



Performance and well-being of native and immigrant students. Comparative analysis based on PISA 2018

Susana Rodríguez^a, Antonio Valle^a, Ludmila Martins Gironelli^a,
Estefania Guerrero^a, Bibiana Regueiro^b, Iris Estévez^{c,*}

^a Department of Psychology, University of A Coruña, Campus de Elviña s/n, 15071, A Coruña, Spain

^b Department of Pedagogy and Didactics, University of Santiago de Compostela, Campus Vida, s/n, 15782, Santiago de Compostela, Spain

^c Department of Pedagogy and Didactics, University of A Coruña, Campus de Elviña s/n, 15071, A Coruña, Spain

ARTICLE INFO

Keywords:

Academic performance
Well-being
Immigrant students
Spanish students
Adolescence

ABSTRACT

Introduction: The emotional, cultural, and economic changes involved in the process of coping with migration can be particularly difficult during adolescence. How education systems respond to the challenges posed by the flow of immigration has profound implications for society. One of the ways that students can demonstrate their adaptation to the education system is by their academic performance. In addition, in many education systems well-being has been shown to be directly related to performance. Therefore, this study aims at examine the differences between native and immigrant students in mathematics and science skills, and in well-being indicators evaluated in PISA 2018.

Method: We performed multivariate analysis of variance (MANOVA) based on the results of PISA 2018 evaluation, obtained from the official OECD database. The sample was 7099 Spanish students (49.5% girls; 50.5% boys), with a mean age of 15.83 years old (SD = 0.29). A little under half (42%) were native students, 35.5% were first generation-immigrant students, and 22.7% were second-generation immigrant students.

Results: The native students demonstrated higher levels of mathematics and science skills than the two groups of immigrant students, and had significantly higher means in positive affect, self-efficacy-resilience, and feeling of belonging at school. Although life satisfaction was no different between the immigrant and native groups, the second-generation immigrants showed higher rates of positive affect, and a greater sense of belonging to the school than the first-generation immigrants.

Conclusions: We suggest future lines of research and the need to produce explanatory models that consider the complexity of migratory processes.

1. Introduction

In recent years, Spain has begun to face the challenge of impending population change due to an influx of people from abroad, which has been increasing since 2016. Migration statistics show that the population of Spain increased in both 2016 and 2017, with 132 263 more people at the beginning of 2018 compared to the previous year (Instituto Nacional de Estadística [INE], 2018). This

* Corresponding author. Facultad de Ciencias de la Educación, Campus Elviña, s/n 15190, A Coruña, Spain.

E-mail address: iris.estevezb@udc.es (I. Estévez).

<https://doi.org/10.1016/j.adolescence.2020.10.001>

Received 20 July 2020; Received in revised form 2 October 2020; Accepted 5 October 2020

Available online 26 October 2020

0140-1971/© 2020 The Foundation for Professionals in Services for Adolescents. Published by Elsevier Ltd. All rights reserved.

growth continues, and now for the first time, Spain has more than 47 million inhabitants, owing to the arrival of 348 625 migrants from abroad (INE, 2020). People migrate for a variety of reasons, but whatever they may be, the migrant population faces a process of adaptation to their adopted home and its culture which involves psychological along with sociological factors (Guerra et al., 2019). In this context, where around 10% of the people resident in Spain were born abroad (INE, 2019), it is particularly important to start promoting research into the adaptation process for migrant populations in order to define evidence-based educational, immigration, and public health policies.

Statistics from the 2018/19 school year indicate that there were 175 264 foreign students enrolled in ESO [Compulsory secondary education: normally between age 12 and 16] (Ministerio de Educación y Formación Profesional, 2019). Given that, it is important to focus this research on this adolescent population. The social, emotional, cultural, and economic changes involved in coping with migration may be particularly difficult for this age group, who are particularly vulnerable, and characterized by their self-discovery and the spontaneous desire for greater independence (Wigfield, Byrnes, & Eccles, 2006; Organization for Economic Co-Operation and Development [OECD], 2019b). Given that evidence of these difficulties may be seen in the school environment (OECD, 2017b; Patton et al., 2016), among other settings, and looking at the Spanish students that took part in the PISA (2018) evaluation, we carried out this study in order to explore differences in performance and well-being between adolescents in the native and immigrant populations.

1.1. Immigration and academic performance

One of the ways in which students demonstrate their adaptation to the education system is by their performance, both as they perceive it and as measured by their grades in the different subjects they study (Goñi, Ros, & Fernández-Lasarte, 2018). Most of the research into differences in academic performance between native and immigrant students has been conducted using US samples (Jung & Zhang, 2016; Lauderdale & Heckman, 2017; Motti-Stefanidi, Masten, & Asendorpf, 2015; Plunkett, Behnke, Sands, & Choi, 2009; Suárez-Orozco et al., 2010). However, the results seem to be quite consistent in showing that, compared to their native peers, young immigrant students are at a higher risk of failure and school dropout (Motti-Stefanidi et al., 2015; Schnell & Azzolini, 2015), at least for first-generation immigrants.

Various studies based on the results of PISA 2009 and 2012 in countries in the South of Europe, including Spain, have already indicated a significant gap in academic performance between native and immigrant students. However, there seem to be a series of factors that may affect the differences between these two populations. It has been found that this inequality can vary depending on early educational tracking (Spörlein & Schlueter, 2018), the origin, the destination, and the migrant group (Levels, Dronkers, & Kraaykamp, 2008). In any case, considering the results of PISA 2015 in the European Union countries, immigrant students seem to be at a disadvantage, both in mathematics and science skills. Prior research has also reported significant differences in the results from first- and second-generation immigrants, differences that persist even when excluding socioeconomic variables (Esteban, 2019).

These results are similar to those reported from Spain, which have tended to confirm that there is more school failure in first-generation immigrants than in their native peers (López & Sequera, 2013; Santos-Rego et al., 2012). In addition, first-generation immigrants generally exhibit worse academic performance, a difference that is more marked in female first-generation immigrant students (García-Borrego, 2011; Pereira-Casal, Santos-Rego, & Lorenzo-Moledo, 2013; Vaquera & Kao, 2012).

The conclusions of an evaluation of PISA 2012 results in the Basque Country (Spain) showed that first-generation immigrant students scored lower than the other two groups of students (Mera, Martínez-Taboada, & Elgorriaga, 2014). In contrast, a recent study in the same region (Goñi et al., 2018) found differences in mathematics mastery between native students, who had better results, compared to first- and second-generation immigrants. The latter, in this case, had lower scores than their first-generation immigrant peers.

On the other hand, an examination of the study of immigrant student performance has also suggested that we might find better performance, attitude, and engagement with study in first-generation immigrants than subsequent generations, and even compared to non-immigrant students. This is summed up in the *immigrant paradox* (Crosnoe & Turley, 2011), which leads us to consider the inherent complexity in studying the differences in performance between these populations (see e.g. Guerra et al., 2019). In any case, these differences should be interpreted with care, and a range of family and personal mediators and moderators should be taken into consideration. For example, one study found that immigrant students consider humanities subjects to be more useful and spend more time on them, whereas natives are more committed to subjects such as mathematics and science (Pereira-Casal et al., 2013).

Understanding that school failure should not be directly associated with a specific group without considering the complex interaction of factors influencing the teaching-learning process (Rodríguez-Izquierdo, 2010), and bearing in mind the relative scarcity of European studies about immigrant youth (López-Sala, 2007), in this study we explore the differences in mathematics and science competencies between native students, first-generation immigrant students, and second-generation immigrant students in Spain.

1.2. Immigration and student well-being

Well-being is a complex construct in which we can distinguish a more psychological component and a more subjective component. As a psychological construct, well-being addresses those values which allow the personal construction and development of the individual, classically made up of the six elements initially described by Ryff (1989): self-acceptance, positive relations with others, autonomy, mastery of the environment, purpose in life, and personal growth. From a more subjective perspective, well-being allows us to understand the extent to which individuals consider their lives to be satisfactory and rewarding (Diener, 1984; Diener, Oishi, & Lucas, 2003). In this regard, well-being would involve a thoughtful evaluation of one's own life, the affect or emotional state at a given moment in time, and a feeling of meaning and purpose in life, which can be linked to a sense of belonging (OECD, 2019c; 2019b).

The PISA program conceptualizes wellbeing based on adolescents' quality of life and standard of living, considering it to be a multidimensional construct that involves both material components, as well as, more subjective elements (OECD, 2019a; 2019c). In this respect, adolescent well-being is assumed to be a dynamic construct which addresses functioning and the psychological, cognitive, material, social, and physical capabilities needed for the students to have a happy, satisfactory life (OECD, 2015; 2017b). Considering the objective of this study, we focused on four of the elements considered by PISA 2018 to evaluate adolescent well-being: *satisfaction with life*, *positive affect*, *self-efficacy–resilience*, and *a sense of belonging to the school*.

Research has suggested that *satisfaction with life*, a subjective or hedonic cognitive element of well-being linked to a sense of meaning or purpose in life (OECD, 2019c), may be lower in immigrant students than their native peers (Liebkind & JasinskajaLahti, 2000; Neto, 2001; OECD, 2019b; Vieno, Santinello, Lenzi, Baldassari, & Mirandola, 2009; Walsh et al., 2018). Although recent research is not conclusive about this question (Berry & Hou, 2017; Borraccino et al., 2018), it seems reasonable to expect that if there are differences in life satisfaction between first- and second-generation immigrant students, it will be the first-generation immigrants who will exhibit lower satisfaction than their second-generation peers.

Positive affect reflects a state of enthusiasm, energy, mental alertness, and determination which produces a level of personal engagement (Barbosa-Luna, Tristán, Tomás, Gonzáles, & López-Walle, 2017), encouraging the student to play, explore, push limits, and be creative, broadening and improving their skills in the course of an activity (Fredrickson, 2001). Given that, states of *positive affect* are more likely to be reported by students who feel ties to their school and who have good school functioning (Anderman, 1999; Weber, Wagner, & Ruch, 2016), we expect that, if there are differences, it will be the first-generation immigrant students who will demonstrate lower levels of *positive affect* compared to native or second-generation peers (Guerra et al., 2019).

The extent to which students have faith in themselves when it comes to participating in certain activities –*self-efficacy*– and specifically when facing adverse circumstances –*resilience*–, are two additional measures of well-being used in PISA evaluations (OECD, 2019c). *Resilience* is the capacity to adapt to and overcome challenges (Howard & Johnson, 2000; Martin & Marsh, 2006) and is influenced by environmental factors which strengthen or hinder it (Mostafa, Gambaro, & Joshi, 2018). Encouraging resilience needs exposure to “risks” which, increasing the chances of failure, drive the individual to develop competencies to improve the results they expect (Ungar, 2008). In this regard, the socioeconomic and cultural disadvantages that characterize immigrant populations (OECD, 2017b), the growth mentality, and the recognition of external challenges might predispose these populations to greater coping capacity in adverse situations (OECD, 2019a, Güngör & Perdu, 2017).

School is a place where knowledge is acquired, but also where friendships and close relationships are formed (OECD, 2019a), and it is a particularly important setting for exploring well-being in adolescence (OECD, 2019c). The *sense of belonging to the school* summarizes acceptance, affection, connection to others, and belonging to a social community of adolescents at school (OECD, 2019b). Research suggests that although acceptance and connection of immigrant adolescents may largely depend on the similarity of the original and host cultures (Álvarez-Valdivia, Schneider, & Villalobos, 2016), school adjustment and peer acceptance would tend to be better for second-generation immigrant students than first-generation (Guerra et al., 2019).

Bearing in mind the discrepancies in the results about adolescent immigrants' and natives' well-being and academic performance (both first- and second-generation), the objective of this study is to examine the differences in mathematics and science skills, and in indicators of well-being (*life satisfaction*, *positive affect*, *self-efficacy–resilience*, and *a sense of belonging to the school*) that were evaluated in PISA 2018. More specifically, and in line with much of the revised literature, we expect that first- and second-generation immigrant students to exhibit worse mathematics and science skills compared to their native peers (Esteban, 2019; García-Borrego, 2011; Goñi et al., 2018; Pereira-Casal et al., 2013; Vaquera & Kao, 2012). We also expect that if there are differences between the first- and second-generation groups, it will be the latter who demonstrate better performance (García-Borrego, 2011; Mera, Martínez-Taboada, & Elgorriaga, 2014; Pereira-Casal et al., 2013; Vaquera & Kao, 2012). In addition, we hypothesize that native students will generally tend to score higher than their immigrant peers in *life satisfaction*, *positive affect*, and *belonging*, and if there are differences between the first- and second-generation immigrants, these well-being indicators will be higher in the second-generation immigrant students (Guerra et al., 2019; Liebkind & JasinskajaLahti, 2000; Neto, 2001; OECD, 2016; 2019c; Vieno et al., 2009). With respect to the level of *self-efficacy–resilience*, considering the ad hoc research, we expect higher levels in the immigrant populations than the native students (OECD, 2019a; Güngör & Perdu, 2017). We will also explore any differences in *self-efficacy–resilience* between first- and second-generation immigrant students.

We believe that the results of this study could have an impact on the equality of opportunity, improvement in performance, and well-being in the educational environment, as it will allow the identification of intervention objectives that are more appropriate for immigrant students.

2. Method

2.1. Participants

In Spain –as in the vast majority of countries– the PISA sample design is two-stage, and stratified in the first stage, in which the sampling units are schools with students aged 15–16 at the time of assessment. Thus, schools are selected from a national list of eligible schools through systematic sampling, with probabilities of choice proportional to the size of the school (number of students in that age range). In the second stage of the sampling, students (from the schools chosen in the first stage) are selected from the center's full list of 15–16 year-old students. From the complete list of students, selection is made by random sampling in which each student has the same probability of being chosen (OECD, 2019c).

Therefore, the initial sample was made up of 35 943 Spanish students who participated in the PISA 2018 evaluation, as provided by

the official and public database from the OECD, who periodically (every three years) evaluate students' skills and competencies internationally. From that, we selected two immigrant student samples, according to the criteria used in PISA 2018: (1) *first-generation immigrant students*, both the student and their parents had been born in a different country from the one in which they took the test ($n = 2504$); (2) *second-generation immigrant students*, the student was born in the country in which they took the test but their parents were born in a different country ($n = 1608$). Subsequently, in order to avoid large size differences between the different sample groups, we made a random selection of around 10% of the native students ($n = 2987$), using the statistical program SPSS.

This meant that the overall sample was ultimately made up of 7099 students (49.5% girls, 50.5% boys). Two-thirds (67%) attended publicly-funded schools, and 32.7% attended privately-funded schools. The mean age of the participants was 15.83 years old ($SD = 0.29$). Of the overall sample, 42% ($n = 2987$) were native students, 35.3% ($n = 2504$) were first-generation immigrant students, and 22.7% ($n = 1608$) were second-generation immigrant students. Almost two-thirds (63.5%) of the students had not had to repeat a school year, of whom 51.4% were natives, 20.9% were second-generation immigrants, and 27.7% were first-generation. Of those who had repeated a school year (36.5% of the total), 48.3% were first-generation immigrant students, 25.9% were native students, and 25.8% were second-generation immigrants.

2.2. Variables and measures

Student well-being was evaluated using the four indicators considered central in PISA 2018 for the measurement of student well-being: (1) *satisfaction with life*: the extent to which students understand, give meaning, or find meaning in their lives (example item: “my life has a clear sense or purpose”) (3 items with Cronbach's alpha = .84). (2) *Positive affect*: the students were asked how they usually felt, and how often they felt that way. Indicators of *positive affect* were feeling happy, cheerful, and animated (3 items with Cronbach's alpha = .84). (3) *Self-efficacy-resilience*: the extent to which students believed in their own abilities to participate in certain activities and do specific tasks, especially in adverse circumstances (example item: “when I'm in a difficult situation, I can usually find a way out of it”) (5 items with Cronbach's alpha = .76). (4) *Sense of belonging to the school*: the extent to which students feel accepted, liked, connected to others, and part of a community (example item: “I feel part of the school”) (6 items with Cronbach's alpha = .85). All of the response options used a Likert-type scale with four possible alternatives (in some cases between “never” and “always”, and in others from “completely disagree” to “completely agree”).

To measure *performance in science competence* and *mathematics competence*, we used the results from the PISA 2018 report. This gives indicators of educational performance regularly in three areas: reading comprehension, mathematics and problem solving, and comprehension of scientific texts (OECD, 2019c). In this study we used the ten plausible values in science and mathematics from the PISA 2018 report. These values are obtained via an imputation methodology to estimate the level of student performance from the scores in the items (Gamazo, Martínez-Abad, Olmos-Migueláñez, & Rodríguez-Conde, 2018). In PISA 2018, mathematics competence was conceptualized as the students' ability to formulate, apply, and interpret mathematics in various contexts (OECD, 2019c). Science competence was conceived as the students' capacity to take an interest in scientific ideas and questions as thoughtful individuals. A scientifically competent person knows how to take part in reasoned discourse about science and technology to explain scientific phenomena, evaluate and design scientific research, and interpret data and scientific tests (OECD, 2019c).

2.3. Data analysis

In order to achieve our study aims, we performed a multivariate analysis of covariance (MANCOVA) with *immigration status* as an independent variable (with three levels: native students, first-generation immigrant students, and second-generation immigrant students) and the *student well-being indicators* and *performance in science and mathematics competency* tests as dependent variables. Since student well-being and performance can be closely related to other variables such as gender, age, and type of school (public or private), these variables were considered as covariates in the model (in order to statistically control their effect).

Table 1
Means, standard deviations, and correlation matrix.

	1	2	3	4	5	6	7	8	9
1.1.Gender	–								
2.2.Age	–.05*	–							
3.3.School type	–.00	–.00	–						
4.4.Perf. Mat. Comp.	.04*	.08*	.16*	–					
5.5.Perf. Scie. Comp.	.02	.06*	.14*	.81*	–				
6.6.Life Satisfaction	.06*	.00	.00	–.08*	–.10*	–			
7.7.Positive affect	.05*	–.03*	.00	.02	–.01	.35*	–		
8.8.Self-effic.-Resilien.	.05*	.01	.03*	.11*	.08*	.39*	.34*	–	
9.9.Sense of Sch. Bel.	.02	–.01	.04*	.09*	.06*	.19*	.31*	.25*	–
<i>M</i>	1.51	15.83	1.33	3.13	3.26	2.81	3.37	3.07	3.22
<i>SD</i>	0.5	0.28	0.47	1.05	0.83	0.71	0.54	0.48	0.57

Gender: 1 = Female, 2 = Male; Age: 15.33 (minimum), 16.33 (maximum); School type: 1 = public, 2 = private; Performance in mathematics and Performance in science: 1 (minimum), 5 (maximum); Life satisfaction, Positive affect, Self-efficacy-resilience, Sense of school belonging: 1 (minimum), 4 (maximum).

* $p < .05$.

Subsequently, in those covariates that showed a statistically significant effect with some of the dependent variables, it was found which levels of these variables (which were previously covariates) produced those significant differences in the dependent variables.

We used the partial eta-squared coefficient (η_p^2) to measure effect size as it is one of the most commonly-used procedures in educational research (e.g. Sun, Pan, & Wang, 2010). We used the criteria established in Cohen's (1988) classic study to interpret effect size, according to which an effect is small when $\eta_p^2 = 0.01$ ($d = 0.20$), it is moderate when $\eta_p^2 = 0.059$ ($d = 0.50$), and it is a large effect when $\eta_p^2 = 0.138$ ($d = 0.80$).

3. Results

3.1. Descriptive and correlational analysis

Table 1 shows the descriptive statistics (means and standard deviations), as well as the correlations between the dependent variables and the covariates referred to in this study. The highest correlations occur between the variables related to student well-being and also between performance in mathematical competence and performance in scientific competence.

3.2. Differences in performance in science and mathematics competence between native and immigrant students (controlling the effect of gender, age and school type)

Controlling the effect of gender, age, and type of school, the results showed statistically significant differences between the three groups in student performance ($\lambda_{\text{Wilks}} = 0.923$; $F_{(4,14184)} = 144.46$; $p < .001$; $\eta_p^2 = .039$). The effect size was small. Taking the variables individually, there were statistically significant differences between the three groups in *performance in mathematics competency* ($F_{(2,7093)} = 292.38$; $p < .001$; $\eta_p^2 = .076$) and in *performance in science competency* ($F_{(2,7093)} = 164.18$; $p < .001$; $\eta_p^2 = .044$). In both cases the effect size was moderate.

Post hoc (Scheffé) analysis indicated that the differences were significant between all of the groups and for both variables. Table 2 gives the descriptive statistics for each of the variables and each of the groups.

The native students demonstrated higher levels of mathematics and science competencies than either group of immigrant students. In addition, the first-generation immigrants had significantly lower scores than the other two groups, both in mathematics and science.

The covariable gender is significantly related to the two performance variables taken together ($\lambda_{\text{Wilks}} = .998$; $F_{(2,7092)} = 8.37$; $p < .001$; $\eta_p^2 = .002$). The effect size is small. When taking each of the variables individually, there are only statistically significant gender differences in performance in mathematical competence ($F_{(1,7093)} = 12.93$; $p < .001$; $\eta_p^2 = .002$). The size of the effect is small. On the other hand, there are no statistically significant gender differences in performance in scientific competence ($F_{(1,7093)} = 2.89$; $p = .089$; $\eta_p^2 = .000$). Statistically significant differences in performance in mathematical competence, according to gender, indicate that boys obtain noticeably higher scores ($M = 3.17$; $SD = 1.04$) than girls ($M = 3.09$; $SD = 1.06$). Age covariable is also significantly related to the two performance variables, taken together ($\lambda_{\text{Wilks}} = 0.991$; $F_{(2,7092)} = 31.93$; $p < .001$; $\eta_p^2 = .009$). The effect size is small. Looking at each variable individually, the results indicate that there are statistically significant differences, depending on age, in performance in mathematical competence ($F_{(1,7093)} = 62.52$; $p < .001$; $\eta_p^2 = .009$) and in performance in science competence ($F_{(1,7093)} = 31.56$; $p < .001$; $\eta_p^2 = .004$). The effect sizes are, in both cases, small. Thus, statistically significant differences in performance in mathematical competence and scientific competence, depending on age, indicate that older students get significantly higher scores ($M = 3.24$; $DT = 0.99$) than younger students ($M = 2.91$; $DT = 1.10$) in mathematical competence. In the same way, older students get significantly higher scores ($M = 3.32$; $DT = 0.81$) than younger students ($M = 3.11$; $DT = 0.85$) in performance in scientific competence.

The covariable of school type is significantly related to the two performance variables taken together ($\lambda_{\text{Wilks}} = 0.983$; $F_{(2,7092)} = 61.90$; $p < .001$; $\eta_p^2 = .017$). The effect size is small. As for the results for each variable, there are statistically significant differences, depending on the type of school, in performance in mathematical competence ($F_{(1,7093)} = 120.82$; $p < .001$; $\eta_p^2 = .017$) and in performance in scientific competence ($F_{(1,7093)} = 96.57$; $p < .001$; $\eta_p^2 = .013$). The effect sizes are small in both cases. Thus, statistically significant differences in performance in mathematical competence and scientific competence, depending on the type of school, indicate that students in private institutions score significantly higher in performance in mathematical competence ($M = 3.37$; $DT = 0.99$) than students from public schools ($M = 3.02$; $DT = 1.06$). Likewise, students in private institutions also score significantly higher

Table 2
Descriptive statistics for student performance for each of the three groups.

	Native (1)		Second-generation immigrants (2)		First-generation immigrants (3)		Significant Comparisons (Scheffé) Groups
	M	SD	M	SD	M	SD	
Performance in mathematics competence (a)	3.47	0.94	3.06	1.02	2.78	1.07	1–2 1–3 2–3
Performance in science competence (b)	3.46	0.79	3.20	0.82	3.04	0.84	1–2 1–3 2–3

Note. All of the variables used a scale where 1 = minimum and 5 = maximum.

in performance in scientific competence ($M = 3.42$; $DT = 0.80$) than students from public institutions ($M = 3.17$; $DT = 0.84$).

3.3. Differences in well-being between native and immigrant students (controlling the effect of gender, age and school type)

After controlling the covariate's effect of gender, age and school type, the results indicate that there are statistically significant differences between the three groups –natives, first-generation, and second-generation immigrants– in the mix of indicators of student well-being ($\lambda_{Wilks} = 0.980$; $F_{(8,14\ 180)} = 17.73$; $p < .001$; $\eta_p^2 = .010$). The effect size was small. Looking at each variable individually, there were no statistically significant difference between groups in *satisfaction with life* ($F_{(2,7093)} = 0.97$; $p = .377$; $\eta_p^2 = .000$). In contrast, there were statistically significant differences between the three groups in *positive affect* ($F_{(2,7093)} = 19.41$; $p < .001$; $\eta_p^2 = .005$), in *self-efficacy-resilience* ($F_{(2,7093)} = 11.22$; $p < .001$; $\eta_p^2 = .003$), and in a *sense of belonging* to the school ($F_{(2,7093)} = 63.15$; $p < .001$; $\eta_p^2 = .017$). In each case the effect size was small.

Post hoc (Scheffé) analysis suggested that native students had significantly higher scores than immigrant students in *positive affect*, *self-efficacy-resilience*, and *belonging to the school* (see Table 2). The results also indicate that second-generation immigrant students had higher scores in *positive affect* and a greater *sense of school-belonging* than first-generation immigrant students. The differences between the two generations of immigrant students in *self-efficacy-resilience* were not statistically significant. Table 3 shows the descriptive statistics for each of the variables for each group.

The gender covariate is significantly related to the well-being variables, taken together ($\lambda_{Wilks} = 0.995$; $F_{(4,7090)} = 8.14$; $p < .001$; $\eta_p^2 = .005$). The size of the effect is small. Considering each of the variables individually, there are statistically significant differences, according to gender, in the *satisfaction with life* ($F_{(1,7093)} = 24.90$; $p < .001$; $\eta_p^2 = .003$), *positive affect* ($F_{(1,7093)} = 14.30$; $p < .001$; $\eta_p^2 = .002$) and *self-efficacy-resilience* ($F_{(1,7093)} = 15.36$; $p < .001$; $\eta_p^2 = .002$). The size of the effect is small in all cases. There are no statistically significant differences, according to gender, in the *sense of belonging to the school* ($F_{(1,7093)} = 1.86$; $p = .172$; $\eta_p^2 = 0.000$). Statistically significant differences in *life satisfaction*, according to gender, indicate that boys obtain significantly higher scores ($M = 2.85$; $SD = 0.73$) than girls ($M = 2.76$; $SD = 0.70$). Also in *positive affect*, boys get significantly higher scores ($M = 3.39$; $SD = 0.55$) than girls ($M = 3.34$; $SD = 0.53$). Also in *self-efficacy-resilience*, boys have significantly higher scores ($M = 3.09$; $SD = 0.48$) than girls ($M = 3.04$; $SD = 0.48$).

The age covariate is not significantly related to *well-being* indicators taken together ($\lambda_{Wilks} = 0.999$; $F_{(4,7090)} = 2.14$; $p = .074$; $\eta_p^2 = .001$). If each variable is taken individually, the results indicate that there are also no statistically significant differences, according to age, in the *satisfaction with life* ($F_{(1,7093)} = 0.08$; $p = .776$; $\eta_p^2 = .000$), *positive affect* ($F_{(1,7093)} = 3.36$; $p = .067$; $\eta_p^2 = .000$), *self-efficacy-resilience* ($F_{(1,7093)} = 2.29$; $p = .130$; $\eta_p^2 = .000$) and *sense of school belonging* ($F_{(1,7093)} = 0.13$; $p = .722$; $\eta_p^2 = .000$).

The covariate type of center is also not significantly related to the well-being indicators taken together ($\lambda_{Wilks} = 0.999$; $F_{(4,7090)} = 1.95$; $p = .099$; $\eta_p^2 = .001$). In the results for each variable - individually taken-there are no statistically significant differences, depending on the type of center, in the *satisfaction with life* ($F_{(1,7093)} = 0.01$; $p = .919$; $\eta_p^2 = 0.000$), *positive affect* ($F_{(1,7093)} = 0.42$; $p = .518$; $\eta_p^2 = .000$) and *self-efficacy-resilience* ($F_{(1,7093)} = 1.99$; $p = .158$; $\eta_p^2 = .000$). However, there are statistically significant differences, depending on the type of center, in the *sense of school belonging* ($F_{(1,7093)} = 63.15$; $p < .001$; $\eta_p^2 = .017$), despite the fact that the effect size is small. Thus, statistically significant differences in the *sense of school belonging*, depending on the type of school, indicate that students in private schools have significantly higher scores ($M = 3.25$; $SD = 0.57$) than students in public schools ($M = 3.20$; $DT = 0.56$).

4. Discussion

Since 2010, and for the first time in its modern history, Spain has registered more migrant arrivals than departures (INE, 2018), which marks a turning point in the demographic transformation that the country must face. Because adolescents' well-being is related to patterns of health and behavior into adulthood (Currie et al., 2012; Patton et al., 2011), investing in improving adolescent

Table 3

Descriptive statistics on each of the student well-being indicators (for each of the three groups).

	Native (1)		Second-generation immigrants (2)		First-generation immigrants (3)		Significant Comparisons (Scheffé) Groups
	M	SD	M	SD	M	SD	
Satisfaction with life (a)	2.82	0.71	2.80	0.72	2.80	0.71	–
Positive Affect (b)	3.41	0.53	3.37	0.54	3.32	0.54	1–2 1–3 2–3
Self-Efficacy-Resilience (c)	3.10	0.46	3.05	0.51	3.04	0.49	1–2 1–3
Sense of School Belonging (d)	3.30	0.56	3.20	0.56	3.12	0.56	1–2 1–3 2–3

Note. All of the variables used a scale where 1 = minimum and 5 = maximum.

well-being could benefit society's quality of life and have a positive effect on the globalized, competitive economy (OECD, 2017a; 2019a).

In contrast to findings in other populations (Berry & Hou, 2017; Borraccino et al., 2018; Liebkind & JasinskajaLahti, 2000; Neto, 2001; Vieno et al., 2009), our results indicate that the extent to which students understand, give, or find *meaning in their lives* may be no different between immigrant students and native Spanish students. These results are still encouraging insofar as satisfaction with life, which contributes to better academic experience and performance, is a broad and wide construct (for instance, compared to *the feeling of belonging at school*), and for this reason could be linked with other factors, as cultural integration, the absence of discrimination, and the strengthening of ethnic identity (Berry & Hou, 2017; Chow, 2007; OECD, 2019c). This fact could make this variable less dependent on the school context itself.

In terms of a *feeling of belonging* at school, our results support our hypothesis, as the first-generation immigrant students had the lowest scores while the native students had the highest. Research has indicated that students reporting greater feelings of belonging at school tend to exhibit greater academic motivation, higher self-esteem, and more success (Goodenow & Grady, 1993; OECD, 2013; Sirin & Rogers-Sirin, 2004; Wang & Holcombe, 2010). In this context, the fact that second-generation immigrant students demonstrated a greater *sense of belonging at school* than their first-generation peers would imply a lower probability of them engaging in high-risk or antisocial behaviors, dropping out of school (Lee & Burkam, 2003; McWhirter, Garcia, & Bines, 2018; Slaten, Irby, Tate, & Rivera, 2015), and they would generally feel less dissatisfied with their lives (OECD, 2017b). When interpreting these results, it is important to consider variables described in other studies, such as identification with the culture and with the characteristics of social relations (Guerra et al., 2019; Álvarez-Valdivia et al., 2016), which may be key when it comes to explaining the *sense of belonging at school*.

Various studies have reported immigrant youth in some populations having higher levels of well-being than their native peers, in terms of low stress, positive emotions, and self-esteem (Dimitrova, 2011; Güngör & Perdu, 2017; Sam, Vedder, Liebkind, Neto, & Virta, 2008; Van Geel & Vedder, 2010). Although in our study we found lower *positive affect* in the first-generation immigrant students than their native peers, and also lower levels in the first-generation immigrant students than the group of second-generation immigrants (Borraccino et al., 2018; OECD, 2016; Soriano & Cala, 2018). Particular note should be taken of these results, as indicators of *positive affect* such as happiness and cheerfulness have been positively associated with motivation, self-efficacy, school engagement, and ultimately with academic performance (King, McInerney, Ganotice, & Villarosa, 2015; Mega, Ronconi, & De Beni, 2014; Pekrun, Goetz, Titz, & Perry, 2002; Weber et al., 2016). We can also confirm the need to include not only purely school variables (Anderman, 1999; Weber et al., 2016) in this analysis, but also factors from the socio-family environment (Lyubomirsky, King, & Diener, 2005).

With regard to *self-efficacy-resilience*, in contrast to our expectations, we found higher scores in the native Spanish students. It is possible that immigrant students reject challenging goals, and end up pushing themselves less, and persisting with difficulties for shorter times than their native peers who are more confident in their potential (see: Bandura, 1977; Bandura, 1999; OECD, 2013; Ozer & Bandura, 1990). Despite effective exposure to risks in terms of poverty or discrimination potentially being a breeding ground for the development of resilience (Ungar, 2008; 2010), it is likely that this interaction is mediated by personal and sociocultural factors. So, for example, perhaps beliefs about intelligence and one's own abilities (Hong, Chiu, Dweck, Lin, & Wan, 1999; Nussbaum & Dweck, 2008) or risk-reward assessments (Blackwell, Trzesniewski, & Dweck, 2007; Yeager et al., 2013) interfere in the decision to take on the academic, social, and emotional challenges involved in the process of adaptation in immigrant populations.

Students' academic achievement, as an indicator of performance and adaptation to the school context, takes on particular importance as a determinant of school failure and early school dropout (Martínez-Usarralde, Lloret-Catalá, & Céspedes Rico, 2017). In this regard, and as previous research suggested, native students demonstrated higher levels of mathematics and science skills (Esteban, 2019; García-Borrego, 2011; Goñi et al., 2018; Pereira-Casal et al., 2013; Schnell & Azzolini, 2015; Vaquera & Kao, 2012), while the first-generation immigrant students had significantly worse scores in both parameters (García-Borrego, 2011; Mera et al., 2014; Pereira-Casal et al., 2013; Schnell & Azzolini, 2015; Spörlein & Schlueter, 2018; Vaquera & Kao, 2012).

It is evident that research should be encouraged which examines the influence or mediating effect of a mix of socioeconomic and sociodemographic variables, including the students' countries of origin (Borraccino et al., 2018; Soriano & Cala, 2018), their age at arrival in their adopted country (Bausela-Herreras, 2017), native languages, teacher training, and the readiness of education systems (Esteban, 2019). These variables may help us to explain the differences found between native and immigrant students. In this regard for example, Bausela-Herreras (2017) suggested that the age of arrival in the adopted country could modulate the risk of the immigrant students performing worse than natives. Thus, although it is possible that those first-generation immigrants who arrive before the age of six will demonstrate better performance than those who arrive after the beginning of compulsory education, the association between the age on arrival and performance may be weaker than expected (Schnell & Azzolini, 2015).

There is an inescapable need for future research to explore the situation of immigrants studying in various education systems, in order to have a sound basis for the design of interventions aimed at reducing inequality. In fact, the results of this study already encourage the design of interventions aimed at improving *resilience-self-efficacy* among immigrant populations. Just as the design and implement of plans to improve the *sense of belonging at school* and *positive affect* for first-generation immigrants, not only from a particular or individual point of view, but also from a global, systematic and institutional perspective. So, looking more deeply at regional peculiarities of the acculturation process, and addressing the differences seen between first- and second-generation immigrants, along with gender differences, may make it easier to implement fair systems of access to sustainable education. Finally, the development of explanatory models that incorporate the complexity of migratory processes may also be consolidated as a line of research in the field of educational psychology.

Funding

This work was supported by the Spanish Ministry of Economy, Industry and Competitiveness. Projects EDU 2013-44062-P (MINECO) and EDU 2017-82984-P (MEIC).

Declaration of competing interest

The authors declare that they have no conflicts of interest.

References

- Álvarez-Valdivia, I. M., Schneider, B. H., & Villalobos, C. (2016). School adjustment and friendship quality of first-and second-generation adolescent immigrants to Spain as a function of acculturation. *Journal of Adolescent Research*, 31(6), 750–777. <https://doi.org/10.1177/0743558415592179>.
- Anderman, L. H. (1999). Classroom goal orientation, school belonging and social goals as predictors of students' positive and negative affect following the transition to middle school. *Journal of Research & Development in Education*, 32(2), 89–103. <https://psycnet.apa.org/record/1999-10018-002>.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4).
- Bandura, A. (1999). A sociocognitive analysis of substance abuse: An agentic perspective. *Psychological Science*, 10(3), 214–217. <https://doi.org/10.1111/1467-9280.00138>.
- Barbosa-Luna, A. E., Tristán, J. L., Tomás, I., Gonzáles, A., & López-Walle, J. M. (2017). Climas motivacionales, motivación autodeterminada, afectos y burnout en deportistas: Enfoque multinivel. *Acción Psicológica*, 14(1), 105–118. <https://doi.org/10.5944/ap.14.1.19266>.
- Bausela-Herreras, E. (2017). PISA 2012: Inmigración y etapa de llegada al Sistema Educativo Español. *Revista Costarricense de Psicología*, 36(1), 1–22. http://www.scielo.sa.cr/scielo.php?script=sci_arttext&pid=S1659-29132017000100001&lng=en&tlng=es.
- Berry, J. W., & Hou, F. (2017). Acculturation, discrimination and wellbeing among second generation of immigrants in Canada. *International Journal of Intercultural Relations*, 61, 29–39. <https://doi.org/10.1016/j.ijintrel.2017.08.003>.
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, 78(1), 246–263. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.884.9797&rep=rep1&type=pdf>.
- Borraccino, A., Charrier, L., Berchiappa, P., Lazzeri, G., Vieno, A., Dalmasso, P., et al. (2018). Perceived well-being in adolescent immigrants: It matters where they come from. *International Journal of Public Health*, 63(9), 1037–1045. <https://doi.org/10.1007/s00038-018-1165-8>.
- Chow, D. (2007). Sense of belonging and life satisfaction among Hong Kong adolescent immigrants in Canada. *Journal of Ethnic and Migration Studies*, 33(3), 511–520. <https://doi.org/10.1080/13691830701234830>.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd). Erlbaum.
- Crosnoe, R., & Turley, R. N. L. (2011). K–12 educational outcomes of immigrant youth. *The Future of Children*, 21(1), 129. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC555844/>.
- Currie, C., Zanotti, C., Morgan, A., Currie, D., De Looze, M., Roberts, C., & Barnekow, V. (2012). Social determinants of health and well-being among young people, 2012. In *Health policy for children and adolescents: 6. Health Behaviour in school-aged children (HBSC) study: International report from the 2009/2010 survey*. Copenhagen: WHO Regional Office for Europe.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542–575. <https://doi.org/10.1037/0033-2909.95.3.542>.
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology*, 54(1), 403–425. <https://doi.org/10.1146/annurev.psych.54.101601.145056>.
- Dimitrova, R. (2011). Children's social relationships in the Northern Italian school context: Evidence for the immigrant paradox. *Journal of Modern Italian Studies*, 16(4), 478–491. <https://doi.org/10.1080/1354571X.2011.593756>.
- Esteban, A. N. (2019). Estudio comparado del rendimiento académico del alumnado nativo e inmigrante en la Unión Europea en PISA 2015. *Journal of Supranational Policies of Education*, 9, 95–116. <https://doi.org/10.15366/jospoe2019.9.003>.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3122271/>.
- Gamazo, A., Martínez-Abad, F., Olmos-Migueláñez, S., & Rodríguez-Conde, M. J. (2018). Evaluación de factores relacionados con la eficacia escolar en PISA 2015. Assessment of factors related to school effectiveness in PISA 2015. A multilevel analysis. *Revista de Educación*, 379, 56–84. <http://www.educacionyfop.es/revista-de-educacion/en/dam/jcr:11b5dc5f-ed60-4d8c-92e5-83a2355c5fb2/03gamazo-pdf.pdf>.
- García-Borrego, I. (2011). La difícil reproducción de las familias inmigrantes ¿hacia la formación de un proletariado étnico español? *Papers. Revista de sociología*, 96(1), 55–76. <https://papers.uab.cat/article/download/v96-n1-garcia/280>.
- Goni, E., Ros, I., & Fernández-Lasarte, O. (2018). Academic performance and school engagement among secondary school students in accordance with place of birth, gender and age. *European Journal of Education and Psychology*, 11(2), 93–105. <https://doi.org/10.30552/ejep.v11i2.224>.
- Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education*, 62(1), 60–71. <https://doi.org/10.1080/00220973.1993.9943831>.
- Guerra, R., Rodríguez, R. B., Aguiar, C., Carmona, M., Alexandre, J., & Lopes, R. C. (2019). School achievement and well-being of immigrant children: The role of acculturation orientations and perceived discrimination. *Journal of School Psychology*, 75, 104–118. <https://doi.org/10.1016/j.jsp.2019.07.004>.
- Güngör, D., & Perdu, N. (2017). Resilience and acculturative pathways underlying psychological well-being of immigrant youth. *International Journal of Intercultural Relations*, 56, 1–12. <https://doi.org/10.1016/j.ijintrel.2016.10.005>.
- Hong, Y. Y., Chiu, C. Y., Dweck, C. S., Lin, D. M. S., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology*, 77(3), 588–599. <https://doi.org/10.1037/0022-3514.77.3.588>.
- Howard, S., & Johnson, B. (2000). What makes the difference? Children and teachers talk about resilient outcomes for children 'at risk. *Educational Studies*, 26(3), 321–337. <https://doi.org/10.1080/03055690050137132>.
- Instituto Nacional de Estadística [INE]. (2018). *Cifras de Población a 1 de enero de 2018-Estadística de Migraciones Año 2017- Datos Provisionales*. https://www.ine.es/prensa/cp_e2018.p.pdf.
- Instituto Nacional de Estadística [INE]. (2019). *España en cifras 2019*. https://www.ine.es/prodyser/espa_cifras/2019/16/index.html.
- Instituto Nacional de Estadística [INE]. (2020). *Cifras de Población (CP) a 1 de julio de 2019-Estadística de Migraciones (EM)- Primer semestre 2019- Datos provisionales* [Nota de prensa] https://www.ine.es/prensa/cp_j2019.p.pdf.
- Jung, E., & Zhang, Y. (2016). Parental involvement, children's aspirations, and achievement in new immigrant families. *The Journal of Educational Research*, 109(4), 333–350. <https://doi.org/10.1080/00220671.2014.959112>.
- King, R. B., McInerney, D. M., Ganotice, F. A., Jr., & Villarosa, J. B. (2015). Positive affect catalyzes academic engagement: Cross-sectional, longitudinal, and experimental evidence. *Learning and Individual Differences*, 39, 64–72. <https://doi.org/10.1016/j.lindif.2015.03.005>.
- Lauderdale, M. K., & Heckman, S. J. (2017). Family background and higher education attainment among children of immigrants. *Journal of Family and Economic Issues*, 38(3), 327–337. <https://doi.org/10.1007/s10834-017-9537-4>.
- Lee, V. E., & Burkam, D. T. (2003). Dropping out of high school: The role of school organization and structure. *American Educational Research Journal*, 40(2), 353–393. <https://files.eric.ed.gov/fulltext/ED458694.pdf>.

- Levels, M., Dronkers, J., & Kraaykamp, G. (2008). Immigrant children's educational achievement in western countries: Origin, destination, and community effects on mathematical performance. *American Sociological Review*, 73(5), 835–853. <https://doi.org/10.1177/000312240807300507>.
- Liebkind, K., & Jasinskaja-Lahti, I. (2000). Acculturation and psychological well-being among immigrant adolescents in Finland: A comparative study of adolescents from different cultural backgrounds. *Journal of Adolescent*, 15(4), 446–469. <https://doi.org/10.1177/0743558400154002>.
- López-Sala, A. M. (2007). *La política española de inmigración en las dos últimas décadas: Del asombro migratorio a la política en frontera y la integración. Inmigración en canarias. Contexto, tendencias y retos*. Fundación Pedro García Cabrera http://www.academia.edu/download/35635934/Articulo_Pedro_Garcia_Cabrera.pdf.
- López, M. R., & Sequera, S. M. (2013). Diferencias en el rendimiento educativo de nativos e inmigrantes en España. *Revista de Sociología de la Educación*, 6(1), 72–90. <https://dialnet.unirioja.es/descarga/articulo/5144602.pdf>.
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131(6), 803. <https://doi.org/10.1037/0033-2909.131.6.803>.
- Martínez-Usarralde, M. J., Lloret-Catalá, C., & Rico, M. C. (2017). What integration schools of immigrant students do: Indicators for good practices. *Pedagogía social. Revista Interuniversitaria*, (29), 41–54. <https://recyt.fecyt.es/index.php/PSRI/article/download/49010/33103>.
- Martin, A. J., & Marsh, H. W. (2006). Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools*, 43(3), 267–281. <https://doi.org/10.1002/pits.20149>.
- McWhirter, E. H., Garcia, E. A., & Bines, D. (2018). Discrimination and other education barriers, school connectedness, and thoughts of dropping out among Latina/o students. *Journal of Career Development*, 45(4), 330–344. <https://doi.org/10.1177/0894845317696807>.
- Mega, C., Ronconi, L., & De Beni, R. (2014). What makes a good student? How emotions, self-regulated learning, and motivation contribute to academic achievement. *Journal of Educational Psychology*, 106(1), 121131. <https://doi.org/10.1037/a0033546>.
- Mera, M. J., Martínez-Taboada, C., & Elgorriaga, E. (2014). Rendimiento académico, ajuste escolar e inteligencia emocional en adolescentes inmigrantes y autóctonos. *Boletín de Psicología*, 110, 69–82. https://www.academia.edu/download/36563367/Rendimiento_academico_ajuste_escolar_e_inteligencia_emocional_en_adolescentes_inmigrantes_y_autoctonos.pdf.
- Mostafa, T., Gambaro, L., & Joshi, H. (2018). The impact of complex family structure on child well-being: Evidence from siblings. *Journal of Marriage and Family*, 80(4), 902–918. <https://doi.org/10.1111/jomf.12456>.
- Motti-Stefanidi, F., Masten, A., & Asendorpf, J. B. (2015). School engagement trajectories of immigrant youth: Risks and longitudinal interplay with academic success. *International Journal of Behavioral Development*, 39(1), 32–42. <https://doi.org/10.1177/0165025414533428>.
- Neto, F. (2001). Satisfaction with life among adolescents from immigrant families in Portugal. *Journal of Youth and Adolescence*, 30(1), 53–67. <https://doi.org/10.1023/A:1005272805052>.
- Nussbaum, A. D., & Dweck, C. S. (2008). Defensiveness versus remediation: Self-theories and modes of self-esteem maintenance. *Personality and Social Psychology Bulletin*, 34(5), 599–612. <https://doi.org/10.1177/0146167207312960>.
- Organisation for Economic Co-Operation and Development [OECD]. (2013). *PISA 2012 results: Ready to learn (volume III): Students' engagement, drive and self-beliefs*. PISA, OECD Publishing. <https://doi.org/10.1787/9789264201170-en>.
- Organisation for Economic Co-Operation and Development [OECD]. (2015). Do teacher-student relations affect students' well-being at school? *PISA in Focus*, 50, 1–4. [https://www.oecd.org/pisa/pisaproducts/pisainfocus/PIF-50-\(eng\)-FINAL.pdf](https://www.oecd.org/pisa/pisaproducts/pisainfocus/PIF-50-(eng)-FINAL.pdf).
- Organisation for Economic Co-Operation and Development [OECD]. (2016). *PISA 2015 results (volume I): Excellence and equity in education*. PISA. OECD Publishing. <https://doi.org/10.1787/9789264266490-en>.
- Organisation for Economic Co-Operation and Development [OECD]. (2017a). *PISA 2015 assessment and analytical framework: Science, reading, mathematics, financial literacy and collaborative problem solving*. PISA. OECD Publishing. <https://doi.org/10.1787/9789264281820-en>.
- Organisation for Economic Co-Operation and Development [OECD]. (2017b). *PISA 2015 results (volume III): Students' well-being*. PISA. OECD Publishing. <https://doi.org/10.1787/9789264273856-en>.
- Organisation for Economic Co-Operation and Development [OECD]. (2019a). *PISA 2018 results (volume II): Where all students can succeed*. PISA. OECD Publishing. <https://doi.org/10.1787/b5fd1b8f-en>.
- Organisation for Economic Co-Operation and Development [OECD]. (2019b). *PISA 2018 results (volume III): What school life means for students' lives*. PISA. OECD Publishing. <https://doi.org/10.1787/acd78851-en>.
- Organisation for Economic Co-Operation and Development [OECD]. (2019c). *PISA 2018 assessment and analytical framework*. PISA. OECD Publishing. <https://doi.org/10.1787/b25efab8-en>.
- Ozer, E., & Bandura, A. (1990). Mechanisms governing empowerment effects: A self-efficacy analysis. *Journal of Personality and Social Psychology*, 58(3), 472–486. <https://doi.org/10.1037//0022-3514.58.3.472>.
- Patton, G., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B., et al. (2016). Our future: A lancet commission on adolescent health and wellbeing. *Lancet*, 387(10036), 2423–2478. [https://doi.org/10.1016/S0140-6736\(16\)00579-1](https://doi.org/10.1016/S0140-6736(16)00579-1).
- Patton, G. C., Tollit, M. M., Romaniuk, H., Spence, S. H., Sheffield, J., & Sawyer, M. G. (2011). A prospective study of the effects of optimism on adolescent health risks. *Pediatrics*, 127(2), 308–316. <https://doi.org/10.1542/peds.2010-0748>.
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research. *Educational Psychologist*, 37(2), 91–105. https://doi.org/10.1207/S15326985EP3702_4.
- Pereira-Casal, C. A., Santos-Rego, M. A., & Lorenzo-Moledo, M. D. M. (2013). Alumnos autóctonos y de origen inmigrante en PISA: Variables de rendimiento. *Revista Galego-Portuguesa de Psicoloxía e Educación*, 21(1), 95–109. https://ruc.udc.es/dspace/bitstream/handle/2183/12608/RGP_21_2013_art_7.pdf.
- Plunkett, S. W., Behnke, A. O., Sands, T., & Choi, B. Y. (2009). Adolescents' reports of parental engagement and academic achievement in immigrant families. *Journal of Youth and Adolescence*, 38(2), 257–268. <https://link.springer.com/article/10.1007/s10964-008-9325-4>.
- Ministerio de Educación y Formación Profesional. (2019). *Datos y cifras. Curso escolar 2019-2020*. <https://www.educacionyfp.gob.es/servicios-al-ciudadano/estadisticas/indicadores-publicaciones-sintesis/datos-cifras.html>.
- Rodríguez-Izquierdo, R. M. (2010). Éxito académico de los estudiantes inmigrantes. Factores de riesgo y de protección. *Educación XXI*, 13(1), 101–123. <http://e-spacio.uned.es/fez/eserv/bibliuned/EducacionXXI-2010-13-1-5050/Documento.pdf>.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069–1081. <https://doi.org/10.1037//0022-3514.57.6.1069>.
- Sam, D. L., Vedder, P., Liebkind, K., Neto, F., & Virta, E. (2008). Immigration, acculturation and the paradox of adaptation in Europe. *European Journal of Developmental Psychology*, 5(2), 138–158. <https://doi.org/10.1080/17405620701563348>.
- Santos-Rego, M. A., Godás-Otero, A., & Lorenzo-Moledo, M. (2012). El perfil del alumnado repetidor y no repetidor en una muestra de estudiantes españoles y latinoamericanos: Un estudio sobre los determinantes de sus logros académicos. *Estudios Sobre Educación*, 23, 43–62. <https://hdl.handle.net/10171/27635>.
- Schnell, P., & Azzolini, D. (2015). The academic achievements of immigrant youths in new destination countries: Evidence from southern Europe. *Migration Studies*, 3(2), 217–240. <https://doi.org/10.1093/migration/mnu040>.
- Sirin, S. R., & Rogers-Sirin, L. (2004). Exploring school engagement of middle-class African American adolescents. *Youth & Society*, 35(3), 323–340. <https://doi.org/10.1177/0044118x03255006>.
- Slaten, C. D., Irby, D. J., Tate, K., & Rivera, R. (2015). Towards a critically conscious approach to social and emotional learning in urban alternative education: School staff members' perspectives. *Journal for Social Action in Counseling & Psychology*, 7(1), 41–62. <https://doi.org/10.33043/JSACP.7.1.41-62>.
- Soriano, E., & Cala, V. C. (2018). School and emotional well-being: A transcultural analysis on youth in southern Spain. *Health Education*, 118(2), 171–181. <https://doi.org/10.1108/HE-07-2017-0038>.
- Spörlein, C., & Schlueter, E. (2018). How education systems shape cross-national ethnic inequality in math competence scores: Moving beyond mean differences. *PLoS One*, 13(3), Article e0193738. <https://doi.org/10.1371/journal.pone.0193738>.
- Suárez-Orozco, C., Gaytán, F. X., Bang, H. J., Pakes, J., O'Connor, E., & Rhodes, J. (2016). Academic trajectories of newcomer immigrant youth. *Developmental Psychology*, 46(3), 602. <https://doi.org/10.1037/a0018201>.

- Sun, S., Pan, W., & Wang, L. L. (2010). A comprehensive review of effect size reporting and interpreting practices in academic journals in education and psychology. *Journal of Educational Psychology*, 102(4), 989–1004. <https://doi.org/10.1037/a0019507>.
- Ungar, M. (2008). Resilience across cultures. *British Journal of Social Work*, 38(2), 218–235. <https://doi.org/10.1093/bjsw/bcl343>.
- Ungar, M. (2010). What is resilience across cultures and contexts? Advances to the theory of positive development among individuals and families under stress. *Journal of Family Psychotherapy*, 21(1), 1–16. <https://doi.org/10.1080/08975351003618494>.
- Van Geel, M., & Vedder, P. (2010). The adaptation of non-western and Muslim immigrant adolescents in The Netherlands: An immigrant paradox? *Scandinavian Journal of Psychology*, 51(5), 398–402. <https://doi.org/10.1111/j.1467-9450.2010.00831.x>.
- Vaquera, E., & Kao, G. (2012). Educational achievement of immigrant adolescents in Spain: Do gender and region of origin matter? *Child Development*, 83(5), 1560–1576. <https://doi.org/10.1111/j.1467-8624.2012.01791.x>.
- Vieno, A., Santinello, M., Lenzi, M., Baldassari, D., & Mirandola, M. (2009). Health status in immigrants and native early adolescents in Italy. *Journal of Community Health*, 34(3), 181–187. <https://doi.org/10.1007/s10900-008-9144-2>.
- Walsh, S. D., Kolobov, T., Raiz, Y., Boniel-Nissim, M., Tesler, R., & Harel-Fisch, Y. (2018). The role of identity and psychosomatic symptoms as mediating the relationship between discrimination and risk behaviors among first and second generation immigrant adolescents. *Journal of Adolescence*, 64, 34–47. <https://doi.org/10.1016/j.adolescence.2018.01.004>.
- Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal*, 47(3), 633–662. <https://doi.org/10.3102/0002831209361209>.
- Weber, M., Wagner, L., & Ruch, W. (2016). Positive feelings at school: On the relationships between students' character strengths, school-related affect, and school functioning. *Journal of Happiness Studies*, 17(1), 341–355. <https://doi.org/10.1007/s10902-014-9597-1>.
- Wigfield, A., Byrnes, J. P., & Eccles, J. S. (2006). Development during early and middle adolescence. In P. A. Alexander, & P. H. Winne (Eds.), *Handbook of educational psychology* (pp. 87–113). Lawrence Erlbaum Associates Publishers.
- Yeager, D. S., Trzesniewski, K. H., & Dweck, C. S. (2013). An implicit theory of personality intervention reduces adolescent aggression in response to victimization and exclusion. *Child Development*, 84(3), 970–988. <https://doi.org/10.1111/cdev.12003>.