

WCES-2010

Student-teacher relationship: A protective factor against school dropout?

Anne Lessard^a *, Martine Poirier^b, Laurier Fortin^a

^aUniversité de Sherbrooke, 2500 Boul. Université, Sherbrooke, Qc, J1K 2R1, Canada

^bUniversité du Québec à Montréal, 405, rue Sainte-Catherine Est, Montréal (Québec) H2L 2C4, Canada

Received October 14, 2009; revised December 23, 2009; accepted January 7, 2010

Abstract

In Quebec, the dropout rate reaches 30 %. Low achievement and a lack of relationships are reported as contributing factors. This study analyses the relationships between the student's commitment, satisfaction, perceived achievement level, attitudes towards teachers, the perceived support and structure provided by teachers and the dropout risk. Participants included 4,312 high school students. Results indicate that for boys, satisfaction and achievement contributed to explaining 18 % of the variance whereas for girls, commitment, satisfaction and achievement explained 23 % of the variance. Achievement represents a determinant factor while relationships do not contribute to the dropout risk for this sample.

© 2010 Elsevier Ltd. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Keywords: Dropout; student-teacher relationship; student commitment and achievement.

1. Introduction

School dropout represents a complex social problem in Quebec, Canada, and elsewhere around the world. The Ministry of Education in Quebec evaluates that close to 30 % of high school students leave school without obtaining their high school diploma (MELS, 2005). The consequences associated with school dropout affect both the youth who drops out and the society that supports him or her. Some of the personal consequences are reflected through social misadaptation such as delinquency (Fortin *et al.*, 2005) and depression (Marcotte *et al.*, 2002). Also, youths who drop out have great difficulty integrating the work force and when they do, they are less likely than graduates to remain gainfully employed. As a group, they present a high unemployment rate and rely more than graduates on welfare (Statistic Canada, 2003). Considering both the dire consequences associated with dropping out of school and the fact that the statistics have remained constant over the past decade, it seems very important for researchers and educators to identify the factors which contribute to this complex social problem in order to put in place proper prevention strategies. Despite the fact that some risk factors are clearly defined and frequently documented in the literature, they still contribute to explain only a portion of the variance associated with school dropout. Moreover, theoretical models (Battin-Pearson *et al.*, 2000; Garnier *et al.*, 1997) show that although certain family and social

* Anne Lessard. Tel.: +1-819-821-8000 ext. 63863; fax: +1-819-821-8230.

E-mail address: Anne.Lessard@USherbrooke.ca.

factors influence the dropout risk, the problem remains largely situated in the school setting. Achievement has been reported as one of the best predictors of school dropout. Garnier, Stein and Jacobs (1997) reported that past achievement is the single best predictor of future achievement. For Battin-Pearson *et al.*, (2000), achievement alone accounted for 33% of the variance associated with school dropout. Fortin *et al.* (2004) documented achievement as one of the determinant factors to identify at-risk students in his sample of 808 high school students.

Results from a multidimensional and prospective study conducted by Fortin (2000-2003) using a sample of 3,359 high school students reveals that among the school-related risk factors, the student-teacher relationship was found to be very significant. More specifically, results show that for students who perceived the relationship negatively, this factor was the one which contributed the most to increasing the dropout probability and even more so for boys (Lessard *et al.*, 2004). Conflicts with teachers were reported by dropouts as one of the reasons motivating their decision to leave the school setting before obtaining their diploma (Lessard *et al.*, 2006). Moreover, it was found that the teacher's perception of the relationship also contributed to determine, at least in part, the student's school trajectory (Fortin *et al.*, 2005). Therefore, it could be argued that the student-teacher relationship represents a determinant factor relating to the student's choice to persevere or drop out. The present study thus focuses on developing knowledge relating to two school-related factors associated to school dropout, namely achievement and student-teacher relationship.

2. Review of the literature

School dropout theoretical models (Battin-Pearson *et al.*, 2000; Garnier *et al.*, 1997) as well as results from longitudinal studies (Fortin *et al.*, 2004; Jimerson *et al.*, 2000) outline personal, family-related and school-related factors risk factors associated with school dropout. Moreover, these studies show how these factors contribute individually to increase the dropout risk in high school students, but also how they are related to one another. Janosz *et al.* (2000) have outlined that not all factors affect individuals in the same way, while Rumberger (1995) pointed to the fact that an accumulation of these factors increases the dropout probability significantly. Results from a qualitative study conducted using a sample of 32 dropouts clearly demonstrates how the accumulation was lived by these youths, showing more specifically how certain factors such as conflicts with teachers affected both their achievement and decision to drop out (Lessard *et al.*, 2008).

The theoretical model built by Battin-Pearson *et al.* (2000) suggests that school achievement is a mediating variable which, combined with delinquency, low bonding to school, bonding to deviant peers and parents' educational practices can lead to an increased dropout risk. Together, these variables contribute in explaining 53 % of the variance related to school dropout, while school achievement on its own justifies 33 %. For Garnier *et al.* (1997) and Jimerson *et al.* (2000), the accumulation of school-related factors such as achievement and student behavior and family-related factors such as socio-economic status and parental educational practices contributed to augment the risk, particularly when the family-related factors are present during childhood. Results from Fortin *et al.* (2004) demonstrate that six factors contributed to predict the dropout risk for high school students: 1) achievement in mathematics; 2) depression; 3) little affective support from parents; 4) lack of family cohesion; 5) lack of perceived order and organization in the classroom and 6) a negative perception of the student-teacher relationship.

As stated above, although personal and family-related risk factors do influence the dropout probability, the school-related risk factors are those which represent the best targets for intervention and thus, those which represent logical targets for research. In terms of school-related dropout risk factors, the following results have been observed. Boys demonstrate a lower school achievement (Battin-Pearson *et al.*, 2000), less efficient school abilities (Newcomb *et al.*, 2002) and more negative relationships with teachers (Fortin *et al.*, 2004; Lessard *et al.*, 2004) than girls. Moreover, they seem more negatively affected by being retained a grade (Janosz *et al.*, 2000) and by a change in school, two factors which influence the nature of the relationships with peers and which contribute to isolate the student. According to results from a study focusing on a sample of 3,359 high school students, the student's negative perception of the student-teacher relationship is the most determinant factor in predicting the dropout risk, even more specifically for boys (Lessard *et al.*, 2004).

Janosz and Fallu (2003) evaluated the influence of the student-teacher relationship on the dropout risk using a sample of 134 adolescents studying in schools located in impoverished communities. Their results indicate that warm relationships with teachers decreased the dropout risk of at-risk students whereas conflictual relationships

affected all students negatively. According to results put forth by Rumberger (1995), students who experience a warm relationship with their teacher are 16 % less likely to drop out than students who report a negative relationship. Crosnoe, Kirkpatrick, Johnson and Elder (2004), Murray and Malgrem (2005) as well as Pianta and Stuhlman (2004) have shown that a positive relationship with a teacher acts as a factor promoting school achievement. Crosnoe *et al.* (2004), having followed 10 991 adolescents from the 7th to the 12th grade, reported that when perceived positively by students, relationships with teachers contribute to both to boost achievement and lower disciplinary problems among all students. In other words, a positive student-teacher relationship could be perceived as a protective factor against school dropout.

To the contrary, a negative relationship contributes to increase the dropout risk (Lessard *et al.*, 2004). Results from a study conducted by Poirier, Lessard, Fortin and Yergeau (submitted) focusing on 756 high school students indicate that at-risk students perceive their relationship to their teacher more negatively than do non at-risk students. Moreover, at-risk students manifest more negative attitudes towards their teachers, report being less engaged, feeling less support and order from their teacher and consider rules to be unclear in comparison to other students. According to results from other studies, student-teacher relationships characterized by dependency and conflicts, more frequently associated with boys' experiences, may lead to behaviour problems and school failure (Hamre & Pianta, 2001; Demaray et Malecki, 2002), two variables directly linked with school dropout (Newcomb *et al.*, 2002). In addition, these misadaptation manifestations seem to be recurrent from year to year. Blankemeyer, Flannery and Vazsonyi (2002) reported that students who initially establish poor relationships with teachers tend to follow the same pattern later on in their school trajectories. Among the 1,432 3rd to 5th grade students who participated to the study led by Blankemeyer *et al.* (2002), those who displayed behaviour problems perceived their relationships with teachers as more negative than did other students. It thus seems that behaviour problems contribute to predict school dropout and also influence negatively the student-teacher relationship which also constitutes a dropout risk factor.

Finally, the study of the lived experience of dropouts can also help to shed some light on their school trajectories. Our study (Lessard *et al.*, 2008) of a population of dropouts has contributed to documenting the dropout process which took roots for some in their primary school experiences while others started to show difficulties when they entered secondary school. Although family adversity and learning difficulties contributed, for many, to shape a particularly sinuous school trajectory, the knowledge which was developed in this study pertains more particularly to the strategies which students adopted in order to attempt to prolong their journey in school, strategies which have not often been highlighted in the literature. We also documented the events which actually precipitated the act of dropping out. In that sense, this qualitative study allowed us to describe the significance of the student-teacher relationship as many students described both how the support of teachers helped them to stay in school whereas conflicts with teachers often represented the last straw which directly contributed to the decision to drop out.

3. Purpose of the study

This exploratory study aimed to document two school-related factors associated with school dropout: achievement and student-teacher relationship viewed from the student's perspective. Defining the relationship as the interactive pedagogical and socio-affective zone between teacher and students, this study aimed more specifically to determine if the level of commitment of students, their attitudes towards their teacher, their overall satisfaction in school, their perceived achievement (action variables) and the perceived teacher support and structure (contextual variables) contributed to the dropout risk. Furthermore, we are interested in documenting gender differences as well.

4. Methodology

4.1 Participants and procedure

The participants to this study were high school students selected from four different high schools in the Eastern Township region in Quebec, Canada. Although all students were asked to participate, the final sample was composed of 4,312 students (2227 girls and 2085 boys). Of that number, 58% of boys and 65.8% of girls were evaluated as non at-risk for dropping out of school, leaving 876 boys and 762 girls found to be at-risk. Students belonged to one of the five levels of secondary school and all studied in their mother tongue, French.

This study was conducted within the larger context of the Research Chair on Students' Achievement and Perseverance (2007-2012). In that context, the students are asked, each year, to answer the questions found in the computerized evaluation tool built to identify students at-risk of school dropout (Fortin & Potvin, 2007). Students answered the questionnaires on-line while supervised by research assistants. Data were collected and analyzed using pre-formatted algorithms.

4.2 Instruments

The evaluation tool used to identify at-risk students contains several questionnaires. Although six questionnaires are found in the computerized evaluation tool, only the answers to three questionnaires were used in the context of this study. They are the Dropout Assessment Tool (*DAT*, Potvin et al., 2007), the *Classroom Environment Scale* (*CES*; Moos et Trickett, 1987) and the *Student Life Questionnaire – Secondary School Version* (*ACER*, 1987).

The *DAT* identifies students who are at-risk of school dropout. Validity and fidelity tests were performed on two sample of high school students ($n = 247$ and $n = 756$). As far as internal consistency, the Cronbach's alpha coefficient for items on the global scale, for both samples, was very good (0.89), and it was considered acceptable or very good for each of the scales (between 0.59 and 0.83). This questionnaire also demonstrates a good temporal stability: the means and standard deviations obtained on each of the scales and the correlation values between the scores obtained were almost identical for both groups, with Pearson's correlation coefficients valued between 0.72 and 0.87 (0.84 for the global scale). The global scale also allows the adequate classification of students into the dropout or persistent group with at a rate of 82.3 %, suggesting that the questionnaire is a worthwhile tool to predict student dropout at the secondary school level.

The abridged version of the *CES* is composed of 36 true or false questions, covering nine scales: commitment, affiliation, orientation towards work, competition, order and organization, clarity of rules, innovation, control and teacher support. The psychometric properties of this tool show adequate fidelity (alpha of 0.52 to 0.75) and convergence validity with other such tools ($r = 0.16$ à 0.40).

Finally, the *SLQ* evaluates the student's perception of the quality of life. The 40 questions answered on a Likert scale built from 1 (definitely agree) to 4 (definitely disagree) are spread on seven scales measuring the student's attitudes towards school in general, learning, teachers and other students. Results are provided for general satisfaction (positive affect) or alienation (negative affect) and five specific dimensions of school life (teachers, relevance/opportunity, achievement, social integration and status). Showing a high score on this questionnaire is associated with positive attitudes whereas a low score represents negative attitudes which are in turn linked to a higher dropout risk.

4.3 Data Analysis

In order to determine which combination of variables would allow to most accurately predict the dropout probability for adolescent boys and girls, two stepwise logistic regressions were performed. Predictors considered in this analysis include the level of commitment of students, their perceived satisfaction and achievement levels, their attitudes towards teachers, the support felt by teachers and the order and organization in the classroom. Variables were included sequentially forward into the model using the likelihood ratio statistic as a selection criterion (Hair *et al.*, 1998).

5. Results

5.1 Results for boys

Table 1 presents the results of analyses performed for boys. The final model includes the low satisfaction level of boys towards school and the low level of achievement. The reduction of the probability -2LL of 519.62, showing a value of 2837.01 for the initial model and of 2317.39 for the final model is significant. The addition of the two predictors thus contributes to better explain the probability of being considered at-risk of school dropout than would the model without predictors. Overall, since the scales for perceived satisfaction and achievement are negative ones, as the scores increase, so does the dropout probability. In other words, the lower are the satisfaction and the achievement, the higher is the risk of dropping out. The likelihood ratio statistics for these variables are significant. Consequently, each predictor contributes individually to a better fit of the model.

Table 1 - Stepwise logistic regression to predict the risk of school dropout for high school boys (N=2085)

Step number and variable	β (SE)	Likelihood ratio statistic	Exp(b) (95% CI)	χ^2
1				424.83**
Satisfaction	0.31 (0.01)	322.75***	1.37 (1.32-1.41)	
Constant	-3.65 (0.19)	358.48***		
2				519.62**
Satisfaction	0.20 (0.02)	92.75***	1.22 (1.17-1.27)	
Achievement	0.21 (0.02)	89.29***	1.23 (1.18-1.29)	
Constant	-4.81 (0.24)	391.39***		

Note : R^2 (step 1) = .15 (Pseudo R^2), .18 (Cox & Snell), .25 (Naglerkerke).
 R^2 (step 2) = .18 (Pseudo R^2), .22 (Cox & Snell), .30 (Naglerkerke).
 *** $p < 0.001$.

The value of Pseudo R^2 reveals that the model explains 18 % of the risk variance, which represents a little less than a fifth of the total variance. Moreover, even though the value of χ^2 in the Hosmer & Lemeshow (1989) test decreases between the initial (22.19, $p = 0,005$) and the final model (19.00, $p = 0,015$), it remains significant. There is therefore a significant difference between prescribed and observed values, which suggests that the model is not a perfect fit to the data. Finally, the model allows us to correctly classify 64.4 % of non at-risk boys and 76.0 % of at-risk boys, for a total score of 69.3 %. Although the initial model only allowed the proper classification of 42 % of boys, the better fit does not seem to yield a significant difference. It thus seems that the addition of other predictors of school dropout documented in the literature might allow us to increase the fit of the model.

5.1 Results for girls

The model chosen to explain the probability of being at-risk of school dropout for girls presented in Table 2 contains the same two variables than did the boys' model, low satisfaction and low achievement, but it also includes the commitment level. The probability -2LL of the initial model is 2861.52 whereas that of the final model is

2198.17, which represents a significant decrease in value 663.35 ($p < 0.001$). The final model thus allows a better prediction of the probability of being at-risk of school dropout than does the initial model without predictors. Moreover, the likelihood ratio statistic for each of the predictors was found to be significant, which suggests that the inclusion of the perceived low satisfaction, low achievement and lack of commitment allows us to better predict the probability of being classified within the at-risk group than does the initial model. The $\text{Exp}(b)$ value indicates that an increase in commitment yields a decrease in the risk value and that, as the scales for satisfaction and achievement are negative, an increase in the perceived low achievement and low satisfaction increases is associated with an increase in the dropout risk. In other words, the more committed, the more satisfied and the better are the grades obtained by students, the lower is their dropout risk.

The Pseudo R^2 value shows that the final model allows us to explain 23% of the variance associated with being identified as at-risk, which represents a higher proportion than that of the boys' model. However, as was the case with the previous model, the value of the Hosmer & Lemeshow test is significant for each of the three steps (step 1 : $\chi^2 = 16.60$, $p = 0.035$; step 2 : $\chi^2 = 19.86$, $p = .011$; step 3 : $\chi^2 = 22.29$, $p = .004$). Again, the model does not show a very good fit to the data. It allows for the proper classification of 78.9 % of the non at-risk girls and for 67.3 % of the at-risk girls, yielding an adequate classification of 74.9 % globally compared with 65.8 % for the initial model initial, which does not seem to be quite important enough to be considered statistically significant.

Table 2 - Stepwise logistic regression to predict risk of school dropout for high school girls (N=2227)

Step number and variable	β (SE)	Likelihood ratio statistic	Exp(b) (95% CI)	χ^2
1				574.36**
Achievement	0.40 (0.02)	398.52***	1.49 (1.44-1.55)	
Constant	-5.13 (0.24)	473.52***		
2				654.90 **
Achievement	0.28 (0.02)	144.69***	1.33 (1.27-1.39)	
Satisfaction	0.20 (0.02)	76.99***	1.22 (1.17-1.27)	
Constant	-5.84 (0.26)	500.18***		
3				663.35**
Achievement	0.28 (0.02)	140.54***	1.32 (1.26-1.38)	
Satisfaction	0.18 (0.02)	64.74***	1.20 (1.15-1.26)	
Commitment	-0.13 (0.04)	8.42**	0.88 (0.81-0.96)	
Constant	-5.44 (0.29)	346.12***		

Note : R^2 (step 1) = .20 (Pseudo R^2), .23(Cox & Snell), .31 (Naglkerke).
 R^2 (step 2) = .23 (Pseudo R^2), .26 (Cox & Snell), .35 (Naglkerke).
 R^2 (step 3) = .23 (Pseudo R^2), .26 (Cox & Snell), .36 (Naglkerke).
 *** $p < 0.001$. ** $p < 0.01$.

6. Discussion

The purpose of this exploratory study was to document two school-related factors, achievement and the student-teacher relationship viewed from the student's perspective and to evaluate whether they contributed to the dropout risk. More specifically, action variables (student's attitudes towards the teacher, commitment to school, achievement and perceived satisfaction) and contextual variables (teacher support and order and organization in the classroom) were evaluated to determine whether they contributed to the dropout risk. Results from this study show a number of surprising findings. The first element which should be addressed is the evaluation linked to the risk level of students. The fact that 39.3% of high school students were found to be at-risk is a troublesome finding, but in the Quebec context, it is not particularly surprising. A study conducted over three years (2000-2003) with a sample of 3,359 high school students in the same region had yielded a 40.1% rate of dropout risk (Lessard *et al.*, 2004). Considering the efforts put forth by the school system to attempt to curb this statistic, the fact that there is no change at all over a period of nearly a decade does represent a surprising finding.

Overall, the most surprising finding is that the variables defining the student-teacher relationship, both contextual (teacher support and order and organization in the classroom) and action (student's attitudes towards the teacher) did not contribute to explaining the variance at all. Considering the work of several researcher (Crosnoe *et al.*, 2004;

Murray & Malgrem, 2005; Pianta & Stuhlman, 2004), this finding goes against the general trend in the literature. Fortin *et al.* (2004) reported both order and organization in the classroom and the student-teacher relationship as two of the six determinant factors relating to school dropout. In our sample, the scores obtained for order and organization were low for both at-risk and non at-risk students. It thus seems that order and organization in the classroom was perceived more negatively by this entire sample than it was by non at-risk students evaluated a decade ago. On the other hand, this entire sample seemed to perceive very positively the support felt by teachers, thus eliminating any difference between at-risk and non at-risk students.

To a lesser degree, it is interesting to find that commitment is significant for female students, but not for male students. Results from the logistic regressions demonstrate that the lack of commitment does contribute to increasing the risk of dropping out for girls. A similar finding was reported in our previous work with a different sample. In 2004, our analyses showed that the odds that girls would drop out increased slightly more than those of boys as their commitment to school decreased (Lessard *et al.*, 2004). Although Battin-Pearson *et al.* (2000) had not distinguished between boys and girls in their analyses, they had also found that low school bonding did increase the likelihood that a student would drop out of school prior to 10th grade.

It is no surprise at all to find that achievement is a strong predictor of the risk level, that is, students who perceive that they succeed well in school show a lower dropout risk than those who have weaker perceptions linked with their school achievement. In a sense, our findings confirm those of other researchers who demonstrated the value of achievement in predicting the dropout risk. Battin-Pearson *et al.* (2001) evaluated that achievement alone accounted for 33% of the variance linked with school dropout. In the present study, perceived achievement contributed to explain 23% of the variance associated with the dropout risk, for girls. Similar findings were reported in our previous work. Academic achievement, as a variable included in the logistic regression, was found to influence the dropout risk, the risk increasing as the academic achievement decreased. More specifically, lower achievement in mathematics and French / English increased the odds that girls will drop out (Lessard *et al.*, 2004).

7. Conclusion

Does the student-teacher relationship represent a protective factor against school dropout? It might. However, according to the data gathered with this large sample of high school students, the student-teacher relationship was not found to be a variable which allowed us to differentiate students at-risk or not of school dropout. The perceptions and attitudes of students towards their teachers were generally similar whether or not they were at-risk of dropping out of school. The two variables which did allow the distinction between at-risk and non at-risk students were the satisfaction level towards school in general and the achievement level. For both boys and girls, students who had a lower satisfaction and lower achievement levels were at higher risk of dropping out of school. Girls who were less engaged or committed to school were also at higher risk of dropping out than other girls. It thus seems that the strongest protective factors, for this sample of high school students were achievement and satisfaction, combined with commitment for girls only.

As only a fraction of the variance associated with school dropout is explained in this study and in others (Battin-Pearson *et al.*, 2000), it seems imperative that more avenues be explored in an effort to better prevent students from dropping out of school. The focus has been put on the students and their contribution to this phenomenon. However, it could be argued that the phenomenon of school dropout is a social problem and thus requires a broader understanding. The angle of the teacher's contribution is not well documented and deserves to be better studied. Although the relationship between students and teachers does not appear, through our analyses, to have an impact on the dropout risk, there is no doubt that the work of the teacher does contribute at some level to the achievement level and to the satisfaction of the student of being in school.

References

- Australian Center for Educational Research (ACER). (1987). *Student Life Questionnaire – Secondary School Version*.
- Battin-Pearson, S., Newcomb, M.D., Abbott, R.D., Hill, K.G., Catalano, R.F., & Hawkins, J.D. (2000). Predictors of early high school dropout : A test of five theories. *Journal of Educational Psychology*, 92: 568-582.
- Blankemeyer, M., Flannery, D. & Vazsonyi, A. (2002). The role of aggression and social competence in children's perceptions of the child-teacher relationship. *Psychology in the Schools*. 39(3), 293-304.

- Crosnoe, R., Kirkpatrick Johnson, M. et Elder, G. (2004). Intergenerational bonding in school: the behavioral and contextual correlates of student-teacher relationships. *Sociology of Education*. 77(1), 60-81.
- Demaray, M. & Malecki, C. (2002). The relationship between perceived social support and maladjustment for students at risk. *Psychology in the Schools*. 39(3), 305-316.
- Fortin, L., Royer, É., Potvin, P., Marcotte, D. & Yergeau, É. (2004). La prédiction du risque de décrochage scolaire au secondaire : facteurs personnels, familiaux et scolaire. *Revue canadienne des sciences du comportement*. 36(3) : 219-231.
- Fortin, L., Marcotte, D., Royer, É. & Potvin, P. (2005). Comparaison entre les garçons en troubles du comportement du secondaire qui ont décroché et ceux en troubles du comportement qui n'ont pas décroché, *Nouveaux cahiers de la recherche en éducation*, 8, 219-231.
- Fortin, L. & Potvin, P. (2007). Logiciel de dépistage du décrochage scolaire. CTREQ : Québec.
- Garnier, H. E., Stein, J. A. & Jacobs, J. K. (1997). The process of dropping out of high school : a 19-year perspective, *American Educational Research Journal*, 34(2), 395-419.
- Hair, J. F., Anderson, R. E., Tatham, R. L. & Black, W. C. (2006). *Multivariate Data Analysis* (6th ed). New Jersey : Prentice Hall.
- Hamre, B. K., and Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*. 72(2), 625-638.
- Janosz, M., LeBlanc, M., Boulerice, B. & Tremblay, R. (2000). Predicting different types of school dropout : A typological approach with two longitudinal samples. *Journal of Educational Psychology*, 92(1), 171-190.
- Janosz, M. & Fallu, S. (2003).
- Jimerson, S., Egeland, B., Sroufe, L.A. & Carlson, B. (2000). A prospective longitudinal study of high school dropouts examining multiple predictors across development. *Journal of School Psychology*, 38(6), 525-549.
- Lessard, A., Fortin, L., Joly, J., Royer, É., & Blaya, C. (2004). Students at-risk for dropping out of school: Are there gender differences among personal, family and school factors? *Journal of At-Risk Issues*. 10(2), 91-107.
- Lessard, A., Fortin, L., Royer, E., Potvin, P., Marcotte, D. & Joly, J. (2006). Les raisons de l'abandon scolaire : Différences selon le genre. *Revue québécoise de psychologie*. 27(1), 135-152.
- Lessard, A., Butler-Kisber, L., Fortin, L., Royer, E., Marcotte, D. & Potvin, P. (2008). Shades of discommitment: High school dropouts speak out. *Social Psychology of Education*. 11: 25-42.
- Marcotte, D., Fortin, L., Potvin, P., & Royer, É. (2002). Gender Difference in Depressive Symptoms During Adolescence : Role of Gender-Typed Characteristics, Self-esteem, Body Image, stressful life Events and pubertal stress. *Journal of Emotional and Behavioral Disorders*, 10(1):29-42.
- Ministère de l'éducation des Loisirs et du Sport. (2005). Indicateurs de l'éducation. Québec.
- Moos, R. & Trickett, E. (1987). *Classroom environment scale manual*. Palo Alto, CA, Consulting Psychologists Press.
- Murray, C. & Malmgren, K. (2005). Implementing a teacher-student relationship program in a high-poverty urban school: Effects on social, emotional, and academic adjustment and lessons learned. *Journal of School Psychology* 143(2), 137-152.
- Newcomb, M. D., Abbott, R. D., Catalano, R. F., Hawkins, J. D., Battin Pearson, S., and Hill, K. (2002). Mediation and deviance theories of late high school failure: Process roles of structural strains, academic achievement, and general versus specific problem behavior. *Journal of Counseling Psychology* 49(2), 172-186.
- Pianta, R. & Stuhlman, M. (2004). Teacher-child relationships and children's success in the first years of school. *School Psychology Review*. 33(3), 444-448.
- Poirier, M., Lessard, A., Fortin, L. & Yergeau, E. (submitted). Rétablir la relation pour prévenir le décrochage scolaire. *Revue des Sciences de l'Éducation*.
- Potvin, P., Doré-Côté, A., Fortin, L., Royer, É., Marcotte, D. & Leclerc, D. (2003). Dropout Assessment Tool. CTREQ : Québec.
- Rumberger, R. W. (1995). Dropping out of middle school: A multilevel analysis of students and schools. *American Educational Research Journal* 32, 583-625.
- Statistique Canada (2003). *Dernier Study of Active Population*. http://www.statcan.ca/francais/Subjects/Labour/LFS/lfs-en_f.htm.