

Article

Grade Retention, Academic Performance and Motivational Variables in Compulsory Secondary Education: A Longitudinal Study

Daniel Rodríguez-Rodríguez¹

¹ Universidad Europea de Canarias.

ARTICLE INFO

Received: December 21, 2021

Accepted: May 03, 2022

Keywords:

Academic self-concept

Goal orientation

Grade retention

Secondary education

ABSTRACT

Background: Grade retention in compulsory secondary education is a commonly adopted action when students have academic achievement problems, but research has shown conflicting results. This study analyzes the relationship of school retention with academic performance, academic self-concept and goal orientation. **Method:** A longitudinal design was carried out, with a representative sample (N = 1326) of secondary school students from the Canary Islands (Spain), randomly selected and evaluated for 18 months in four different waves. **Results:** The results showed the negative effects of grade retention on academic performance and motivational variables. The capacity of previous performance, academic self-concept and goal orientation to predict the grade retention from six months before was also shown. **Conclusions:** These findings show the ineffectiveness of this strategy for the academic development of students, which should lead to educational authorities rethinking its use.

Repetición de Curso, Rendimiento Académico y Variables Motivacionales en Educación Secundaria Obligatoria: un Estudio Longitudinal

RESUMEN

Antecedentes: La repetición de curso en educación secundaria obligatoria es una acción comúnmente adoptada cuando los estudiantes tienen problemas de rendimiento académico, pero las investigaciones han mostrado resultados contradictorios sobre la eficacia de esta medida. Este estudio analiza la relación de la repetición de curso con el rendimiento académico, el autoconcepto académico y la orientación a metas. **Método:** Se realizó un diseño longitudinal, con una muestra representativa (N = 1326) de estudiantes de secundaria de Canarias (España), seleccionados aleatoriamente y evaluados durante 18 meses en cuatro momentos temporales diferentes. **Resultados:** Los resultados mostraron los efectos negativos de la repetición de curso sobre el rendimiento académico y las variables motivacionales. También se demostró la buena capacidad del rendimiento previo, el autoconcepto académico y la orientación a metas para predecir la repetición de curso desde seis meses antes. **Conclusiones:** Estos hallazgos evidencian la ineficacia de esta estrategia para el desarrollo académico de los estudiantes, lo que debe llevar a un replanteamiento de su uso desde las administraciones educativas.

Palabras clave:

Autoconcepto académico

Orientación a meta

Repetición

Educación secundaria

Grade retention is a strategy that is commonly used when students do not demonstrate that they have achieved standardized minimum levels of knowledge or, at younger ages, when the student has demonstrated learning problems due to immaturity or poor social skills (Jimerson & Ferguson, 2007). In countries such as Spain, Belgium, Germany and Portugal, the use of grade retention is a frequent educational strategy, but in other countries such as Japan, Finland, Norway and South Korea grade retention is an extremely exceptional educational action (Choi et al., 2018). However, grade retention today continues to generate strong controversy. There is a body of research that points to the negative effects of grade retention. Retained students are more likely to fail in school, to see their academic self-concept diminished, and to be quickly demotivated due to good educational results (Peixoto et al., 2016). But, in recent years have proliferated research that have found positive effects of grade retention on students' educational development in countries such as Belgium and Germany (Lamote et al., 2014; Marsh et al., 2017). It is also important to note research that has shown that the risk of grade retention is not only determined by the academic performance of the students, but also by variables associated with their socio-family context such as socioeconomic level and immigrant background (Warren et al., 2014).

Academic self-concept is a collection of domain-specific self-perceptions and cognitive judgments of academic ability, and it is also a self-belief that reflects students past academic experiences (Ferla et al., 2009). There is scientific evidence that shows that a positive academic self-concept is a highly desirable goal to achieve good later academic performance, appropriate behaviors in school, academic effort and persistence, and long-term educational achievement (Chen et al., 2013; Marsh et al., 2018). Different cross-sectional investigations have been developed at the international level, which have shown the negative effects of retention on academic self-concept and its persistence over time (Martin, 2011). Some researchers have even found that, although the academic performance of retained students could have improved, they continued to show worse academic self-concept than the rest of the students, as happened with a sample of Hispanic students in the United States (Robles-Piña, 2011). But there is also another body of research that proposes that grade retention could have a positive effect on academic self-concept, because by staying in the same grade they will have new younger classmates and that presumably they will have a lower initial performance. It has been shown with German and Belgian students (Ehmke et al., 2010; Van Canegem et al., 2021).

The academic motivation of adolescent-age students can be highly variable. When students are motivated, they implement the necessary actions to achieve educational goals and this affects their good performance (Hornstra et al., 2017). From educational research, there has been quite a consensus in addressing the relationship between motivation and performance from the goal orientation theory (Pintrich & Schunk, 2006). On the one hand, investigations carried out on the effect of grade retention on the motivation of American students have shown a strong decrease after the adoption of this action, and those students take an estimated time of two years to regain their level of motivation before retention (Schwerdt et al., 2017). But, on the other hand, there is research that shows that grade retention could increase students' motivation if the educational strategy is applied correctly and their educational results improve, since

experiencing successful results and the feedback of having obtained positive results could increase their motivation, as Goos et al. (2013) found with Flemish students. It is remarkable that the effect of retention on the students' goal orientations has been a little addressed field of research. Regarding whether there is a difference between retained students and promoted students in their goal orientations, Peixoto et al. (2016) with Portuguese students found that the retained students had more unfavorable scores, since they showed greater avoidance and less orientation approach to learning. In a recent research done in Belgium, Ramos et al. (2021) identified that goal orientation had not predictive capacity as to whether students would repeat a grade.

Although many publications have considered the topic of grade retention, few studies have been carefully designed and have longitudinally evaluated its effects on academic performance and motivational variables (Battistin & Schizzerotto, 2019). But it is important to note that even among longitudinal investigations there has been no unanimity as to whether grade retention is a positive or negative action.

Ehmke et al. (2010) carried out a one-year longitudinal study with 9th grade German students. Their main results highlighted that there were no differences in performance in mathematics and science, between the retained and promoted students throughout the study period. Therefore, the achievement gap between the two groups did not decrease. And, regarding the influence of retention on academic self-concept, the authors found that the retained students had significantly improved their academic self-concept one year later. Lamote et al. (2014) found that in the short term, grade retention produced a slight improvement in academic self-concept, but in the long term there were no significant differences with the rest of the students, but there was a considerable decrease in the academic performance of the retained students with the over the years.

In contrast, in another longitudinal research, Klapproth et al. (2016) with Luxembourgish students found as the main finding that promoted students had a better long-term academic self-concept than retained students. Regarding the differences in academic performance, they reported that initially retained students had better scores than their classmates, but with the passage of school years there were no differences between both groups of students.

Marsh et al. (2017) also followed up German students during five academic years, from the beginning to the end of secondary education. They found that in mathematics, students who were repeating a grade had better results than their peers, which in turn improved their academic self-concepts. These researchers suggested that the positive effects on students' academic performance after retention could be because they are students who simply needed more time to acquire and master the content, and this strategy offered them this opportunity. But, for this, it was not only about giving them more time, but also giving them the necessary resources to truly master the subject within that extra time that retention supposes.

In other more recent research, Kretschmann et al. (2019) carried out a study over three years with German students. The results show a strong drop in the student's academic self-concept and learning motivation during the last months of the academic year, before the final school scores, in students who were subsequently proposed to repeat the grade. These worst scores were still observed after two years.

It is also noteworthy that in Spain the assessment of grade retention has been extensively studied using PISA data. Some characteristics that have been shown about retained students in Spain are the low educational level of the mother, the low job qualification of the father, the lower performance compared to non-repeating students and that first-generation immigrants have a higher probability of retaining than native students (Cordero et al., 2014; García-Pérez et al., 2014). Other studies have also warned that in our country these students are more likely to drop out of school, and that this approach has high social and economic costs with no positive consequences shown (Arroyo et al., 2019; Jerrim et al., 2021).

Due to the heterogeneity of results about if grade retention is a beneficial or detrimental action for students, it is necessary to develop longitudinal studies that show the effects of this educational strategy on academic performance and associated variables. Furthermore, to our knowledge, no longitudinal studies have been carried out on the effects of grade retention in Spain. In this line, the goals set for this research were 1) to analyze the evolution of academic performance, academic self-concept and goal orientations of the retained students; 2) to compare the scores of the retained students in academic performance, academic self-concept and goal orientations with the students of the same grade and 3) to check if the previous scores in academic performance, academic self-concept and the goal orientations have the ability to predict the grade retention.

Method

Participants

The selection of the sample was carried out with a random cluster sampling, taking the classroom as the sampling unit. 1463 students from 61 classes from 42 public education schools in Canary Islands (Spain) were chosen. There was a total of 137 students who were not included in the research, due to incorrect answers to the instruments, changes of educational center or due to abandonment of the research during the time it was carried out, so the final sample was 1326 students (675 boys and 651 girls) with a mean age = 13.20 years; $SD = .95$, at wave 1. For the first wave, the first two grades of secondary education were represented as follows: 729 (54.98%) students were 1st, 597 (45.02%) students were 2nd. There were no significant differences in the distribution of students according to their grade and gender $\chi^2_{(1)} = 1.40$, $p = .237$.

Of the total sample, after the evaluation in the second wave, 324 students (195 boys and 129 girls) were proposed to repeat the academic grade. The difference between boys (60.19%) and girls (39.81%) who were retained was statistically significant ($\chi^2_{(1)} = 14.77$, $p < .001$). Of the remaining 1002 students who promoted to the next grade, 480 were boys (47.90%) and 522 were girls (52.10%).

Instruments

Multidimensional Scale of Self-Concept AF5 (García & Musitu, 1999). Academic self-concept was measured with this scale, which has been validated and used with Spanish secondary education students (Fuentes et al., 2011; Reigal-Garrido et al., 2014). It has 6

items, with a range from 1 (totally disagree) to 10 (totally agree). The reliability of the scale with the study sample, using Cronbach's alpha, was .90.

School Goal Orientation Scale (Skaalvik, 1997). With this scale, goal orientations were measured. It comprises 21 items to assess four types of goal orientations: mastery approach-goals, mastery avoidance-goals, performance approach-goals and performance avoidance-goals. Responses range from 1 (never) to 5 (always). This scale has shown its good psychometric properties with Spanish secondary education students (Fernández et al., 2012; Suárez-Álvarez, et al., 2018). The reliability of the scale with the study sample, using Cronbach's alpha, was .84 for mastery approach-goals, .81 for mastery avoidance-goals, .82 for performance approach-goals, .82 for performance avoidance-goals and .83 for full scale.

School grades. The school grades of all the subjects were obtained from the corresponding report cards in each of the four waves and a grade point average (GPA) was elaborated. The range of grades that students can obtain is from 1 to 10 points, with a minimum of 5 points required to pass.

Family background. Family variables were evaluated with an ad hoc questionnaire that evaluated the following factors: father and mother's employment status (1 = unemployed, 2 = retired, 3 = self-employed, 4 = employed, 5 = civil servant), father and mother's educational level (1 = without qualification, 2 = compulsory secondary education, 3 = high school, 4 = vocational training, 5 = university studies) and the student's immigrant status (1 = born in Spain, 2 = born in another country).

Procedure

The management teams of 50 public secondary schools from Canary Islands (Spain) were contacted. Meetings were arranged with the directors and / or heads of studies of the selected educational centers. The research proposal was presented to them, and participation was finally agreed with 42. A total of 61 first and second secondary school classes were chosen from the 42 schools. Each teacher tutor of those classes was provided with an informed consent for the parents or legal representatives of each student. They were given a period of one week to be returned by the students to the tutor.

The present research included four measurement waves for eighteen months belonging to two academic years. The first, after the first evaluation, six months before the end of the first academic year (January), the second, at the end of the first academic year and promotion or retention for the following scholar year being proposed (June), the third, after finishing the first quarter of the second academic year of the research (January), and the fourth, at the end of the second scholar year (June). For the retained students, the comparisons in each of the waves were made with their classmates from the same grade.

The administration of the scales was carried out on each occasion by a psychologist, in a group manner in each class in a single session, during tutoring hours. The students were informed of the objective at the beginning of the research, the confidentiality of the data was guaranteed, and they were informed that participation was voluntary, and they could leave the study at any time.

Data analysis

Before carrying out the analyses on the academic performance of the retained and promoted students, a description of their family variables was made in wave 1. For this, contingency tables were done using chi-square and the corrected standardized residuals, adopting a confidence interval of .95, so values higher than 1.96 and lower than -1.96 were interpreted as significant.

Subsequently, longitudinal data analyses followed three strategies. In the first, the scores of the retained students in the four waves were compared. In the second, the comparison was made between the retained students and their classmates, in each of the four waves. It was based on same-grade comparisons (retained students vs. students in the same grade). Third, an attempt was made to determine the ability to predict that a student will be able to repeat a grade based on their GPA, academic self-concept and goal orientations six months before retention. For this, a binary logistic regression analysis was performed. The interpretation of the probability in the binary logistic regression is estimated using the statistic called *odd ratio (OR)*, which is interpreted as follows: $OR > 1$ indicates prediction in the positive sense, $OR < 1$ indicates prediction in the negative sense, while the value 1 indicates that there is no prediction. In addition, for the variable to be considered a predictor, it must have an associated level of significance equal to or less than .05 (De Maris, 2003). The *IBM SPSS 24* computer program was used to carry out the statistical analyzes. The normality of the data was verified and verified with the Kolmogorov-Smirnov test.

Results

First, the normality distribution of the data was verified with the Kolmogorov-Smirnov test ($p > .05$). As an initial analysis, the family variables of the students who repeated a scholar grade were compared with those who promoted. Statistically significant differences were obtained between both groups in the educational level of the mother ($\chi^2_{(4)} = 26.27, p = .000$) and the employment status of the father ($\chi^2_{(4)} = 12.52, p = .014$).

Regarding the father’s employment situation, in the group of retained students there was a higher percentage of unemployed parents and a lower percentage of retired parents (see Table 1).

According to mother’s educational level, in the group of retained students there was a higher proportion of mothers without qualification and a lower proportion with a university degree (see Table 2).

Regarding immigrant students, there were no significant differences with respect to students born in Spain in the proportion of students retained and promoted (see Table 3).

As shown in Table 4, to know the evolution of the retained students throughout the 18 months of study, Student t tests were performed for related samples, with the scores obtained in the 4 waves in GPA, academic self-concept and goal orientation.

The results showed that there were differences between the scores of wave 1 ($t_{323} = 9.14; p < .001$; Cohen’s $d = .27$) and wave 2 ($t_{323} = 9.09; p < .001$; Cohen’s $d = .26$) with respect to wave 3, which is the one that corresponds to the GPA obtained after three months of repeating the grade. Between wave 3 and wave 4, which correspond to the grades obtained during the retention, there were also significant differences ($t_{323} = 8.67; p < .001$; Cohen’s $d = -.23$). The students presented significant variations in academic self-concept between wave 1 and wave 2 ($t_{323} = 3249.60; p < .001$; Cohen’s $d = .38$), wave 1 and wave 3 ($t_{323} = 4236.47; p < .001$; Cohen’s $d = .51$) wave 1 and wave 4 ($t_{323} = 3734.11; p < .001$; Cohen’s $d = .46$), between wave 2 and wave 3 ($t_{323} = 1143.59; p < .001$; Cohen’s $d = .13$) and wave 2 and wave 4 ($t_{323} = 662.15; p < .001$; Cohen’s $d = .07$). For the mastery approach-goals, all possible comparisons between the 4 waves were significant ($p < .001$) with medium and large effect sizes, with Cohen’s d scores from .63 to .84. In contrast, for mastery avoidance-goals, none of the comparisons was statistically significant ($p > .05$). For the performance approach-goals, the only difference that was not statistically significant was the comparison between wave 3 and wave 4 ($p > .05$), corresponding to temporary moments of grade retention. Cohen’s d values ranged from .20 to .42 corresponding small effect sizes. Finally, for the performance avoidance-goals, all comparisons between the different waves were significant ($p < .001$) with small effect sizes, with Cohen’s d scores from -.04 to -.30.

Table 1.
Employment situation of the parents.

Group		Father's employment status					Mother's employment status				
		Employed	Self-employed	Civil servant	Unemployed	Retired	Employed	Self-employed	Civil servant	Unemployed	Retired
Retained	n	180	57	30	57	0	165	42	15	93	9
	%	55.55%	17.59%	9.27%	17.59%	0%	50.92%	12.97%	4.63%	28.71%	2.77%
Promoted	n	564	192	87	132	27	480	147	72	288	15
	%	56.28%	19.19%	8.68%	13.16%	2.69%	47.90%	14.67%	7.19%	28.75%	1.49%
Corrected residuals		.23	.62	-.31	-1.97	2.98	-.94	.76	1.61	.01	-1.50

Table 2.
Educational level of parents.

Group		Father's educational level					Mother's educational level				
		Secondary education	Vocational training	High School	University	Without qualification	Secondary education	Vocational training	High School	University	Without qualification
Retained	n	130	60	75	35	24	106	57	102	29	30
	%	40.13%	18.52%	23.15%	10.80%	7.40%	32.71%	17.58%	31.47%	8.94%	9.30%
Promoted	n	347	204	207	151	93	320	150	306	184	42
	%	34.63%	20.35%	20.66%	15.07%	9.29%	31.93%	14.97%	30.54%	18.37%	4.19%
Corrected residuals		-1.79	.72	-.95	1.80	1.03	-.26	-1.13	-.31	4.01	-3.50

Table 3.
Immigrant status.

Group		Country of birth	
		Spain	Other
Retained	n	283	41
	%	87.35%	12.65%
Promoted	n	896	106
	%	89.42%	10.58%
Corrected residuals		1.03	-1.03

Table 4.
Evolution of the retained students.

Variables	Wave 1		Wave 2		Wave 3		Wave 4	
	M	SD	M	SD	M	SD	M	SD
GPA	4.54	1.29	4.53	1.37	4.18	1.37	4.49	1.37
Academic self-concept	6.59	1.42	6.05	1.42	5.86	1.42	5.94	1.42
Mastery approach-goals	3.7	1	3.06	1	2.95	.99	2.86	.98
Performance approach-goals	3.66	.96	3.47	.98	3.3	.98	3.26	.98
Mastery avoidance-goals	3.12	1.17	3.16	1.17	3.27	1.17	3.35	1.17
Performance avoidance-goals	3.15	1.26	3.19	1.26	3.35	1.26	3.53	1.26

Student *t* tests were performed for independent samples, with the scores obtained in the 4 waves of the retained and the promoted students. All the grouped results can be seen in Table 5.

Regarding the GPA, in the four waves it was statistically superior in favor of the students of the same course in which the retained students were found. In the case of academic self-concept, the differences between both groups in the four waves were also significant. ($p < .001$). Comparisons in the mastery approach-goals were significantly lower in the students retained in waves 2, 3 and 4 but not in wave 1 ($p > .05$). Regarding the mastery avoidance-goals, the statistically significant differences ($p < .001$) between both groups of students occur in waves 3

Table 5.
Comparison of retained and promoted students in GPA, academic self-concept and goal orientations.

Variables compared between promoted and retained students	Wave 1			Wave 2			Wave 3			Wave 4		
	<i>t</i>	Effect size	SE									
GPA	23.89***	1.53	.08	23.02***	1.45	.09	28.99***	1.82	.09	26.62***	1.67	.09
Academic self-concept	7.26***	.49	.09	14.77***	1	.09	18.24***	.45	.09	18.70***	1.27	.09
Mastery approach-goals	1.63	.02	.06	5.43***	.35	.06	6.79***	.43	.06	9.43***	.61	.06
Mastery avoidance-goals	1.52	.10	.07	0.03	-.01	.07	-3.91***	-.26	.07	-5.43***	-.37	.07
Performance approach-goals	3.60***	.25	.06	4.59***	.32	.06	9.76***	.67	.06	11.60***	.79	.06
Performance avoidance-goals	-1.27	-.09	.08	-2.84**	-.19	.08	-4.53***	-.31	.08	-7.26***	-.49	.08

Note. *** $p < .001$; ** $p < .01$

Table 6.
Binary Logistic Regression. Predictive variables of grade retention.

	<i>B</i>	SE	Wald	<i>p</i>	OR	CI 95%
GPA	-1.40	.091	235.799	.000	.247	.21 - .29
Academic self-concept	-.264	.077	11.935	.001	.870	.69 - 1.08
Mastery approach-goals	-.231	.077	9.095	.003	.874	.69 - 1.07
Performance approach-goals	-.539	.118	21.031	.000	.583	.46 - .73
Mastery avoidance-goals	.179	.099	3.288	.070	1.836	1.69 - 2.01
Performance avoidance-goals	.577	.103	31.264	.000	1.780	1.45 - 2.18
Constant	4.835	.584	68.469	.000	125.827	

Note. B = coefficient; SE = standard error; p = probability; OR = odds ratio; CI = confidence interval at 95%.

and 4, with scores that are also higher for the group of retained students. These waves are those corresponding to the following measurements after being retained. In the four waves, the promoted students had significantly higher scores ($p < .001$) that retained students in performance approach-goals. For the performance avoidance-goals, the differences between both groups were in wave 2 ($p < .01$) and in waves 3 and 4 ($p < .001$). Therefore, in the first wave there were no significant differences between retained and promoted students.

A binary logistic regression analysis was performed to check the probability of predicting grade retention from students' scores in wave 1 (before the evaluation that dictated if they would be retained from the grade).

The fit of the model was determined with the Hosmer and Lemeshow test ($p = .305$), with a result that showed an adequate fit. Regarding the classification capacity of the model, a correct classification of 82.4% of the students has been achieved. Therefore, for at least four out of every five students it is possible to correctly predict if they will be retained from the grade from the next predictor variables: GPA, academic self-concept, mastery approach-goals, performance approach-goals and performance avoidance-goals (see Table 6). Likewise, the Nagelkerke coefficient obtained a value $R^2 = .632$, which indicates that the variables explain an important part of the variance.

From the OR associated with each predictor variable included in the model, it is observed that an increase of one point in the GPA reduces the probability of grade retention by 75%, the increase of one point in academic self-concept reduces it by 13%, an increase of one point in mastery approach-goals reduces it by 12.6%, an increase of one point in performance approach-goals reduces it by 41.7%, and a decrease of one point in performance avoidance-goals reduces it by 17.8%.

Discussion

The present study had mainly three objectives. First, to analyze longitudinally in students with grade retention of secondary education their evolution in academic performance, academic self-concept and goal orientations. Second, to compare the scores of the retained students in academic performance, academic self-concept and goal orientations with the students of the same grade. And third, to check if the previous scores in academic performance, academic self-concept and the goal orientations could predict the grade retention.

About the difference in variables of the family context in the retained and promoted students, some disparities were found. The mothers of the retained students had a lower educational level, and the employment situation of their fathers was worse than that of the promoted students. Along these lines, it has been argued that students from disadvantaged social and family contexts, in which there is a higher proportion of parents who are unemployed or have a lower educational level, tend to be over-represented in retained students, mainly because socioeconomic circumstances of the family determine available resources for investments in the human capital formation of children, and students who grow up in disadvantaged socioeconomic backgrounds are more exposed to psychosocial risk factors that harm their school results (Acacio-Claro et al., 2018). One of the results to be highlighted in this study is that there was not a higher proportion of immigrant students who were repeating a grade, since generally the literature in this field shows that they tend to have lower performance and repeat more than native students, mainly because they are conditioned by a lower socioeconomic level (Cordero et al., 2014; Warren et al., 2014). But, Álvarez-Sotomayor et al. (2018) found with PISA data that Canarias was the only autonomous community where immigrant students did not present a lower performance than native students. This was explained by the fact that in the Canary Islands the results in PISA were below the national average and that it was the region of Spain with the lowest socioeconomic inequality between immigrants and natives (Martínez, 2016). Both circumstances together mean that there are no differences in the performance, which is in line with the results found in this study that there is not a higher proportion of retained immigrant students.

Regarding the goals set for the longitudinal research, results with important educational implications were found. About the first objective, it was found that grade retention was not positive for any of the variables analyzed. In the case of academic performance, after finishing the grade they were repeating, the student's GPA had not shown any improvement. Also, on the first post-retention assessment, their GPA had dropped significantly. The academic self-concept was clearly disadvantaged. In each of the evaluations their score decreased significantly in this group of students. Finally, regarding goal orientations, the trend was similar. The mastery approach and the performance approach had significantly decreased after the passage of eighteen months. For the avoidance orientations, in the case of mastery avoidance it did not have any variation over time, and in performance avoidance there was a significant increase in its average, its rise being more pressing after the grade retention. These results are not entirely consistent with previous longitudinal studies. For example, Ehmke et al. (2010), with a representative sample of 9th grade German

students found that academic self-concept of retained students was higher one year after retention. Or, in the case of academic performance, Klapproth et al. (2016) found that grade retention did improve the performance of affected Luxembourgish students in the short term, but not in the long term. In contrast, in the research by Kretschmann et al. (2019) did not find any positive effect on the academic self-concept of students after retention. These differences suggest that the generalization of results about the effect of grade retention on the educational development of students should be treated with caution. In the case of retained Luxembourgish students, the authors found less psychosocial affectation compared to the present research with Spanish students, which could be one of the reasons for the difference in academic performance after grade retention between students from both countries.

Respect the second goal, it was found that promoted students had better scores for their academic and educational development compared to the retained students with whom they shared grade. In academic performance, academic self-concept and performance approach-goals, in the four waves the retained students had lower scores than their classmates. In mastery approach-goals, initially both groups started with similar scores, but already at the end of the first academic year (wave 2) there were differences, the values being worse in the retained students. In the avoidance orientations, there were almost similar patterns. In mastery avoidance-goals, the scores between both groups were similar in the first academic year of evaluation (waves 1 and 2), but after being retained, there were differences in the evaluations corresponding to the retention academic year (waves 3 and 4), with higher scores and therefore more maladaptive for the retained students. In the case of performance avoidance-goals, both groups had similar scores on wave 1, but in the next three measurements the values were higher in the retained students. These results follow the logic that academic performance, academic self-concept and goal orientation are directly related, influencing each other, as has been highlighted in the scientific literature in this field (Chen et al., 2013; Peixoto et al., 2016). But, despite this, it is not considered in pedagogical practices to improve the educational situation of retained students. It is therefore observed that these students not only do poorly academically before being retained, but that their motivational patterns are clearly detrimental to their school achievements. This was also found in other research, developed by Kretschmann et al. (2019), who detected that before the grade retention there had already been a strong decrease in the students in its variables such as academic self-concept and learning motivation.

Regarding the third goal, it was found that there were two variables with a greater capacity to predict grade retention, academic performance and performance approach-goals, followed by a second group of predictors, performance avoidance-goals, academic self-concept and mastery approach-goals. These results are of interest, since they allow acting with a preventive approach on grade retention. Research in this area has focused on the consequences after retention, and not on prediction or prevention. That previous academic performance was the main predictor of school retention was expected (Ramos et al., 2021), but the finding of the importance of the predictive capacity of other variables such as academic self-concept and goal orientation is noteworthy. Mastery approach-goal proved to have a more prominent role than the other motivational factors, which may be

paradoxical, since it is known that this goal orientation decreases throughout adolescence (Scherrer et al., 2020). Without a doubt, educational practices should try to prevent this from happening and try to reinforce adaptive patterns of goal orientation. Although no research has been found that evaluates this relationship from the point of view of the predictive capacity of academic self-concept on grade retention, there is a large body of knowledge that has studied the positive bidirectional relationship between both (Marsh et al., 2018). So, it was expected that if the academic self-concept was higher, the probability of repeating a grade would be lower. This result emphasizes the importance of academic self-concept in the good educational development of students.

The heterogeneity that occurs between the results obtained in different longitudinal research with retained students from different countries suggests that the positive (Marsh et al., 2017) and negative (Kretschmann et al., 2019) consequences that grade retention may have, are not generalizable between different educational systems (Pagani et al., 2001). It may be that the social and cultural connotations surrounding this strategy, other associated complementary actions, or the teacher training itself, is playing a determining role in explaining that the identical strategy, in the same educational stage, shows such disparate results in longitudinal studies.

Research like this shows the detrimental effects of being retained in secondary education, and should lead to a rethinking and change of educational policies. Its generalized application in students with low academic performance, to whom the grade retention is applied, does not have any positive effect, at least not with Spanish students. In addition, the educational proposals after the COVID pandemic (and especially lockdown) times must be especially careful, trying to reduce the possible educational inequities generated, which could be amplified for students who repeat a grade (Salvador-Mata & Cortiñas-Rovira, 2022).

Consequently, with the results obtained, pedagogical alternatives should be considered for students at academic risk other than grade retention. One of the proposals that are carried out in other countries, such as Italy or Israel, is that students who at the end of the grade do not reach the minimum contents set, must take compulsory remedial grades during the summer, with exams at the end of them, which allow them to promote their grade. It would be interesting to incorporate this action into the Spanish educational context. In these grades, in addition to the properly academic content, variables of a motivational nature should be worked, such as academic self-concept and goal orientations, given the importance they have for good school performance. Other research has proposed that instead of grade retention, tutoring, mentoring, multi-age classroom or extended learning time programs be developed for low-achieving students. In any case, if the grade retention is finally chosen as an exceptional action, teachers should be informed of the possible decrease in academic self-concept and motivation towards learning and performance, so that they can develop preventive strategies to avoid it.

The limitations of the research must be considered. First, it is worth highlighting the disparity in the number of students between the group of retained students (24.43%) and promoted students (75.57%). In future research, an effort should be done so that the selection of the sample is more balanced, with a similar proportion of both groups of students, necessitating for this to include more

retained students from different educational centers. Second, longitudinal follow-ups throughout secondary education of the students should also be valued in future research, monitoring their performance and scores on motivational variables. Third, the application of self-report instruments may limit the veracity of the results. The inclusion of observation scales or deep interviews would make it possible to confirm the information collected about academic self-concept and goal orientation. Fourth, although our study includes data from a large Spanish adolescent sample that was selected randomly, the results should be taken with precaution because the sample consisted of schools from a single region, Canary Islands, which has socioeconomic and cultural characteristics differentiated. Finally, future studies may examine other variables associated with academic performance, specifically about teachers and the school context.

References

- Acacio-Claro, P., Doku, D., Koivusilta, L., & Rimpelä, A. (2018). How socioeconomic circumstances, school achievement and reserve capacity in adolescence predict adult education level: A three-generation study in Finland. *International Journal of Adolescence and Youth*, 23(3), 382-397. <https://doi.org/10.1080/02673843.2017.1389759>
- Álvarez-Sotomayor, A., Gutiérrez-Rubio, D., & Martínez-Cousinou, G. (2018). The academic disadvantage of children of immigrants revisited: The Canary Islands as an exception within the Spanish context. *RES. Revista Española de Sociología*, 27(1), 83-106. <https://doi.org/10.22325/fes/res.2018.5>
- Arroyo, D., Constante, I. A., & Asensio, I. (2019). Debate on grade repetition: an empirical study from PISA 2015. *Educación XXI*, 22(2), 69-92. <https://doi.org/10.5944/educXXI.22479>
- Battistin, E., & Schizzerotto, A. (2019). Threat of grade retention, remedial education and student achievement: evidence from upper secondary schools in Italy. *Empirical Economics*, 56, 651-678. <https://doi.org/10.1007/s00181-018-1443-6>
- Chen, S., Yeh, Y., Hwang, F., & Lin, S. S. J. (2013). The relationship between academic self-concept and achievement: A multicohort-multioccasion study. *Learning and Individual Differences*, 23, 172-178. <https://dx.doi.org/10.1016/j.lindif.2012.07.021>
- Choi, A., Gil, M., Mediavilla, M., & Valbuena, J. (2018). Predictors and effects of grade repetition. *Revista de Economía Mundial*, 48, 21-42.
- Cordero, J. M., Manchón, C., & Simancas, R. (2014). Repetition and explanatory factors in Spain. *Revista de Educación*, 365, 12-37. <https://dx.doi.org/10.4438/1988-592X-RE-2014-365-263>
- De Maris, A. (2003). Logistic regression. In J. A. Schinka, & W. F. Velicer (Eds.), *Research methods in psychology* (pp. 509-532). John Wiley & Sons.
- Ehmke, T., Drechsel, B., & Castensen, C. (2010). Effects of grade retention on achievement and self-concept in science and mathematics. *Studies in Educational Evaluation*, 36(1-2), 27, 35. <https://doi.org/10.1016/j.stueduc.2010.10.003>
- Ferla, J., Valcke, M., & Cai, Y. (2009). Academic self-efficacy and academic self-concept: Reconsidering structural relationships. *Learning and Individual Differences*, 19, 499-505. <https://doi.org/10.1016/j.lindif.2009.05.004>
- Fernández, A., Anaya, D., & Suárez-Álvarez, J. (2012). Motivation features and motivational self-regulatory strategies in the middle school students. *Revista de Psicodidáctica*, 17(1), 95-111.

- Fuentes, M. C., García, J. F., Gracia, E., & Lila, M. (2011). Self-concept and psychosocial adjustment in adolescence. *Psicothema*, 23(1), 7-12.
- García, F., & Musitu, G. (1999). *AF5: Autoconcepto Forma 5* [AF5: Form 5 Self-Concept]. TEA Ediciones.
- García-Pérez, J., Hildalgo-Hidalgo, M., & Robles-Zurita, A. (2014). Does grade retention affect students' achievement? Some evidence from Spain. *Applied Economics*, 46(12), 1373-1392. <https://dx.doi.org/10.1080/00036846.2013.872761>
- Goos, M., Van Damme, J., Onghena, P., Petry, K., & de Bilde, J. (2013). First-grade retention in the Flemish educational context: Effects on children's academic growth, psychosocial growth, and school career throughout primary education. *Journal of School Psychology*, 51, 323-347. <https://dx.doi.org/10.1016/j.jsp.2013.03.002>
- Hornstra, L., Majoor, M., & Peetsma, T. (2017). Achievement goal profiles and developments in effort and achievement in upper elementary school. *British Journal of Educational Psychology*, 87, 606-629. <https://doi.org/10.1111/bjep.12167>
- Jerrim, J., Lopez-Agudo, L. A., & Marcenaro-Gutierrez, O. D. (2021). Grade retention and school entry age in Spain: a structural problem. *Educational Assessment, Evaluation and Accountability*, 1-29. <https://doi.org/10.1007/s11092-021-09375-7>
- Jimerson, S. R., & Ferguson, P. (2007). A longitudinal study of grade retention: academic and behavioral outcomes of retained students through adolescence. *School Psychology Quarterly*, 22(3), 314-339. <https://doi.org/10.1037/1045-3830.22.3.314>
- Klapproth, F., Schaltz, P., Brunner, M., Keller, U., Fischbach, A., Ugen, S., & Martin, R. (2016). Short-term and medium-term effects of grade retention in secondary school on academic achievement and psychosocial outcome variables. *Learning and Individual Differences*, 50, 182-194. <https://doi.org/10.1016/j.lindif.2016.08.014>
- Kretschmann, J., Vock, M., Lüdtke, O., Jansen, M., & Gronostaj, A. (2019). Effects of grade retention on students' motivation: A longitudinal study over 3 years of secondary school. *Journal of Educational Psychology*, 111(8), 1432-1446. <https://doi.org/10.1037/edu0000353>
- Lamote, C., Pinxten, M., Van Den Noortgate, W., & Van Damme, J. (2014). Is the cure worse than the disease? A longitudinal study on the effect of grade retention in secondary education on achievement and academic self-concept. *Educational Studies*, 40, 496-514. <https://dx.doi.org/10.1080/03055698.2014.936828>
- Marsh, H. W., Pekrun, R., Murayama, K., Arens, A., Parker, P., Guo, J., & Dicke, T. (2018). An integrated model of academic self-concept development: academic self-concept, grades, test scores, and tracking over 6 years. *Developmental Psychology*, 54(2), 263-280. <https://doi.org/10.1037/dev0000393>
- Marsh, H. W., Pekrun, R., Parker, P. D., Murayama, K., Guo, J., Dicke, T., & Lichtenfeld, S. (2017). Long-term positive effects of repeating a year in school: Six-year longitudinal study of self-beliefs, anxiety, social relations, school grades, and test scores. *Journal of Educational Psychology*, 109(3), 425-438. <https://dx.doi.org/10.1037/edu0000144>
- Martin, A. J. (2011). Holding back and holding behind: grade retention and students' non-academic and academic outcomes. *British Educational Research Journal*, 37, 739-763. <https://doi.org/10.1080/01411926.2010.490874>
- Martínez, A. (2016). Naturalizations in Spain: integration indicator and strategy against the crisis. *Migraciones*, 39, 3-37. <https://doi.org/10.14422/mig.i39y2016.001>
- Pagani, L., Tremblay, R. E., Vitaro, F., Boulerice, B., & McDuff, P. (2001). Effects of grade retention on academic performance and behavioral development. *Development and Psychopathology*, 13, 297-315. <https://doi.org/10.1017/S0954579401002061>
- Peixoto, F., Monteiro, V., Mata, L., Sanches, C., Pipa, J., & Navas, L. (2016). "To be or not to be retained... That's the question!" Retention, self-esteem, self-concept, achievement goals, and grades. *Frontiers in Psychology*, 7, Article 1550. <https://doi.org/10.3389/fpsyg.2016.01550>
- Pintrich, P. R., & Schunk, D. H. (2006). *Motivation in educational contexts. Theory, research and applications*. Pearson Educación.
- Ramos, A., De Fraine, B., & Verschueren, K. (2021). Learning goal orientation in high-ability and average-ability students: Developmental trajectories, contextual predictors, and long-term educational outcomes. *Journal of Educational Psychology*, 113(2), 370-389. <https://doi.org/10.1037/edu0000476>
- Reigal-Garrido, R. E., Becerra-Fernández, C. A., Hernández-Mendo, A., & Martín-Tamayo, I. (2014). Relationships of self-concept with physical fitness and body composition in a sample of adolescents. *Anales de Psicología*, 30(3), 1079-1085. <https://doi.org/10.6018/analeps.30.3.157201>
- Robles-Piña, R. (2011). Depression and self-concept: personality traits or coping styles in reaction to school retention of Hispanic adolescents. *Depression Research and Treatment*, 2011, Article 151469. <https://doi.org/10.1155/2011/151469>
- Salvador-Mata, B., & Cortiñas-Rovira, S. (2022). The education institution in the face of the COVID-19 crisis: an accelerated transition towards the technological society of control. *Culture and Education*. Advance online publication. <https://doi.org/10.1080/11356405.2022.2033448>
- Scherrer, V., Preckel, F., Schmidt, I., & Elliot, A. (2020). Development of achievement goals and their relation to academic interest and achievement in adolescence: A review of the literature and two longitudinal studies. *Developmental Psychology*, 56(4), 795-814. <https://doi.org/10.1037/dev0000898>
- Schwerdt, G., West, M. R., & Winters, M. A. (2017). The effects of test-based retention on student outcomes over time: Regression discontinuity evidence from Florida. *Journal of Public Economics*, 152, 154-169. <https://doi.org/10.1016/j.jpubeco.2017.06.004>
- Skaalvik, E. M. (1997). Self-enhancing and self-defeating ego orientation: Relations with task and avoidance orientation, achievement, self-perceptions, and anxiety. *Journal of Educational Psychology*, 89(1), 71-81. <https://doi.org/10.1037/0022-0663.89.1.71>
- Suárez-Álvarez, J., Fernández-Alonso, R., & Zamora, A. (2018). Academic goals in relation to motivational self-regulation value strategies. *Revista Electrónica de Investigación Educativa*, 20(2), 15-24. <https://doi.org/10.24320/redie.2018.20.2.1689>
- Van Canegem, T., Van Houtte, M., & Demanet, J. (2021). Grade retention and academic self-concept: A multilevel analysis of the effects of schools' retention composition. *British Educational Research Journal*, 47(5), 1340-1360. <https://doi.org/10.1002/berj.3729>
- Warren, J. R., Hoffman, E., & Andrew, M. (2014). Patterns and trends in grade retention rates in the United States, 1995-2010. *Educational Researcher*, 43, 433-443. <https://dx.doi.org/10.3102/0013189X14563599>