher and teachers show more negative attitudes towards him or her. At home, his or her parents provide less structure. These results

suggest that dropping out does not represent a simple answer to a youth's simple situation but rather a way out of a complex process where personal, family and school-related risk factors have accumulated and hierarchized. This student presents severe deficiencies relating to academic and social skills. It is highly likely that when a student experiences severe difficulties, he or she will become discouraged and disengaged from school activities. As a result, the teacher also develops more negative attitudes towards this student, which contributes to worsen the relationship. It has been documented that dropouts often report school-related difficulties and a negative relationship or conflicts with teachers as their main reason motivating their departure from school (Lessard et al., 2006). The student can thus perceive the teachers as responsible for their failure in school and develop negative attitudes towards school. Finally, this student cannot count on his or her parents to provide the needed structure to support and help him or her overcome difficulties experienced in school throughout the school year. After several years of frustration and deceptions present on different fronts, this student chooses to leave the school setting without a high school diploma. Despite this scenario, it is still surprising that after several years spent in school, the dropout believes that school will not adequately prepare him for life in the society and that it is not necessary to obtain a diploma to increase his quality of life (Dunn et al., 2004).

The comparison between girls and boys with behavior problems and a control group has allowed the identification of the factors associated to each group. Globally, the factors present in girls are roughly the same as those found in boys with the exception of boys reporting being more often involved in mischief and physical aggressions. Both boys and girls who dropped out reported being less task-oriented in the classroom than did students who did not drop out. Also, their low level of cooperation in the classroom translated into the lack of respect for rules and the refusal to fulfill the requirements and expectations expressed by teachers. As a consequence, they are involved in conflicts with teachers. As their level of self-control is also low, they also show negative reactions towards criticism and refuse to accept ideas given by others. Moreover, they do not master their moods, which leads them to be more involved in conflicts than other students and, in that particular situation, they refuse to compromise and react inappropriately both to students and adults present in the school context. Finally, the period preceding the actual dropout is normally characterized by high truancy, which exacerbates their disengagement and their school-related difficulties. Consequently, it is not surprising that low achievement and behavior problems are variables strongly associated with school dropout (Battin-Pearson et al., 2000).

Students with behavior problems show difficulties related to social interactions, which could explain that teachers describe them as unstable, agitated, stubborn, disobeying, immature and non-cooperative. In fact, in addition to being disruptive in the classroom, these students are not engaged in their school success, which can cause classroom management issues. In short, many of these students' characteristics are associated with a poor student-teacher relationship. The quality of this relationship is in turn associated with the student's perseverance and success in school (Kennedy & Kennedy, 2004; Zimmer-Gembeck, Chipuer, Hanisch, Creed & McGregor, 2006 ; Smyth & Hattam, 2002).

The parents' role in the dropout process of their child is increasingly more documented. Results associated with the family-related variables suggest that parents of students who belonged to the control group and those of students with behavior problems who persevered can be distinguished from those of students with behavior problems who dropped out according to one variable strongly associated with behavior problems, namely parental structure. This educational parental practice is characterized by supervision of the child's outings and activities taking place within a time continuum. Parents want to know what their child is doing when not at home and want to know his or her friends. This practice is very significant as it favors the child's socialization process (Frick, 1998). The poor quality of parental structure in parents of student with behavior problems is reported in several studies, which tends to show that it is a factor specifically associated with behavior problems (Patterson, Reid & Dishion, 1992). Parental supervision is also associated with the student's engagement in school-related activities and to his or her success as it provides support for motivation, an additional resource for learning and a structure within which to complete homework (Appleton, Christenson, Kim & Reschly, 2006). In consequence, the lack of parental structure can not only be associated with the child's social development, but also to learning difficulties and school dropout.

A limit of our study is to have used only questionnaires to evaluate the students' and teachers' perceptions. A protocol involving multi-evaluation and multi-site, including questionnaires, interviews and observation would allow us to gather additional and complementary knowledge.



### 3. Conclusion

Behavior problems represent a factor, which is strongly associated with school dropout for a sub-group of students characterized by an accumulation of personal, family and school-related risk factors. The sum total of these factors suggest that students with behavior problems show little interest in school and do not value it. These results have a strong implication for educators since despite the fact that many students with behavior problems drop out, a large number of them do not. Could it be associated with pedagogical, psychological or psychoeducational prevention efforts for those students who benefited from such programs? Does a group of students show a positive adaptation after living through a particularly agitated period without benefiting from specific intervention efforts? It is interesting to observe that students with behavior problems who persevered showed higher achievement, better cooperation in the classroom and reported more parental structure than did students with behavior problems who dropped out. These results suggest four important targets for prevention programs aiming at school perseverance: 1) teacher attitudes, 2) school success, 3) cooperation and engagement in the classroom and finally, 4) parental structure. New studies show allow the identification of sub-groups of students with behavioral problems who require preventive intervention efforts from those who do not.

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