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Hidden school dropout among immigrant students: a cross-sectional study

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Hidden school dropout among immigrant students: a cross-sectional study

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Actual school dropout among immigrant youth has been addressed in a number of studies, but research on hidden school dropout among immigrant students is rare. Thus, the objective of this paper is to analyze hidden school dropout among primary school students with an immigrant background. The analyses were performed using survey data of 1186 immigrant students in Swiss primary schools. Our results show that immigrant students' academic achievement, their attitudes towards school-related values, and the quality of their relationships with classmates and teachers were significant predictors of their disengagement during classes. Moreover, our findings strongly suggest that those predictors that are important for actual school dropout are crucial for hidden school dropout as well. We conclude that low-achieving immigrant youth who do not value school and who have poor relationships with teachers and peers are especially at risk of hidden and, eventually, of actual school dropout.

Keywords: school dropout; school disengagement; immigrant students; primary school; regression model

Introduction

High school dropout among immigrant students has become a serious challenge for national educational systems in a number of countries (Lamb et al. 2011). Therefore, 'understanding why students drop out of school is the key to addressing this major educational problem' (Rumberger 2001, 4).

Based on a review of studies on actual dropout across 13 countries (Australia, Canada, England, Finland, France, Germany, Iceland, Norway, Poland, Scotland, Spain, Switzerland, and the USA), Lamb and Markussen (2011, 5) state that despite some contextual differences, all national definitions of actual dropout 'share a similar understanding of a dropout and that is of a person who is no longer at school and does not hold an upper secondary qualification'. Addressing the question of why students quit school, Lamb (2011, 373), after a review of representative studies across countries, concludes that 'the studies are fairly similar in the factors that they identify as influential'. He identifies various types of effects on the decision to quit school, including individual student effects, family effects, school effects, peer effects, community effects, and province/state/national effects. In Rumberger's (2001) words, actual school dropout is influenced by a number of proximal and distal factors which he suggests to analyze in one of two conceptual approaches: 'One

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framework is based on an individual perspective that focuses on individual factors associated with dropping out; the other is based on an institutional perspective that focuses on the contextual factors found in students' families, schools, communities and peers' (Rumberger 2001, 5).

However, empirical evidence suggests that students' individual background characteristics have greater influence on their potential dropout than institutional and contextual factors (Rumberger and Palardy 2005). One of the powerful proximal predictors of actual school dropout is students' academic achievement (Rumberger 2001, 2004). Using cross-sectional data from the PISA study (2000) and longitudinal data from TREE (2001 to 2005) surveys in Switzerland, Bertschy, Cattaneo, and Wolter (2008, 16) have shown that student achievement at the compulsory school level influences 'the probability of dropping out of school at the upper secondary level'.

Moreover, several socio-demographic variables, such as gender, ethnicity, and family background, have been shown to influence a withdrawal from school (c.f., Audas and Willms 2001; Eckstein and Wolpin 1999; Lamb 2011; Roderick 2003; Rumberger 2001, 2004). In Finland, for example, the proportion of youth with only a compulsory education at the age of 24 is three times higher among immigrants than among the general population (Rinne and Jaervinen 2011, 223). With regard to dropout rates within the educational system of Spain, Merino and Garcia (2011, 108) conclude that 'it clearly appears to be harder for immigrant students to obtain the compulsory education certificate and to continue in post-compulsory education'. However, the authors point out that the heterogeneity of immigrants in terms of their ethnic origin and immigrant generation has not been addressed sufficiently in the explanation of their school failure; the only differentiation which has been made to understand the dropout rate has been that of citizenship (Merino and Garcia 2011, 109). However, it is important to consider also the impact of socioeconomic characteristics associated with the individuals' background for their educational career. According to the Youth Cohort Study in England, immigrants with 'Indian backgrounds had the highest rates of academic attainment at the age of 18 years, followed by whites, with black, Pakistani, and Bangladeshi attainment being lower. To put this in context, Indians in England are relatively well educated and disproportionately found among the professional classes compared to the white majority, while all other minority ethnic groups are relatively economically disadvantaged' (Sullivan and Unwin 2011, 126). Although immigrants' socio-demographic characteristics go a long way to explain major aspects of immigrant youths' achievement levels, 'there remains an unexplained residual of immigrant underachievement' in some European countries (Field, Kuczera, and Pont 2007, 49).

Additionally, the decision to withdraw from school may be influenced both by students' attitudes to formal aspects of school, such as classrooms and school activities, and by their relationships with peers and adults at school and outside of school. Examining the reasons for dropout during compulsory education in Switzerland, Stamm (2012) identified five types of students: students weary of school, students bullied by peers, students 'burdened' by their families, delinquent students, and students who hang out with peers outside of school. Students with 'burdened family background' and delinquent students were particularly unlikely to re-enroll in school after dropout (Stamm 2012, 105).

With respect to student attitudes to formal aspects of school, truancy and absenteeism have been addressed as the most significant 'European issue' (Linssen and Grewe 2005). Although there is no common European definition of school

absenteeism, 'it is obvious that in many European countries absenteeism (independent of its definition) is closely associated with problem of dropouts' (Linssen and Grewe 2005, 9). According to a study on truancy among seventh to ninth grade students in Swiss public schools, male students, students of foreign origin, students who had repeated one or several school years, and students of high socioeconomical background were frequently truant. Moreover, the rate of absenteeism increased from seventh to ninth grade. However, an extended analysis underlined that institutional and contextual school factors were also significant for truancy (Saelzer 2010, 184ff.).

Current research on school dropout differentiates between actual dropout and hidden dropout. Hidden dropout refers to a student who is 'present for the purposes of the roll call, but not visible for the purpose of learning and instruction'(Sultana 2006, 17). In other words, hidden dropout pertains to those students who lose interest in the lessons and become disengaged during classes. Hidden dropout is hard to identify because students who are quiet and disengaged in many respects resemble those students who will eventually graduate (Audas and Willms 2001; Tam, Zhou, and Harel-Fisch 2012).

According to Tam, Zhou, and Harel-Fisch (2012), the process of school disengagement may start as early as during kindergarten years and continues to be prevalent throughout primary and secondary school. Based on a longitudinal study, Archambault, Pagani, and Fitzpatrick (2013, 5) suggest that first-grade students 'who show less task-orientation and persistence in classroom life are likely to manifest increasingly disengaged behavioral patterns, thus exacerbating their academic difficulties from one grade to the next'. With respect to risk factors of school disengagement, an Icelandic longitudinal study on adolescents (subjects aged 14–22) has shown the impact of individual socio-demographic characteristics: 'Males and students from lower-SES backgrounds were generally more disengaged, and males from those backgrounds became more emotionally disengaged during their last year in compulsory school' (Blondal and Adalbjarnardottir 2012, 85). Moreover, risk factors such as poor academic performance, lack of positive experience at school, rejection of school values, as well as factors related to the family have been identified as crucial for school disengagement (Archambault, Pagani, and Fitzpatrick, 2013; Tam, Zhou, and Harel-Fisch 2012; Willms 2003).

Overall, actual school dropout 'is affected by a number of complex factors and is often the culmination of a long process of disengagement from school' (Tyler and Lofstrom 2009, 77). Using data from the Rochester Youth Development Study, Henry, Knight, and Thornberry (2012) provide empirical evidence that school disengagement predicts later school dropout. In line with this, a longitudinal study by Fall and Roberts (2012, 787) has shown that 'students' academic and behavioral engagement and achievement in 10th grade were associated with decreased likelihood of dropping out of school in 12th grade'. Therefore, hidden school dropout can be seen as the first stage of actual school dropout (Rosenblum, Goldblatt, and Moin 2008).

Consequently, contemporary research on school dropout highlights the importance of moving the focus away from end-stage dropout and towards its precursors, whose onset may be at the very beginning of a school career (Audas and Willms 2001; Lamb 2011; Stamm 2012). A life-course perspective on school dropout may be the key for a better understanding of actual school dropout: 'Understanding the nature and significance of hidden school disengagement is an important first step in supporting students who are at-risk of dropping out of school' (Tam, Zhou and Harel-Fisch 2012, 90).

There has been a growing international debate on individual and societal consequences of school dropout (OECD 2012). Individual consequences include a higher risk of unemployment, lower earnings, poorer health outcomes, lower life expectancy, higher risk of alcohol consumption, and of participation in crime (Field, Kuczera and Pont 2007; McCaul et al. 1992; OECD 2012; Sum et al. 2009; Tyler and Lofstrom 2009; van Alphen 2009). These consequences are severe among all school dropouts, but they are even more pronounced among young men and particular ethnic groups (OECD 2012; Sum et al. 2009).

The societal costs of school dropout 'include lower tax revenues, greater public spending on public assistance and health care, and higher crime rates' (Tyler and Lofstrom, 2009, 87). Moreover, less-educated individuals are less likely to be engaged in civic behavior (McCaul et al. 1992; OECD 2012).

All things considered, education is a powerful means of societal integration and cohesion as well as of individual success and well-being. In order to improve equity in education, which 'implies that personal and social circumstances such as gender, socioeconomic status or ethnic origin should not be an obstacle to educational success' (Field, Kuczera and Pont 2007, 29), current OECD policy examines 'ways to reduce the number of early school-leavers, defined as those students who do not complete their upper secondary education' (OECD 2012, 16).

Focus of the study

In Switzerland, an actual dropout is defined as someone who, by the age of 18–24, has not successfully completed post-compulsory education and has not begun another type of training (Lamb and Markussen 2011, 5). The rate of actual dropouts in Switzerland is relatively low, with 85.5% of the adult population with a completed upper secondary education (Eurostat 2012). This rate is significantly higher than in Spain (52.6%) or neighboring Italy (55.2%), and it is above the EU (27 countries) average of 72.7%. Nevertheless, the Swiss Conference of Cantonal Ministers of Education's aim is to reach a rate of 95.0% of teenagers with a post-compulsory certificate by 2015 (Pagnossin 2011, 195).

With respect to gender, there have been no consistent effects in the Swiss actual dropout rate during the past decade. However, the actual dropout rate of foreign students was four times higher than that of Swiss adolescents in 2007 (21.0% compared to 5.1%) (Pagnossin 2011, 205). The low proportion of immigrant youth in post-compulsory education is not unique to the Swiss education system, but represents a common challenge for national educational systems in other countries as well. Across the OECD countries, for example, 'students with an immigrant background are more likely to leave school earlier than their classmates' (OECD 2012, 72). As a result, immigrants are over-represented among the group of students who leave the school track without a compulsory school diploma or before entering post-compulsory education, a fact which is rapidly becoming a major issue in the European debate on educational inequity. Thus, successful integration of immigrants in the educational system of the host society 'is a new and growing issue', particularly for European countries (OECD 2012, 28).

The present study, therefore, set out to identify possible reasons for failure in the Swiss educational system among immigrant youth. According to the life-course perspective, in order to examine the high dropout rate among immigrant students, it is necessary to focus on student disengagement in the early stages of school careers,

an aspect which is only poorly understood in the Swiss context. The present study is an attempt to fill this gap descriptively; moreover, the results of the study may be used to reduce or prevent actual school dropout among immigrant students and therefore increase the equity of education. Thus, the objective of this paper is to analyze who is at risk of hidden dropout in Swiss primary schools and to determine the impact of socio-demographic and school-related individual characteristics on hidden dropout among immigrant students.

Methods

General background of research

The current study had a cross-sectional design and was conducted between February and April 2008. Students from 225 classes in public primary schools in the German-speaking part of Switzerland were surveyed. The participants completed a paper questionnaire during class time; they were instructed and supervised by trained research assistants (Makarova, Schönbächler, and Herzog 2008).

Sampling

Overall, 4384 fifth-grade students participated in this study. From the student survey, a data of 1186 immigrant youths (50.3% male and 49.7% female), whose parents were both born abroad, were selected for the analysis. These immigrant students, 76.0% of whom were second-generation immigrants born in Switzerland and 24.0% of whom were born abroad, were allocated to one of seven groups of ethnic origin according to their mother tongue (Albanian $N = 278$, 24.9%; Slavonic languages $N = 254$, 22.7%; Romance languages $N = 150$, 13.4%; Tamil $N = 107$; 9.6%, Turkish $N = 98$, 8.8%, German $N = 54$, 4.8%; and students of other origins $N = 177$, 15.8%). The students' age ranged between 10 and 16 years, with an average age of 12 years.

Measures

Hidden dropout was operationalized as *students' disengagement during classes* (three items, Cronbach's $\alpha = .62$) and measured as follows: 'I do not really listen to the teacher's explanations', 'It happens that I daydream during class', and 'I do completely other things (e.g. I write messages) during class'.

The *students' socio-demographic characteristics* were operationalized as *students' ethnic origin*, *sex*, and *age*. The sociocultural background of the family was divided into two factors: (i) *family's sociocultural capital* (five items, Cronbach's $\alpha = .60$), measured by the quantity of cultural goods owned by the family, and (ii) *family's socioeconomic capital* (six items, Cronbach's $\alpha = .60$), measured by the quantity of the goods that indicated a degree of wealth of the family.

The *students' school-related characteristics* were operationalized using four factors: (i) *students' attitudes towards school-related values* (eight items, Cronbach's $\alpha = .87$): 'It is important to strive for good marks/to follow school rules/to be actively engaged during class/to follow the teacher's instructions/to do homework carefully/to help weaker classmates/to respect the teacher/to obey the teacher'; (ii) *relationships with classmates* (six items, Cronbach's $\alpha = .84$): 'I feel very comfortable in our class', 'There are many children in our class whom I like very

much', 'I think I'm very much liked by most of my classmates', 'In our class we stick together', 'I like being in our class', and 'If someone in our class has problems, we help each other'; (iii) *student–teacher relationship* (five items, Cronbach's α = .88): 'I like my teacher', 'I have a good relationship with my teacher', 'My teacher helps me with problems at school', 'My teacher is a role model for me', and 'I think my teacher likes to teach our class'; and (iv) *students' academic achievement*, measured as an average grade of students' grades in three school subjects (Language of instruction (German), Mathematics, and Science).

Results

Students' socio-demographic characteristics as predictors of their disengagement during classes

In order to analyze the influence of students' socio-demographic characteristics on their disengagement during classes, a generalized linear model was applied.[1] The following predictors were entered into the model in one step: two categorical predictors (*students' ethnic origin* and *sex*) and three covariates (*students' age*, *sociocultural capital of family*, and *socioeconomic capital of the family*). The model included 1105 cases (93.2%). The fitted model is significant compared to the intercept-only model (Likelihood Ratio χ^2 (10, 1105) = 42.81, p < .001). The goodness-of-fit test indicated that the model had a good fit (Deviance Ratio = 1.16). The tests of model effects showed that, of all socio-demographic characteristics, only the *students' ethnic origin*, *sex*, and *age* were significant predictors for their disengagement during classes. However, the *family's sociocultural capital* and the *family's socioeconomic capital* were not significant predictors for students' disengagement during classes (see Table 1).

Table 1.   Tests of model I effects.

	Wald Chi-square	*df*	Sig.
(Intercept)	.72	1	.397
Sex	10.68	1	.001
Ethnic origin	17.28	6	.008
Age	12.82	1	.000
Family's sociocultural capital	.88	1	.348
Family's socioeconomic capital	.44		.506

Note: Dependent variable: students' disengagement during classes (*z*-score: M = −.06, SD = 1.09); Model (Intercept): Sex, ethnic origin, age (*z*-score: M = .21, SD = 1.03), family's sociocultural capital (*z*-score: M = −.60, SD = .93), and family's socioeconomic capital (*z*-score: M = −.60, SD = 1.00).

The regression coefficients of the model showed that immigrant girls were less disengaged during classes than immigrant boys. With respect to ethnicity, Tamil students were less disengaged during classes than the reference group. Older immigrant students reported more disengagement during classes than younger ones. While controlling for other variables in the model, the effect sizes based on odds ratios Exp(β) demonstrate that students' disengagement during classes decreased by a factor of .70 for Tamil students and by a factor of .81 for girls, and slightly increased for older students by a factor of 1.12 (see Table 2).

Additionally, pairwise comparisons were computed for every pair of the factor *students' ethnic origin* in the model. The results indicated that Tamil students

Table 2. Students' socio-demographic characteristics as predictors.

Parameter	β	SE	Wald Chi-Square	df	Sig.	Exp(β)
(Intercept)	.05	.09	.31	1	.576	1.05
Female	−.21	.07	10.68	1	.001	.81
Male	0[a]					1
Albanian	.04	.11	.13	1	.718	
Slavonic	.01	.11	.00	1	.956	
German	.26	.17	2.43	1	.119	
Romance	.11	.12	.76	1	.385	
Turkish	.09	.14	.38	1	.540	
Tamil	−.36	.13	7.44	1	.006	.70
Others	0[a]					1
Age	.11	.03	12.82	1	.000	1.12
Family's sociocultural capital	.04	.04	.88	1	.348	
Family's socioeconomic capital	.03	.04	.44	1	.506	
(Scale)	1.15[b]	.05				

Note: Dependent Variable: Students' disengagement during classes (z-score: $M = -.06$, $SD = 1.09$); Model (Intercept): Sex, ethnic origin, age (z-score: $M = .21$, $SD = 1.03$), family's sociocultural capital (z-score: $M = -.60$, $SD = .93$), and family's socioeconomic capital (z-score: $M = -.60$, $SD = 1.00$).
[a]Set to zero because this parameter is redundant.
[b]Maximum likelihood estimate.

reported to be less disengaged during classes, not only compared to the reference category but also compared to immigrant youth from the Albanian, German, and Romance groups (see Table 3).

Table 3. Students' disengagement during classes: post-hoc test.

(I)	(J)	Mean difference (I–J)	SE	df	Bonferroni Sig.
Tamil	Albanian	−.40	.12	1	.028
	German	−.63	.18	1	.014
	Romance	−.47	.14	1	.014

Note: No other significant pair differences between levels of the factor ethnic origin were indicated.

Students' school-related characteristics as predictors of their disengagement during classes

In order to analyze the influence of students' school-related characteristics on their disengagement during classes, predictors such as *students' academic achievement, students' attitudes towards school-related values, student–student relationships*, and *student–teacher relationship* were added to the initial model discussed above. The predictors were entered into the model in one step. The final generalized linear model included 1062 cases (89.5%). The fitted model is significant compared to the intercept-only model (Likelihood Ratio $\chi^2(14, 1062) = 349.89$, $p < .001$). This final model had a better fit (Deviance Ratio = .87, Akaike's Information Criterion (AIC) = 2889.39) than the initial model that included only socio-demographical predictors (Deviance Ratio = 1.16, AIC = 3313.75). The tests of model effects showed that, in the final model, none of the socio-demographic variables (*ethnic origin, sex, age, sociocultural capital of the family*, and *socioeconomic capital of the family*) remained as significant predictors for immigrant students' disengagement during clas-

ses. However, all of the school-related individual characteristics (*students' academic achievement, students' attitudes towards school-related values*, the quality of *students' relationships with classmates*, and the quality of *students' relationships with the teacher*) predicted students' disengagement during classes significantly (see Table 4).

Table 4. Tests of model II effects.

	Wald Chi-Square	df	Sig.
(Intercept)	.36	1	.549
Sex	.40	1	.525
Ethnic origin	11.44	6	.076
Age	1.89	1	.170
Family's sociocultural capital	3.31	1	.069
Family's socioeconomic capital	.16	1	.693
Academic achievement	23.83	1	.000
Attitudes towards school-related values	122.99	1	.000
Student–student relationships	10.33	1	.001
Student–teacher relationships	15.68	1	.000

Note: Dependent Variable: Students' disengagement during classes (*z*-score: $M = -.05$, $SD = 1.10$); Model (Intercept): Sex, ethnic origin, age (*z*-score: $M = .20$, $SD = 1.04$), family's sociocultural capital (*z*-score: $M = -.60$, $SD = .93$), family's socioeconomic capital (*z*-score: $M = -.60$, $SD = 1.00$), students' academic achievement (*z*-score: $M = -.48$, $SD = 1.00$), students' attitudes towards school-related values (*z*-score: $M = .11$, $SD = 1.00$), student–student relationships (*z*-score: $M = .04$, $SD = 1.03$), and student–teacher relationships (*z*-score: $M = .01$, $SD = 1.07$).

Table 5. Students' socio-demographic and school-related characteristics as predictors.

Parameter	β	SE	Wald Chi-Square	df	Sig.	Exp(β)
(Intercept)	−.03	.08	.14	1	.706	.97
Female	−.04	.06	.40	1	.525	
Male	0[a]					1
Albanian	.03	.10	.10	1	.758	
Slavonic	.01	.09	.00	1	.947	
German	.29	.15	3.56	1	.059	
Romance	.06	.11	.36	1	.550	
Turkish	.02	.12	.02	1	.889	
Tamil	−.23	.12	3.78	1	.052	
Others	0[a]					1
Age	.04	.03	1.89	1	.170	
Family's sociocultural capital	.06	.04	3.31	1	.069	
Family's socioeconomic capital	.01	.03	.16	1	.693	
Academic achievement	−.15	.03	23.83	1	.000	.86
Attitudes towards school-related values	−.37	.04	122.99	1	.000	.69
Student–student relationships	−.11	.03	10.33	1	.001	.90
Student–teacher relationships	−.13	.03	15.68	1	.000	.88
(Scale)	.86[b]	.04				

Note: Dependent Variable: Students' disengagement during classes (*z*-score: $M = -.05$, $SD = 1.10$); Model (Intercept): Sex, ethnic origin, age (*z*-score: $M = .20$, $SD = 1.04$), family's sociocultural capital (*z*-score: $M = -.60$, $SD = .93$), family's socioeconomic capital (*z*-score: $M = -.60$, $SD = 1.00$), students' academic achievement (*z*-score: $M = -.48$, $SD = 1.00$), students' attitudes towards school-related values (*z*-score: $M = .11$, $SD = 1.00$), student–student relationships (*z*-score: $M = .04$, $SD = 1.03$), and student–teacher relationships (*z*-score: $M = .01$, $SD = 1.07$).
[a]Set to zero because this parameter is redundant.
[b]Maximum likelihood estimate.

The regression coefficients of the model showed that high-achieving students, students with a positive attitude towards school-related values, and those students whose relationships with teachers and classmates were of good quality, were significantly less at risk of being disengaged during classes. The effect sizes based on odds ratios demonstrate that, while controlling for other variables in the model, the most powerful predictor for students' disengagement during classes was a negative attitude towards school-related values (see Table 5).

Discussion

The aim of this study was to determine the impact of socio-demographic and school-related individual characteristics on hidden dropout among immigrant students in the early stages of their school career.

With respect to the impact of students' gender on hidden school dropout, our findings are consonant with the findings of other studies on students' disengagement (Blondal and Adalbjarnardottir 2012; Tam, Zhou and Harel-Fisch 2012). They illustrate that boys are more prone to hidden school disengagement than girls. However, it is important to note that students' disengagement was measured differently in other key studies. In the study by Tam, Zhou and Harel-Fisch (2012, 92), student disengagement was operationalized as 'students' degree of emotional withdrawal from school' and in the study by Blondal and Adalbjarnardottir (2012, 85) it was operationalized as behavioral and emotional disengagement. The present study operationalized hidden dropout as behavioral and cognitive disengagement during lessons and thus complements and solidifies previous findings on school disengagement. All things considered, we suggest that, compared to girls, boys are more in danger of being disengaged behaviorally, emotionally, and cognitively. Similar to a number of previous studies reporting 'positive relationships between the three types of engagement and dropping out' (Fredricks, Blumenfeld and Paris 2004, 6), our findings illustrate why immigrant boys are at a higher risk of dropping out of school than immigrant girls. Taking into account that the consequences of school dropout are more crucial for men and ethnic minorities (OECD 2012), our findings highlight the exceptional meaning of education as a means of social and structural integration of young men with an immigrant background.

However, our results also show that it is important to differentiate between minority students' ethnic origin. In Switzerland, Tamil students are the most engaged group of immigrant students at school and therefore least at risk of school dropout. This is interesting in light of the research on educational performance of Asian American students who generally 'have higher achievement scores, lower dropout rates and higher college entrance rates than other students' (Peng and Wright 1994, 346). The high performance of Asians is often associated with their high educational aspirations (Kao and Tienda 1998). However, there is still no evidence on how positive attitudes towards school and high engagement translate into the high achievement of Asian students, especially because the same 'positive attitudes do not appear to translate into positive academic outcomes for Latinos' (Coll and Kerivan 2012, 11). One explanation may be that students of different origins have different school experiences. As shown in the study by Brown and Rodriguez (2009, 221) for Latin youth, everyday school experience can contribute to their school disengagement 'through educational neglect and social and intellectual alienation'. Further reasons for differences in academic performance between youth of different origins are sug-

gested in a study by Zhou and Kim (2006), which shows that academic success of immigrant youth with Chinese and Korean origins is supported by supplementary education provided by their ethnic community's social structures. According to Moret, Efionayi, and Stants (2007), Tamil immigrants in Switzerland also live in a well-organized community which supports a wide range of ethnic-based activities, including educational programs such as courses in the language and culture of origin. Thus, our study provides a strong argument for the fact that the discussion of the influence of individual factors on school dropout should go beyond comparing minority and majority students and take into account the heterogeneity of students with a migration background. However, as our study is limited to individual factors related to school disengagement, it would be important to include contextual factors in further research on school disengagement among immigrant youth.

Our findings concerning the higher rates of hidden school dropout among older students may perhaps be explained by the high number of students who are retained in fifth grade. As shown by Saelzer (2010), student retention is positively related to absenteeism. In line with this, Rumberger (2001, 10) states that 'all the empirical studies to date suggest that retention, even in lower elementary grades, significantly increases the likelihood of dropping out'. Thus, we suggest that retention increases school disengagement and the risk of actual school dropout. However, because of the modest effect size of the covariate age, this interpretation should be taken with caution.

Overall, our results illustrate that school-related individual characteristics have more predictive power than socio-demographic characteristics in explaining students' disengagement during classes. The most powerful predictor of school disengagement turned out to be student attitudes towards school-related values; this supports empirical evidence 'that students' attitudes towards school and their participation strongly affect their decision whether or not to pursue post-secondary studies' (Willms 2003, 8). Thus, the present findings support the idea that among the key factors increasing the risk of dropping out of school are negative attitudes towards formal aspects of school and the lack of positive relationships with peers. Therefore, 'students may withdraw from school because they quit doing their schoolwork (academic engagement), or because they do not get along with their peers (social engagement)' (Rumberger 2001, 6).

Stamm (2012) argued that for some students, negative relationships with peers or teachers constitute the main reasons to quit school. Along the same lines, our findings illustrate that not only students' relationships with peers but also with teachers are crucial with regard to hidden school dropout. This, in turn, corresponds with the findings reported by Horenczyk and Worku Mengistu (2012) that hidden dropout students report less teacher support than students who are not in danger of school dropout. Supportive teacher–student relationships are particularly important at the very beginning of school career. As shown by Archambault, Pagani, and Fitzpatrick (2013), a warm teacher–student relationship in the first grade has a positive impact on students' engagement in fourth grade.

With respect to student academic achievement, our results are consonant with a number of investigations on the relationship of students' behavioral and affective engagement with academic achievement and school dropout (e.g. Finn and Zimmer 2012). Moreover, our study provides empirical support to claims in the theoretical literature 'that it is *low achievement* that causes students to withdraw from school, or that engagement and academic achievement go hand-in-hand' (Willms 2003, 9). The

2000–2009 PISA tests results have shown a stable achievement trend across all OECD countries which are at underperformance of immigrant students compared to nonimmigrant students (OECD 2012, 84). Accordingly, research on factors which are responsible for school disengagement among immigrant youth is a promising effort to eventually improve educational equity in countries with immigrant populations.

Conclusion and limitations

In summary, our findings strongly suggest that those predictors which are important for actual school dropout are crucial for hidden school dropout as well. However, our results also show that, for hidden dropout, individual characteristics such as sex, ethnic origin, and age lose their predictive power after school-related individual characteristics are added to the analysis. Thus, students' attitudes towards formal aspects of school, their academic achievement, and their relationships with peers and adults in school appear to be more important in explaining hidden school dropout. Moreover, our findings suggest that the early phases of a child's school career may be crucial for an accurate understanding of school disengagement.

Overall, our results provide empirical support for the idea that actual school dropout can be seen as 'the final stage in a dynamic and cumulative process of disengagement' (Rumberger 2001, 6). We conclude that especially low-achieving immigrant youths who do not value school and who have poor relationships with teachers and peers are at risk of hidden school dropout.

Our study has some limitations. Firstly, it employed a cross-sectional design and therefore cannot describe the development of the suggested relations between students' disengagement during classes and their actual school dropout. Hence, a longitudinal study would be needed to confirm the stability of the reported findings. Secondly, the generalizability of the present results is limited to primary school students. Thus, it would be desirable to confirm our findings in a sample of students from other school levels. Thirdly, our analyses are based on the students' self-reported disengagement, which means that the predictive validity of the measurement of students' school engagement may have been influenced by the sample characteristics as well as by other proximal and distal factors of academic outcomes (Carter et al. 2012). Although self-reported assessment is common for research on school engagement (Fredricks and McColskey 2012), a combination of assessment instruments, including teacher ratings, interviews, and observation, should be used in further studies to avoid the limitation of the self-reported measurement. In other words, it would be attractive in further analyses of school engagement to combine quantitative and qualitative approaches to provide in-depth analyses and avoid the risk of inaccurate overgeneralization. Finally, our results are based on a student sample of one country and therefore more research is needed in other countries.

Note

1. A generalized linear model (GzLM) was chosen for data analysis because it is a flexible generalization of different regression models (Garson 2012). A GzLM permits – *inter alia* – the nonnormal distribution of the dependent variable; in our case, the variable *disengagement during classes* was nonnormally distributed: Kolmogorov-Smirnov (1183, 1183) = .17, $p < .001$. Moreover, a GzLM allows to determine the effect size of model predictors on the response variable and to rank the relative importance of predictors.

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