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Is There an Immigrant Paradox in Canadian Elementary Students' Behavioral and Social Adjustment?

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Abstract

The population of Canadian schools is becoming increasingly diverse in ethnic origins. Despite the challenges they face, paradox immigrant theory suggests that immigrant students have a more favorable profile than their non-immigrant peers in terms of academic success. The aim of this longitudinal study which was conducted with 66 elementary school teachers (providing information regarding 626 students from five schools located in disadvantaged areas of Montreal (Quebec, Canada) is to (1) validate whether the immigrant paradox manifests itself among elementary school children, in terms of their behavioral and social adjustment in the classroom and their educational success; and (2) study the extent to which these outcomes are associated with their educational success, differentiating whether they are first-, second-, or third-generation. Analysis of variance (ANOVA) (obj. 1) and a path analysis (obj.2) were performed. Results show that first- and second-generation students had similar levels of hyperactivity-inattention, peer relationship difficulties, and behavioral engagement, but were advantaged in these variables as compared to their non-immigrant peers. However, none of the individual paths was significantly different among the immigration statuses. Thus, risk factors for school difficulties may not depend on the generation status of the student.

Keywords: elementary school; immigrant students; social adjustment; classroom behavior; academic achievement; student engagement

In Canada, 41% of students have an immigrant background and this population is increasing in Canadian schools (OECD, 2018). In Quebec, specifically in the Montreal area where the majority of Quebec's immigrants are concentrated, there are 63 % of students with an immigrant background and there are 43% of students whose home language is neither English nor French which are the two official languages of Canada (CGTIM, 2018). In fact, educational success is an essential prerequisite for the full participation of these young people in society since this is an important indicator of their integration and adaptation to the values of the host society (Liebkind, Jasinkaja-Lahti, & Solheim, 2004; Suárez-Orozco & Suárez-Orozco, 2001; Vedder & Horenczyk, 2006). Immigrant students' integration and adaptation also involve their behavioral and social adjustment in school, which in turn can be associated with their educational success (Turney & Kao, 2012).

Nevertheless, students from immigrant backgrounds represent a heterogeneous group. In most OECD countries, first-generation (*i.e.*, foreign-born) students have lower academic performance than students without an immigrant background (OECD, 2015). Second-generation students (*i.e.* non-immigrants with at least one immigrant parent) perform somewhere between the two groups. However, the performance of immigrant students differs widely across countries and the situation in Canada is peculiar. Although Canadian first-generation high school students are more likely to live in economically disadvantaged areas, they have a slightly better profile in terms of performance and school engagement than do second-generation students (McAndrew et al., 2011; OECD, 2015; OECD, 2018). On the other hand, second-generation students have a better profile than students without an immigrant background. This phenomenon, known as the immigrant paradox, is defined as the fact that acculturated children of immigrants experience lower educational achievements and developmental outcomes than recently immigrated children (García Coll & Marks, 2012). This paradox has been mainly documented in terms of academic success. A few studies conducted with high school students suggest that this paradox may also be present in other areas affecting the everyday school life of students, such as in classroom behavior and social adjustment problems, expressed through conflicts with teachers, peer relationship difficulties, and symptoms of hyperactivity-

inattention (American Psychiatric Association, 2013; Andrade & Tannock, 2014; Beiser, Hou, Hyman, & Tousignant, 2002; Greenman, 2013; Harris, Jamison, & Trujillo, 2008; Kao, 1999; Koomen, Verschueren, van Schooten, Jak, & Pianta, 2012; Palacio, 2012). However, knowledge concerning Canadian elementary school students in economically disadvantaged areas is limited, and the links between social and behavioral difficulties and their educational success are still under investigated. More knowledge about these links would provide insight into how the school experiences of these students contributes to their success and engagement, and if their performance is affected differently by their behavior and social adjustment. The objectives of this study, which is based on a longitudinal model and teacher reports, are to (1) validate whether the immigrant paradox applies to the educational success as well as to classroom behavioral and social difficulties of Canadian elementary school children living in economically disadvantaged areas, and (2) study the extent to which the classroom behavioral and social difficulties experienced by elementary school students from immigrant backgrounds are associated with their performance and engagement within the same school year, differentiated according to whether they are first-generation, second-generation, or non-immigrants (third-generation plus).

The immigrant paradox and educational success

Several authors suggest that first-generation students generally have a better educational profile than second-generation students (García Coll & Marks, 2012; Greenman, 2013; Harris et al., 2008; Kao, 1999). The latter, on the other hand, have a higher achievement than third-generation students. This performance gap has been explained by the theory of immigrant optimism and the drive for success in the destination country (Kao & Tienda, 1995). As a result of this drive, young immigrants are likely more able to benefit from educational opportunities than their non-immigrant peers (Crul, Keskiner, & Lelie, 2017).

However, this generational trend, known as the immigrant paradox, is contextual. Recent studies with national comparisons demonstrate that this paradox is not present in all countries and is influenced by characteristics of the host country (*e.g.*, immigration policies, quality of the school system, services provided to immigrant students, level of racism), as well as characteristics of the immigrant population (*e.g.*, country

of origin, immigration status) (Crul & Mollenkopf, 2012; OECD, 2015). For instance, in almost all European countries, non-immigrant students perform significantly better than their peers with an immigrant background, especially first-generation students (Crul & Mollenkopf, 2012; OECD, 2015). This trend has also been observed in the United States, but to a much lesser extent. In contrast, first- and second-generation students in Canada have a slightly higher performance in mathematics than third-generation students and perform at an equal level in reading (OECD, 2015). While in most OECD countries, more than half of first-generation students do not attain baseline academic proficiency, the situation in Canada seems quite different with 82% of these students achieving it (OECD, 2018).

Studies on the immigrant paradox have mainly focused on the performance and behavioral engagement of students, two essential indicators of educational success (Greenman, 2013; Perreira, Harris, & Lee, 2006). While academic achievement is usually defined as the students' results in the ongoing assessment of prior learning (Ward, Stocker, & Murray-Ward, 1996), behavioral engagement refers to both participation in school activities as well as compliance behaviors, such as following class rules and attendance (Archambault & Vandebosche-Makombo, 2013; Fredricks, Blumenfeld, & Paris, 2004). The immigrant paradox, as it relates to educational success, is mainly documented in high schools, but also in elementary schools (Calzada, Barajas-Gonzalez, Dawson-McClure, Huang, Palamar, Kamboukos, & Brotman, 2015; Conger, Schwartz, & Stiefel, 2003; Georgiades, Boyle, & Duku, 2007; Palacios, Guttmannova, & Chase-Lansdale, 2008; Pong & Zeiser, 2012; Rosenbaum & Rochford, 2008). This tendency may seem counter-intuitive in that first-generation youth are more likely than their peers to live in poverty, notably due to the professional dequalification of their parents and the well-documented consequences of poverty for educational success (Beiser et al., 2002; Duncan & Brooks-Gunn, 2000; Hernandez, Denton, Macartney, & Blanchard, 2012; Marks, Ejesi, & García Coll, 2014). These students also have to cope with the challenges inherent to immigration such as learning a new language (in Quebec, the language of instruction is French) and adapting to the culture of the host country. Also, like their second-generation peers, they often face prejudice and discrimination in their communities and at school (Bui, 2012;

Ewert, 2009; Kanouté, Gosselin-Gagné, Guennouni Hassani, & Girard, 2016). Despite this context, young first- and second-generation immigrants perform better than their non-immigrant peers (García Coll & Marks, 2012; Greenman, 2013; Harris et al., 2008; Kao, 1999).

Studies conducted among adolescents also suggest that the generational status may bring about differences in behavioral engagement. In fact, first-generation students have higher levels of behavioral engagement than second- and third-generation students (Diemer, Li, Gupta, Uygun, Sirin, & Rogers-Sirin, 2014; Harker, 2001; Kao, 2004; Kao & Tienda, 1995; Keller & Tillman, 2008; Pong & Hao, 2007; Rosenbaum & Rochford, 2008). Their attendance is better, they are more disciplined, and spend more time on homework. However, Suárez-Orozco, Rhodes, and Milburn (2009) showed that the immigrant adolescents' length of residency in the United States is associated with a decline in motivation. One of the few studies conducted with elementary school students reported a reduction in behavioral engagement over time, regardless of their generational status, but this decrease is less noticeable in first- and second-generation students than it is in their third- generation peers (Archambault, Tardif-Grenier, Dupéré, Janosz, Mc Andrew, Pagani, & Parent, 2015).

According to the integrative model developed by García Coll and colleagues (1996; 2004), a child from an immigrant background develops through interactions between his personal characteristics (*e.g.*, social position, culture, health, biological factors, *etc.*) and those of his social environment (*e.g.*, racism, segregation, school and neighborhood characteristics, family values and roles, *etc.*). Thus, how children interact with their peers and teachers, and their ability to self-regulate their attention and behavior in the classroom, contribute to their development and educational success. This association is therefore likely to differ according to the generational status of the student, since their everyday school life depends upon social and cultural influences (García Coll et al., 2004; Katz, 1999). While there is a great deal of literature on the immigrant paradox as it relates to academic achievement, few studies have addressed other variables in the school experience, such as classroom behavior and social adjustment. In order to gain a better

understanding of the mechanisms that contribute to the educational success of first-generation Canadian students, it is important to focus on their everyday experiences in the classroom.

The contribution of classroom behavior and social adjustment to achievement and engagement

Among the many variables associated with educational success, one of the most important is the behavioral and social adjustment of students in the classroom (Turney & Kao, 2012). At the beginning of their academic careers, students must deal with multiple demands from their school environments, such as respecting the authority of adults who are not their parents, being accepted into the peer group, and regulating their behavior in order to promote learning. Some students, especially those from a disadvantaged background, find it difficult to meet these demands and they present behavioral or social difficulties in the classroom (Becker & Luthar, 2002; Pianta, Steinberg, & Rollins, 1995). Several indicators exist to account for behavioral and social difficulties in the classroom, but three have been the subject of a number of studies that suggest an association with educational success: conflicts with teachers, peer relationship difficulties, and symptoms of hyperactivity-inattention.

Conflicts with the teacher. The teacher plays a central role in a student's life by contributing to academic and social learning that is crucial to their development (Pianta et al., 1995; Reddy, Rhodes, & Mulhall, 2003). In addition to providing emotional support, the teacher transmits values that are essential to student engagement and academic achievement, particularly at the elementary level (Baker, 2006; Wentzel, 2004). However, the quality of student-teacher relationships varies from one dyad to another, especially where the match between the personal characteristics of the student and those of the teacher is concerned. Thus, students who have a conflictive relationship with their teacher, that is a relationship that is perceived to be negative, discordant, or unpleasant, are more likely to be low performers and less engaged in school (Connell, Halpern-Felsherk, Clifford, Crichlow, & Usinger, 1995; Fredricks et al., 2004; Klem & Connell, 2004; Koomen et al., 2012; Roorda, Koomen, Spilt, & Oort, 2011; Voelkl, 1995).

Student-teacher relationships are particularly important for immigrant students, as suggested by some American studies showing that this relationship provides the students with a safe context in which they can learn the cultural norms of their host country and receive emotional support, feedback, and guidance, which contributes to their educational success (Garcia-Reid, Peterson, & Reid, 2015; Roffman, Suárez-Orozco, & Rhodes, 2003; Suárez-Orozco et al., 2009). Teaching in a multicultural context can be challenging, since differences between the student and the teacher can occur at the level of values, norms, and the interpretation of behaviors, which can influence the quality of the student-teacher relationship (den Brok, 2001; Katz, 1999). Several American studies suggest that teachers are more likely to come from the so-called majority culture, and that they perceive less conflict in their relationships with students from the same ethnic background (Gay, 2000; Irvine, 1986; Saft & Pianta, 2001; Simpson & Erickson, 1983; Tyler, Boykin, & Walton, 2006; Warikoo, 2004). First-generation adolescents nevertheless tend to perceive more warmth in their relationships with teachers, and this is strongly and positively associated with their academic performance (Rosenbaum & Rochford, 2008; Suárez-Orozco & Suárez-Orozco, 2001). One American study on recent immigrant adolescents' perceptions regarding the support received from adults in their schools has shown that those who perceive greater support also report higher behavioral engagement (Green, Rhodes, Hirsch, Suárez-Orozco, & Camic, 2008).

Peer relationship difficulties. Similarly, elementary and secondary school students who have difficulty connecting with their peers, resulting in a lack of peer appreciation, social isolation and victimization, are less engaged and have lower academic achievement (Andrade & Tannock, 2014; Buhs, Ladd, & Herald, 2006; Cappella, Kim, Neal, & Jackson, 2013; Wentzel, 1998; Wentzel & Caldwell, 1997; Zimmer & Toma, 2000). Indeed, peer relationships provide emotional support that, in turn, enhances academic performance and promotes increased engagement (Fredricks et al., 2004; Furrer & Skinner, 2003). More specifically, peers can value academic achievement and contribute to shaping behaviors that are conducive to educational success (Berndt, 1999). They also provide informational support by offering

mutual assistance for the completion of homework and lessons, and by exchanging information about the school.

When compared to their native peers, second-generation Turk students living in France and the Netherlands seem to rely more on their peer relationships because peers provide them with alternative resources and information that are not available in their families (Schnell, Keskiner, & Crul, 2013). This is especially the case for youth living in poverty, since peers compensate for lower levels of parental academic supervision (Stanton-Salazar, 2004). The Suarez-Orozco et al. (2009) study, conducted in the United States with recently immigrated adolescents, shows that harmonious relationships with peers are closely and positively related to the behavioral engagement of these students. However, in the absence of a comparison with second- and third-generation plus students, it is unclear whether these associations are particularly beneficial for immigrant students. A Belgian study that surveyed more than 1,800 adolescents shows that first-generation adolescents have higher levels of relational difficulties with their peers when compared to non-immigrant adolescents (Derluyn et al., 2008). The findings of an American study of elementary school teachers point in the same direction, suggesting that immigrant children have fewer interactions with their peers and are more prone to social isolation than non-immigrant children (Turney & Kao, 2012). On the other hand, Peguero's (2013) work with approximately 10,000 American adolescents shows that first- and second-generation adolescents report lower levels of victimization than their third-generation plus peers. The Austrian study by Strohmeier, Spiel, and Gradingner (2008) on elementary school students from Turkey and Former Yugoslavian reaches similar conclusions.

Symptoms of hyperactivity-inattention. Finally, in areas with concentrated poverty, there are more students that show signs of hyperactivity-inattention in the classroom, such as distraction, difficulty completing academic tasks, impulsivity, and psychomotor agitation (American Psychiatric Association, 2013; Russell, Ford, Williams, & Russell, 2016). Elementary and high school students with such symptoms are more likely to have low engagement and achievement (Barry, Lyman, & Klinger, 2002; DuPaul, Volpe, Jitendra, Lutz, Lorah, & Gruber, 2004; Merrell & Tymms, 2001; Pagani, Fitzpatrick, Belleau, & Janosz,

2011; Vile Junod, DuPaul, Jitendra, Volpe, & Cleary, 2006). These symptoms directly interfere with the student's ability to meet academic requirements in the classroom because they lead to difficulties with concentration and compliance with class rules.

Several studies show that immigrant students present fewer symptoms of hyperactivity-inattention than their non-immigrant peers (Derluyn et al., 2008). One American study of adolescents shows that first-generation adolescents are less likely to present learning difficulties, including hyperactivity-inattention, than second- and third-generation plus youth (Harris, 1999). This trend has also been documented at the elementary level by Turney and Kao (2012) who surveyed American elementary school teachers with respect to classroom behavior, including perceived symptoms of hyperactivity-inattention. A Canadian study of more than 14,000 elementary school children shows that first-generation children exhibit fewer behavioral and emotional difficulties than their non-immigrant peers, especially with respect to symptoms of hyperactivity-inattention (Ma, 2002). The American study by Calzada and colleagues (2015) showed that externalized behavioral difficulties, such as symptoms of hyperactivity-inattention measured in preschool, are associated with lower academic performance two years later among non-immigrant students, while this is not the case for students from the Caribbean. As a result, students who have a conflictive relationship with their teacher, experience peer relationship difficulties, and show signs of hyperactivity-inattention in the classroom are at greater risk of academic difficulty. Several studies have documented generational differences in classroom behavior and social adjustment among students from immigrant backgrounds, but most of this research was conducted in countries that do not exhibit the immigrant paradox.

Much less is known about the generational differences that may exist in terms of the association between classroom behavior, social adjustment, and educational success. Since first-generation students' achievement seems less affected by socio-economic adversity, is it possible that their educational success will also be less affected by the difficulties they may encounter in the classroom? A Canadian study has shown that the attitudes and classroom behaviors of immigrant students have less impact on their academic perseverance than is the case for non-immigrant students (Archambault et al, 2015). The authors explain

this by pointing to the fact that immigrant students face many other challenges that influence their academic trajectory, which limits the potential impact of behavior and attitudes. Another Canadian study suggests that associations between the quality of teacher and peer relationships and school engagement could vary depending on the generational status (Lamanque-Bélanger, 2018). When first-generation elementary school students perceive low levels of acceptance from their peers, having a high-quality relationship with their teacher fosters their school engagement in reading. Surprisingly, this association was not found for non-immigrant students (Lamanque-Bélanger, 2018). Likewise, it is plausible that classroom behavior and social adjustment also differentially predict educational success depending on the students' generational status. Knowing more about these differential associations would help to understand the factors that make the Canadian immigrant students more successful than immigrant students in other countries, despite the adversities they face, and possibly provide intervention targets that could be generalized to other countries in which immigrant students face more achievement difficulties than those in Canada.

The present study

In light of this review of knowledge, it is clear that few studies have examined in a comparative way the behavioral, social, and educational success of elementary school students in terms of their generational status, and that most of the studies were conducted with high school students. Still fewer studies have documented the links between these variables and the educational success of students. In this context, it is difficult to identify how these links apply to students from immigrant backgrounds, which is crucial for discovering in advance the factors that may explain their educational success and contribute to a better understanding of their specific needs. This study will provide important insights into the developmental context of elementary school students and the microlevel context of the classroom.

The objective of this study is therefore (1) to validate whether the immigrant paradox is present for Canadian elementary school children in economically disadvantaged schools, in terms of educational success, namely academic performance and engagement, as well as in terms of classroom behavior and social adjustment, such as conflicts with teachers, peer relationship problems, and symptoms of

hyperactivity-inattention. Given the large amount of literature on the immigrant paradox as it relates to educational success, and the many studies that document generational differences in classroom behavioral and social difficulties, first-generation students are expected to present a more favorable profile than that of second-generation students in terms of their educational success. It is also anticipated that the latter will have a more favorable profile than that of third-generation-plus students. This study also pursues objective (2), which is to study the longitudinal association over the school year between the classroom behavior and social adjustment of elementary school students with their achievement and engagement and to do so in a differential way according to their generational status. It is expected that immigrant students' educational success will be less affected if they express behavior and social adjustment problems when compared to their non-immigrant peers. These links will be studied among third to sixth grade school students, as these students are more vulnerable, mainly because they are likely to experience a decline in their school engagement (Archambault et al., 2015) and also because there are validated instruments for this age group. The associations between classroom behavior, social adjustment and educational success will be studied while taking into account the student's language, age, and gender.

Method

Procedure and participants

The sample for this study was recruited from five elementary schools located in urban and multi-ethnic areas of Montreal (Quebec, Canada) with concentrated poverty. To be part of the study, schools had to have more than 70% of their population with an immigrant background. A sample of 66 teachers took part in this study, providing information about 626 students in grades 3 to 6 (53% female) aged 8 to 14 ($\bar{x}$ = 10.9 years, σ = 1.3 years). The majority of teachers were female (86%), below 40 years of age (64%), had more than 11 years of teaching experience (46%), and were born in Canada (96%). The number of students per grade level was equivalent (Grade 3 = 162, Grade 4 = 168, Grade 5 = 136 and Grade 6 = 160). The

group included first-generation students (40%), second-generation students (43%) or third-generation plus students (17%), and more than half (62%) reported speaking French at home. First-generation students were born in Algeria (21%), Haiti (21%), Morocco (12%), or some country (46%). Nearly half of the students' families reported annual incomes below the Quebec poverty line (IRIS, 2018).

In the autumn of 2012, written consent forms were forwarded to students' parents. These forms were translated into English, Spanish, Creole, Arabic, and Turkish. Following this step, telephone calls were made by research assistants who spoke some of these languages. The parental consent rate reached 70%, and all of the teachers agreed to participate in the study. The data for this study were collected in three phases: Fall 2012 (T₁), Spring 2013 (T₂), and Fall 2013 (T₃). To accomplish this, teachers completed a one-hour paper questionnaire to assess each student in terms of their performance and academic engagement (T₁ and T₃), as well as the level of conflict in the relationship with that student (T₂), the presence of perceived symptoms of hyperactivity-inattention (T₂), and peer relationship difficulties (T₂). They also self-reported information about their gender, age, and years of experiences. Measures reported by teachers have been favored despite the possibility of a perception bias caused by the cultural difference between the teacher and the student since teachers tend to report externalized behaviors more reliably than children themselves (Sadker, Sadker, & Zittleman, 2008; Smith, 2007; Terrill & Mark, 2000). Students answered questions about their grade level, age, country of birth, and language spoken at home while parents reported their annual income.

Measures

Student performance. For each student, the teacher answered three questions about their performance (T₁ and T₃). Mathematics achievement was assessed using an item: "Since the beginning of the school year, how would you rate the student's average achievement in mathematics relative to other students in their class?" The teacher answered these questions using a Likert-type scale with five anchor

points (1 = significantly below average, 5 = significantly above average) ($\alpha = 0.90$ (T_1 and T_3)). The same question was asked about reading and writing performance, and an average of the scores for each of the three questions was calculated for each student. Important studies have shown that such measures of student achievement are reliable (Duncan et al., 2007; Pagani, Tremblay, Vitaro, Boulerice, & McDuff, 2001).

Behavioral engagement in the classroom. The behavioral engagement of each student was reported by the teacher (T_1 and T_3), using a scale derived from the *Dimensions of School Engagement Scale*, a questionnaire validated with the Quebec elementary school population (Archambault & Vandenbossche-Makombo, 2013). This scale includes eight items (e.g., “in class, this child participates” “in class, this child ask questions if he does not understand”), to which the teacher responded using a three-point Likert scale (1 = often, 3 = never) ($\alpha = .70$ (T_1) and $\alpha = .69$ (T_3)).

Student-Teacher conflict. The conflict level was reported by the teacher (T_2), using a francophone adaptation of the *Student-Teacher Relationship Scale* developed and validated with elementary school teachers (Koomen et al., 2012; Pianta, 2001). The *Conflict* subscale, composed of four items (e.g., this child and I always seem to be struggling with each other) ($\alpha = .81$), was used for this purpose. Teachers responded to these items using a five-point Likert scale (1 = definitely does not apply, to 5 = definitely applies).

Perceived peer relationship difficulties and hyperactivity-inattention. These two subscales are derived from the French version of the *Strengths and Difficulties Questionnaire for ages 4-17* (Goodman & Goodman, 2009). The presence of peer relationship problems was reported by the teacher using the *Peer problems subscale*, which includes five items (e.g., rather solitary, tends to play alone) ($\alpha = .83$). The presence of perceived symptoms of hyperactivity-inattention was assessed by the teacher using the *Hyperactivity Scale*, which includes five items (e.g., easily distracted, concentration wanders) ($\alpha = .87$). The teacher responded to these subscales at T_2 using a three-point Likert scale (from 1 = not true, to 3 = certainly true).

Controlling variables

Students were asked to indicate the language spoken with their parents (T_1) (0 = French, 1 = a language other than French). The students' ages and genders were self-reported (T_1) (0 = Male, 1 = Female).

Data analyses

The data include missing values at T_1 (17%), at T_2 (13%), and at T_3 (10%), mainly due to the teacher's absence on the day of data collection. These data were imputed using the SPSS24 software, which allows for an analysis of the pattern of missing values and their imputation using the Markov Chain Monte Carlo (MCMC) method (Gilks, Richardson, & Spiegelhalter, 1996). In total, 10 banks were imputed.

Following descriptive statistics and correlation analysis, we conducted an analysis of variance (ANOVA) using SPSS24. This allowed for a comparison of students according to the different predictors (hyperactivity-inattention, peer relationship difficulties, and student-teacher conflict) and outcomes (achievement and engagement) as a function of their generational status. We standardized these five variables to put them on the same comparative scale. We also performed post-hoc tests using Bonferroni corrections to identify specific differences between first-, second-, and third-generation plus students. The Bonferroni corrections adjust the p -value for the number of tests run (Tabachnick & Fidell, 2016).

To respond to our second objective, we next conducted a path analysis using Mplus7. All measures were teacher-reported at the student level. We thus controlled for the nested structure of data (TYPE = COMPLEX option in Mplus7). This procedure takes into account the complex sampling feature when computing the model fit. Path analysis allowed for testing whether adjustment difficulties (i.e., hyperactivity-inattention, peer relationship problems, and student-teacher conflict) at T_2 were associated with student behavioral engagement and achievement at T_3 , while controlling for student gender, age, language spoken at home, and previous engagement and achievement at T_1 . As suggested by Véronneau, Vitaro, Brendgen, Dishion, and Tremblay (2010), non-significant path coefficients for control variables were removed from the model. Five statistical indicators were used to evaluate whether these path models

fit the data well. First, the Chi-square compares the estimated model to the tested model (Little, 2013). The Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) both compare the model fit to the fit of the null model. Finally, the Root Mean Square Error Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR) compare the tested model to the saturated model. The RMSEA also applies a correction that favors parsimony (Little, 2013). Finally, we conducted multiple-groups analysis by testing whether this path analysis was invariant across generational status using the Loglikelihood Difference test (<http://www.uoguelph.ca/~scolwell/lldifftest.html>). We compared a constrained model to an unconstrained model where paths were allowed to vary according to the students' immigration status. If this test was significant, thereby favoring the unconstrained model, we would then test whether each path was significantly different using the Wald test (Muthén, & Muthén, 2004).

Results

Initial data screening

Table 1 presents descriptive statistics and correlations. Correlations were all in the expected directions. Hyperactivity-inattention, peer relationship difficulties, and student-teacher conflict at T₂ were negatively associated with student achievement and behavioral engagement at T₃.

[Table 1]

Analysis of Variance

Results from ANOVAs are displayed in Table 2. Findings indicate that there was no difference between first-, second-, and third-generation plus students regarding student-teacher conflict (T₂) and academic achievement (T₃). However, results revealed that students had different levels of teacher-perceived hyperactivity-inattention, peer relationship difficulties, and behavioral engagement. Post-hoc

tests showed that first- and second-generation students had similar levels of perceived hyperactivity-inattention, peer relationship difficulties, and behavioral engagement, but scored higher on these variables (i.e., lower hyperactivity-inattention and peer relationship difficulties and higher engagement) as compared to their third-generation plus peers. The effect sizes of these differences were all low ($\eta^2 = .01$ to $.03$).

[Table 2]

Path Analysis

Results from the constrained path analysis model are displayed in Figure 1. Paths linking language and age to achievement and engagement at T_3 , and engagement at T_1 to achievement at T_3 were not significant. They were removed from the following model. Adjustment indicators all suggest a great fit according to Little's (2013) criteria: $\chi^2 = .02$ ($df = 1$, $p = .89$), CFI = 1.00, TLI = 1.02, RMSEA = .00 (.00-.05), SRMR = .00. The unconstrained model also showed a good fit ($\chi^2 = 4.86$ ($df = 3$, $p = .18$), CFI = 1.00, TLI = 0.97, RMSEA = .06, SRMR = .01) even if it was not as great as that of the constrained model. The Loglikelihood Difference test revealed that the fit of these two models was significantly different ($\Delta\chi^2(32) = 54.82$, $p < .01$). This suggested the conducting of Wald tests to compare each path. In doing so, we found that none of the individual paths was significantly different among the immigration statuses. Even if the sizes of some of the betas were different, they were not significantly different or in opposite directions when comparing groups of students from different immigration statuses. Because of this, we chose the constrained model as the final model. This model showed that, beyond the influence of control variables, hyperactivity-inattention perceived by teachers at the beginning of the school year was associated with lower achievement and engagement at the end of the year. Peer relationship difficulties were also associated with lower achievement at the end of the school year, while student-teacher conflict was associated with lower behavioral engagement.

[Figure 1]

Discussion

This study examined generational differences among elementary school students in disadvantaged and multi-ethnic schools with two objectives: first, to validate whether the immigrant paradox is present among these young people in terms of educational success and classroom behavior, and second, assess the extent to which classroom behavior and social adjustment of these students is associated with their academic performance and engagement in a differentiated manner according to their generational status. In connection with the literature on the immigrant paradox, this study provides insights into how it manifests in the classroom. According to their teachers, first- and second-generation students are more engaged and show less behavioral difficulties in the classroom, which partially validates the immigrant paradox theory. However, contrary to what was expected, it seems that the links between classroom behavior, social adjustment, and academic achievement do not differ significantly across generations, at least in a sample of students from a disadvantaged background.

The results of the study show that elementary school students in economically disadvantaged areas can be distinguished in terms of their teachers' perception of their behavioral engagement based on their generational status. It is important to note, however, that the scale of differences observed is small in all cases (Cohen, 1988). Thus, as reported in previous studies on adolescents, first- and second-generation students are perceived by their teachers to be more efficient and more engaged in the classroom than their third-generation-plus peers (García Coll & Marks, 2012; Greenman, 2013; Harris et al., 2008; Kao, 1999). Indeed, in these studies, teachers report that immigrant students work more cooperatively and carefully, follow regulations and instructions more closely, are more attentive, more inclined to make effort, and ask questions in the classroom. Similarly, in the present study, teachers perceive that first- and second-generation students have less hyperactivity-inattention symptoms and peer relationship difficulties compared to their third-generation plus peers. In studies conducted with elementary school students, those from an immigrant background, according to their teachers, are less likely to have difficulty sitting still, have better concentration, persevere more in their tasks, and think before acting (Ma, 2002; Turney & Kao,

2012). In addition, the results show that first- and second-generation students were identified as having fewer relationship difficulties with peers than third-generation plus students. In real terms, immigrant students are therefore less likely to play alone, to be bothered by other children, or to prefer the company of adults to that of children, and are more likely to be appreciated by other children. These results are in line with those of Peguero (2013) and of Strohmeier and colleagues (2008), which show that first-generation adolescents are less frequently victimized. This may be attributable, as suggested by Dimitrova (2011), to greater emotional stability in first-generation students, due to the resilience they may have developed as a result of their immigration. This emotional stability promotes harmonious contact with peers. However, they are at odds with the results of some studies suggesting that immigrant adolescents are more often socially isolated (Derluyn et al., 2008; Turney & Kao, 2012).

Nevertheless, this study partially confirms that the immigrant paradox trend is also present in the classroom behavior and social adjustment of students in economically disadvantaged school settings. Although first- and second-generation students have a more favorable profile than third-generation plus students, first- and second-generation students do not differ significantly on these indicators. This result, although different from what was expected, is not that surprising given that many foreign-born children may have entered the Quebec school system early on in their academic careers. Some authors use the term Generation 1.5 to refer to these young people who immigrated at an early age to the host country (Louie, 2001; Yi, 2009). First-generation students may be related to second-generation students in terms of their classroom behavior and social adjustment and academic success. Additionally, immigrating after the age of twelve is known as a risk factor for low achievement and psychological distress (OECD, 2018).

This result may also be due to the fact that this study focused on elementary school students, because studies have shown that the immigrant paradox is more pronounced among adolescents in terms of behavior and academic success (García Coll, Patton, Marks, Dimitrova, Yang, Suarez, & Patricio, 2012). The authors postulate that the effects of the expectations and high demands immigrant parents place on their children are more pronounced during adolescence because during this period they must make choices that will

determine their future careers. Immigrant adolescents are more likely to continue to adhere to their parents' values that are more stringent and oriented toward academic achievement, while their non-immigrant peers are more likely to shift away from parental values and adopt the values of their friends (Gibson & Ogbu, 1991).

Unlike the results of previous studies highlighting the challenges of developing warm student-teacher relationships in a multi-ethnic context, the findings of this study suggest that there are no generational differences between students in terms of conflicts with teachers, at least according to the points of view of teachers themselves (den Brock & Leny, 2005; Gay, 2000; Katz, 1999; Saft & Pianta, 2001; Tyler et al., 2006). This difference from the existing literature may be due to the fact that the data in that literature were collected in the United States and Europe, where inequalities related to immigrant status are more pronounced than in Canada. According to the model of García Coll and colleagues (1996), racism, prejudice, discrimination, and oppression strongly affect developmental competencies (Baker & Rytina, 2013). This is an encouraging result, since it has been shown that student-teacher relationships with low levels of conflict are beneficial for immigrant students living in poverty, who more frequently cite teachers as sources of support than do their non-immigrant peers (Marks et al., 2014; Suárez-Orozco et al., 2009; Vedder, Boekaerts, & Seegers, 2005). This relationship allows them to cope with large gaps that may occur between the demands of their home environment and those of their school environment. Moreover, since this study takes into account the nested structure of the data, we can assume that this result testifies to the ability of teachers to establish relationships with all of their students, regardless of their generational status and the fact that they are not immigrant themselves. Yet, American studies have shown that it is easier for teachers to connect with students of the same cultural background, but this does not seem to be the case in our sample (Gay, 2000; Saft & Pianta, 2001; Tyler, Boykin, & Walton, 2006; Warikoo, 2004).

Surprisingly, given the differences observed, the association between classroom behavioral and social adjustment and educational success does not differ significantly according to the generational status of the student. For the three subgroups of students, these associations are of the same scale and have the

same direction. As a result, for all students, symptoms of hyperactivity-inattention perceived by the teacher represent the most important predictor of academic and engagement difficulties. Similarly, but to a lesser extent, conflicts with the teacher - and lesser still, peer relationship difficulties - also predict a low engagement and achievement level for the three groups of students. Although there is not much literature on the generational differences that characterize associations between classroom behavior and social adjustment and academic achievement, many studies have demonstrated generational differences with respect to these two parameters taken in isolation. It is conceivable that the associations between these parameters are equally different; however, this does not seem to be the case, at least within this study's sample of Canadian students from disadvantaged backgrounds (Beiser et al., 2002; Crosnoe, 2005; Derluyn et al., 2008; García Coll & Marks, 2012; Harker, 2001; Peguero & Jiang, 2014; Sam, Vedder, Liebkind, Neto, & Virta, 2008). As noted earlier, it is possible that these gaps are less pronounced, given that the data were collected from elementary school students rather than from high school students (García Coll et al., 2012).

Conclusions and implications

This study showed that first- and second-generation students have a more favorable profile than third-generation students in terms of engagement and classroom adjustment, but the associations between classroom behaviors and indicators of educational success did not differ significantly across generations.

The fact that the predictors associated with academic success are the same for all students, regardless of their generational status, is an interesting step forward because it indicates that some preventive interventions to address behavioral and social difficulties in the classroom could have a beneficial effect on all students. In a context where human and material resources are limited, deploying differentiated measures is undesirable if they are essentially unnecessary. The results therefore emphasize the importance of identifying symptoms of hyperactivity-inattention in the student populations of multi-ethnic and disadvantaged elementary schools, since they appear to be closely associated with the educational success of these students. This result is nevertheless of clinical interest, since it singles out hyperactivity-inattention

symptoms as a priority target for all students. It would therefore be wise to adequately and rapidly identify these students in order to provide them with the necessary support.

Strengths and limitations

The present study has several strengths, including its documentation of a complex subject with a robust analytical strategy, and its use of a short longitudinal model. The sample of this study was recruited in economically disadvantaged elementary schools, which is highly relevant given that children from immigrant backgrounds are more likely to attend schools in disadvantaged area and that most studies have focused on high school students (Capps, Fix, Ost, Reardon-Anderson, & Passel, 2005; McAndrew et al., 2015). However, the small size of the sample limit the possibilities for generalizing the results. Although teacher-reported measures are more effective than self-reported measures of externalized behaviors, the fact that teachers are not trained to assess symptoms of hyperactivity-inattention is a limitation. However, this is offset the instrument being developed for this purpose and relying on easily observable behaviors. We must also emphasize that since teachers were mostly from the majority culture, it is possible that this influenced their judgment towards students from a culture different from their own (Sadker et al., 2008; Terrill & Mark, 2000). Beyond generational differences, it would also have been relevant to consider the differences that can be attributed to the student's language proficiency and region of origin, but our sample size by students' origin was too small. The fact that this was not taken into account is a limitation because studies have shown that student origins influence the way teachers assess their school adjustment and the expectations they have of them (Saft & Pianta, 2001). For example, some studies of first-generation Asian adolescents and children show that they generally present higher levels of academic achievement and engagement than immigrant students from other countries (Conger et al., 2003; Crosnoe, 2006; Glick & White, 2003; Han, 2006; Liebkind et al., 2004). There also may be cultural differences in how social and behavioral adjustment relate to educational success. This study focused on externalized behavior, but it would be appropriate in futures studies to document how internalized symptoms influence educational

success for immigrant students, since these symptoms are influenced by racial discrimination and the student's migratory trajectory (Dimitrova, Chasiotis, & van de Vijver, 2016; Smith, 2007).

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