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Second grade retention: Beliefs, decision-making styles, and factors involved in the decision process

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Abstract

Grade retention decisions are high-risk because this practice can significantly affect students' academic and professional path and their socioaffective development. This study aimed to contribute to a better understanding of second-grade retention decision-making by exploring the factors the professionals consider during the retention decision-making, their beliefs about the effectiveness of grade retention, and their cognitive decision-making style. The study sets in Portugal, where second-grade retention is a common practice. One hundred ninety-four teachers answered an online questionnaire developed for this purpose. Path analysis results suggested that teachers' beliefs and decision-making styles served as a filter, defining what factors they consider relevant or not to make grade retention decisions. Intuitive experiences seem to inform teachers' grade-retention decisions, especially when they believe retention is essential for students' success.

KEYWORDS

decision-making process, decision-making style, grade retention, primary education, teachers' beliefs

Practitioner points

- Teachers considered up to 12 factors when deciding whether to retain or promote a second-grade student.

- Teachers' decisions are shaped by their beliefs and intuitive experiences, influencing the factors they consider relevant during the decision process and, ultimately, the decision to retain or not a student.
- Intuitive experience informs teachers' retention decisions by maintaining their beliefs in the effectiveness of grade retention and guiding the factors considered during the decision-making.

1 | INTRODUCTION

Grade retention is the practice or strategy for remediating learning or developmental delays that require a student to repeat a school year rather than progressing to the next with their peers (Driessen, 2020; European Commission, 2020). The goal is to offer the student an extra year to develop the skills and knowledge necessary to deal successfully with learning in the following years (Driessen, 2020). However, international research indicates that, on average, grade retention has no effect (negative or positive) in promoting struggling students' success (Goos et al., 2021). Still, grade retention effects can differ under specific circumstances, like retention outcome timing or the outcome domain (Goos et al., 2021). For example, considering studies focused on primary and secondary education, grade retention seems to have more positive effects on students' psychosocial functioning, when investigating short-run effects, and when comparing repeaters with younger nonretained grade mates (Goos et al., 2021). On the other hand, grade retention effects were significantly more negative when retention was applied as "mere rehearsal" (i.e., not coupled to additional remedial measures) when investigating long-term effects—like school career and later job career—and when retained students are compared with their similarly struggling agemates who got promoted to the next grade (Goos et al., 2021).

Consequently, the decision to retain a student in the first grades of education is complicated and highly risky (Cannon & Lipscomb, 2011; Goos et al., 2021; Vanlommel et al., 2017). It is a high-risk decision because it can negatively affect students' academic and professional careers, although it might have some positive effects when accompanied by additional remedial measures (Goos et al., 2021). Likewise, it is a complicated decision due to the diversity and complexity of factors that can be considered from the academic, cognitive, and socioaffective characteristics of students to parents and school psychologist involvement and school resources (Greene & Winters, 2007; Schnurr et al., 2009; Vanlommel et al., 2017).

Grade retention is possible in most European countries, and basic regulations are similar (European Commission, 2020). Still, rates of retention vary significantly between countries. In some countries, such as Luxembourg, Spain, Belgium, and Portugal, this practice is widespread, and up to 25% of 15-year-old students were held back at least once in their school career, according to Program for International Student Assessment data from 2018 (Organization for Economic Co-operation and Development—OECD, 2020). In Portugal specifically, the percentage of retained students was 26.6% (Organization for Economic Co-operation and Development—OECD, 2020). By contrast, in other countries (e.g., Estonia, Poland, Norway, Iceland, or Slovenia), retention is infrequent or exceptionally applied (<5% of 15-year-old students were retained during their school career). In most European countries, teachers are the primary mediators in grade retention decision-making (European Commission, 2020). However, there is little information on the decision-making process, especially on the teachers' role in this decision (Fabian & Scharenberg, 2021; Schnurr et al., 2009; Vanlommel et al., 2017).

The present study aimed to contribute to this area by exploring the relationship between three aspects involved in the decision-making of second-grade retention: (1) the factors the professionals consider during the retention decision-making, (2) their beliefs about the effectiveness of grade retention, and (3) the cognitive

decision-making style they use during grade retention decisions. The study sets in Portugal. In this country, primary education is organized in cycles. The first cycle covers the first 4 years/grades of schooling. Most schools seek pedagogical continuity, that is, for the same lead teacher to accompany the same group of students throughout the 4 years of the cycle. According to the legislation (Decreto-Lei [DL] 55/2018), first-grade students cannot be retained. Retention can occur exceptionally in the nonterminal years of the cycle (second and third grade) if the student does not develop the skills and knowledge necessary for the following school year's learning (Portaria, 233–A/2018). Still, grade retention is common, particularly in second grade, where retention rates reach 8% (PORDATA, 2022). In four-grade, since it is the last year of the cycle, there is a certification process of the students' learning. Students are retained if they have unsatisfactory grades in Portuguese and Mathematics or one of these subjects and two additional subjects like Arts or Sciences (Portaria, 223-A/2018). The grade retention decision is mainly based on the appreciation of a single teacher, the lead classroom teacher (DL 55/2018). However, the teachers' council's opinion must be consulted during grade retention decisions (Portaria, 223-A/2018).

1.1 | Grade retention effects

Despite the abundant research in the area, the effectiveness of grade retention remains controversial due to the contradictory results found in international research. Goos et al. (2021) performed a meta-analysis of 84 methodologically sound studies (i.e., studies that used an experimental design or quasi-experimental methods with a credible control group) estimating the effects of retention in grades K-12. Of these studies, 51 ($n = 794$ effects) estimated retention effects in grades 1–6 (primary education). Based on Goos et al. (2021) data, an analysis of the estimated retention effects indicated that, on average, retention during primary education benefits students' academic achievement ($g = 0.17$) when compared to a credible[1] control group of peers of the same grade. These results indicate that repeaters' academic achievement, at the cost of one extra year of education, improves compared to the younger students with whom they will eventually graduate (Goos et al., 2021). Still, it has adverse effects when compared with peers of the same age who had similar difficulties and were not retained ($g = -0.21$), indicating that they would have developed better if they had been promoted to the next grade instead of being held back (Goos et al., 2021).

According to data from Goos et al. (2021), grade retention can have minor beneficial impacts (i.e., enhancing students' academic abilities) in the short term ($g = 0.08$). Still, it can be harmful or detrimental to students' achievement in the long term ($g = -0.13$), and students are more likely to be retained again in subsequent years and not completing compulsory education ($g = -0.07$). Additionally, retention during the first years of education also seems to negatively affect students' socioaffective functioning (academic self-concept, classroom behavior, school well-being, socioemotional skills, and relationship with peers) ($g = -0.09$) (Goos et al., 2021). Therefore, the potential benefits (i.e., improvements in students' academic success compared to their younger peers) seem weak compared to the possible long-term consequences (i.e., diminishment of academic motivation and well-being and a higher chance of school drop-out and nonentry into tertiary education).

Some authors suggest that the effects of retention may also vary depending on how the decision is made (Goos et al., 2021; Greene & Winters, 2007; Santana, 2019). However, most studies do not describe why students were retained, possibly due to various factors that can be considered in this process (Greene & Winters, 2007). There is little information on the decision-making process and especially on the role of teachers in this decision (Fabian & Scharenberg, 2021).

[1]Studies included in the meta-analysis of Goos et al. (2021) needed to provide proofs of equivalence of the experimental group and the control group on a considerable amount of observed background characteristics so the groups be considered credible comparable.

1.2 | Factors considered during grade retention decisions

The international literature states that some students' characteristics are more relevant than others when making retention decisions (Bonvin, 2003; Tomchin & Impara, 1992). Among these characteristics, academic performance intervenes, but not only and not always as the main reason (Bonvin, 2003; Marcoux & Crahay, 2008). The aspects consistently considered to be the most important in decision-making for retaining students from preschool to second grade are academic performance, students' maturity, intellectual ability, students' effort, and self-esteem (Bonvin, 2003; Cannon & Lipscomb, 2011; Marcoux & Crahay, 2008; Range et al., 2012; Renaud, 2013; Tomchin & Impara, 1992; Young & Range, 2014; Young et al., 2019). Teachers sometimes also consider students' family involvement and support (Renaud, 2013; Young et al., 2019). Students who are not at grade level in math, reading, or writing, who are immature, who show low self-esteem and motivation, or who do not get support at home are more considered for grade retention (Byrnes, 1989; Martinez-Hicks et al., 2015; Tomchin & Impara, 1992; Young & Range, 2014; Young et al., 2019). Academic achievement, according to Marcoux and Crahay (2008), was only another factor supporting teachers' judgment during decision-making. Other factors like autonomy in managing school tasks, the pace of work, motivation, and commitment to learning were also taken into account (Marcoux & Crahay, 2008). In Portugal, teachers pointed to difficulties in learning to read as the main reason for resorting to the practice of retention in the second grade (Rodrigues et al., 2017), but also mentioned parental support and students' effort and maturity as factors to considerate during the decision process (Rodrigues et al., 2017; Santana, 2019). What seems decisive is a set of perceptions of the student's adjustment/misadjustment concerning what is expected of him in terms of his classroom participation, general attitude, and academic performance (Marcoux & Crahay, 2008).

1.3 | Grade retention beliefs

In any decision-making performed by a teacher, a wide range of aspects interact (Borko et al., 2008; Shavelson & Stern, 1981). According to Shavelson and Stern's (1981) decision-making framework, in any decision, teachers integrate information about students, curriculum content, the school, and the classroom context, filtering this information through their beliefs until reaching a decision on which to base their practices. Beliefs are conceptual representations of what is accepted as true about objects, people, events, concepts, their characteristics, and relationships (Fives & Buehl, 2012). These beliefs are reinforced by culture, experience, and training (Usó-Doménech & Nescolarde-Selva, 2016). One of the reasons pointed out by researchers for the use of retention by teachers is their beliefs in the effectiveness of the practice (European Commission, 2011; Goos et al., 2013). Most primary teachers have positive beliefs regarding retention, considering that it effectively prevents student failure and is essential when the student is considered immature (Bonvin, 2003; Crahay et al., 2013, 2014; Ribeiro et al., 2018; Tomchin & Impara, 1992). In Portugal, retention is considered a natural procedure that promotes learning (CNE—Conselho Nacional de Educação, 2015) with more advantages than disadvantages (Rodrigues et al., 2017), being more effective the earlier it is performed (Santos & Monteiro, 2021).

Fives and Buehl (2012) suggest that beliefs can guide teachers' decision-making and serve as information filters, influencing how teachers interpret new information and experiences. For example, Vanlommel et al. (2017) observed that beliefs about retention effectiveness were more relevant in the decision-making process than the information collected about the students or the research evidence of retention effectiveness. Some information was rejected if it did not meet the teacher's beliefs (Vanlommel et al., 2017). In Portugal, Santos and Monteiro (2021) observed that teachers who retained more students in the second grade had more positive beliefs regarding the effectiveness of retention (Santos & Monteiro, 2021). In fact, research have shown that teacher beliefs about grade retention predict their their grade retention practices (Bonvin, 2003),

particularly when their colleagues share their beliefs (Santos et al., 2023). Additionally, Bonvin (2003) found that teachers who valued performance as the best decision-making criterion tended to have more positive attitudes toward retention.

1.4 | Decision-making styles

In addition to beliefs, the selection of information and its interpretation can be affected by the cognitive processes used by the teachers (Shavelson & Stern, 1981) and, more specifically, by the decision-making style (Hamilton et al., 2016; Vanlommel et al., 2016). Teachers with similar beliefs may make different decisions depending on their cognitive decision-making style (Vanlommel et al., 2016). Teachers with intuitive style make decisions mainly through instinctive, affective, and quick processes, relying mainly on their beliefs and experience, while teachers with rational style, on the contrary, make decisions through a slow, organized, and deliberate process guided by rules (Hamilton et al., 2016; Vanlommel et al., 2016).

Several studies indicate that humans make decisions based on both rational and intuitive processes (Harteis et al., 2008; Kahneman, 2013; Vanlommel et al., 2018). Intuitive information processing is advantageous in recognizing the most critical data for decision-making, which is essential in the complex educational context (Vanlommel, 2018). Still, it can lead to bias when professionals ignore relevant data that question their assumptions (Kahneman, 2013; Vanlommel et al., 2018). Research indicates that the rational style is more consistently associated with better performance outcomes than intuition (Alaybek et al., 2021; Phillips et al., 2016). Decisions that do not consider systematically and rationally collected data, with predefined criteria, data triangulation techniques, and an active search for other alternatives may generate biases in teachers' judgments (Schildkamp et al., 2017; Vanlommel et al., 2018) with profound implications for students' academic path.

The decision-making style may determine the number of factors considered in the decision-making process (Hamilton et al., 2016). Individuals with a rational style try to identify as many factors and alternatives as possible before making any decisions (Hamilton et al., 2016), gathering a greater variety of information about each option (Vanlommel et al., 2016). Individuals with a more intuitive style tend to consider only a limited number of factors and are less motivated to use more objective data, relying more on their intuition and experience (Hamilton et al., 2016; Vanlommel et al., 2016).

Few studies have assessed the decision-making style used in making grade retention decisions. The study conducted by Vanlommel et al. (2017) indicates that during the decision of first-grade retention, teachers collect and interpret information mainly through an intuitive process, especially about the socioaffective aspects of the students, such as effort or motivation. Rational processes are primarily used to collect performance information. However, it is the intuitive experience that underlies teachers' retention decisions, especially when they consider retention necessary and essential for students' success, even ignoring objective data, such as test scores, if they contradict their beliefs (Vanlommel et al., 2017).

1.5 | Present study

The study of teachers' beliefs is justified by its functions as interpretation filters and actions guides, allowing one to understand teachers' cognitions, knowledge and practices, and cognitive decision-making process (Bakshi, 2023; Fives & Buehl, 2012). Because teachers often hold beliefs that are inconsistent with research recommendations, studying the evolution, manifestation, and modification of teachers' beliefs is particularly important in educational sciences (Johnson & Howell, 2009). It is often necessary to conceptually modify teachers' beliefs to incorporate educational practices currently considered most effective by research, including those related to school retention, inclusive education, pedagogical differentiation, and cooperative teaching (Johnson & Howell, 2009). In the specific

case of retention, some authors argue that the decision to retain a student is highly subjective, as it largely depends on the teacher's personal beliefs (European Commission, 2011; Ferreira et al., 2015; Goos et al., 2013; Pouliot & Potvin, 2000). This could be especially true if teachers use an intuitive decision-making style during their grade retention decision-making process, as Vanlommel et al. (2017) qualitative study suggests. However, to our knowledge, previous research has not quantitatively examined the decision-making styles of teachers in a large sample, so it is important to understand the overall trends in teachers' decision-making styles and their relationships with their beliefs as well as the factors they consider during second-grade decision-making process.

Therefore, the present study aimed to explore the relationship between three aspects involved in the decision-making of second-grade retention in Portugal: (1) the factors the professionals consider during the retention decision-making, (2) their beliefs about the effectiveness of grade retention, and (3) the cognitive decision-making style they use during grade retention decisions. We focused this study on decision-making in the second grade because it has the highest retention rates in the first cycle in Portugal (between 3% and 8% for 2020/2021, depending on the Region—PORDATA, 2022). It is also the first year this practice is allowed, and since it is mainly based on the appreciation of a single teacher, the grade retention decision is more vulnerable to bias. Consequently, it is more fundamental in these first years of schooling to identify possible sources of bias and improve the quality of the retention decision. Studying teachers' beliefs and decision-making styles regarding retention may be essential for improving their pedagogical practices and developing initial and continuing training programs, reducing the use of this pedagogical practice which does not seem to be a great facilitator of learning (Goos et al., 2021).

We intended to answer the following research exploratory questions: (1) What factors are considered by teachers when deciding on second-grade retention? (2) What are teachers' beliefs about the effectiveness of second-grade retention? (3) What decision-making style do teachers use in the decision of second-grade retention? (4) What is the relationship between teachers' beliefs, their decision-making style, the factors teachers consider during retention decisions, and the number of students retained by teachers the last time they taught second grade?

2 | MATERIALS AND METHODS

2.1 | Participants

The target population under study included all first-cycle teachers in the Autonomous Region of Madeira (RAM), Portugal, comprising principals, lead classroom teachers, specific subjects' teachers, support teachers, and special education teachers. According to data from the Regional Directorate of Statistics of Madeira (Direção Regional de Estatística da Madeira, 2022), for the year 2020/2021, there were 1454 teachers (1218 in public education and 236 in private education). After approval by the Research Ethics Committee of ISPA-Instituto Universitário and the Regional Directorate of Education of RAM, the directors of all schools in the Region (86 schools, 65 public and 21 private) were asked to share with the teachers of an online questionnaire. The questionnaire was preceded by an introductory note in which we described the study's goals, the confidentiality of the answers, the request for voluntary collaboration, and the declaration of informed consent. One hundred ninety-four teachers agreed to participate and completed the grade retention beliefs questionnaire and the rational and intuitive decision styles scale (DSS). Table 1 displays the description of the sample. Compared to the population, there was an overrepresentation of female teachers ($\chi^2(1) = 13.67$, $p < .001$) and private schools' teachers ($\chi^2(1) = 6.75$, $p < .009$), and an underrepresentation of teachers who were more than 60 years old ($\chi^2(4) = 12.21$, $p = .016$) (See Supporting Information S1: material).

TABLE 1 Sample and population characteristics.

Characteristics	*Min.*	*Max.*	*M*	SD
Age	26	68	44.60	7.24
Professional experience (years)	0	41	20.54	8.02
Seniority at school (years)	0	30	11.37	7.24
	n	%		
Sex				
Female	152	78.4		
Male	16	8.2		
Missing	26	13.4		
Age				
<30 years	4	2.1		
30–39	29	14.9		
40–49	97	50.0		
50–59	24	12.4		
>60 years	8	4.9		
Missing	32	16.5		
Teaching occupation				
Lead classroom teachers	165	85.1		
Specific subjects teachers	10	5.2		
Support teachers	4	2.1		
Special education teachers	4	2.1		
Principals	10	5.2		
Qualifications				
Degree	137	70.6		
Postgraduation	13	6.7		
Master	17	8.8		
PhD	1	0.5		
Missing	26	13.4		
Type of school				
Public	148	76.3		
Private	46	23.7		
Region				
Rural (village)	25	12.9		
Suburban (small town)	94	48.5		
Urban (city)	75	38.7		

TABLE 2 Scales characteristics.

Scale	Goodness of fitness	Likert scale	Dimensions	N.° items	Item example	ω
Teachers' grade retention beliefs	$\chi^2(59) = 107.55$, $p < .001$; CFI = 0.979; TLI = 0.972; RMSEA = 0.065, p = .101	1—Total disagreement to 6—total agreement	Socioaffective risks	3	Grade retention affects students' self-esteem	0.78
			Effectiveness for preventing failure	6	For a retained student, returning to study the subjects of the previous year is generally beneficial to their school learning	0.90
	RMSEA = 0.065, $p = .101$					
			Effectiveness for regulating students' behavior and motivation	4	Knowing that they can repeat the year motivates students to study more	0.83
Decision styles scale	$\chi^2(34) = 49.70$, $p = .040$; CFI = 0.989; TLI = 0.986;	1—Total disagreement to 6—total agreement	Rational style	5	I weigh several different factors when making grade retention decisions	0.82
	RMSEA = 0.049, $p = .499$		Intuitive style	5	I prefer to draw conclusions based on my professional experience	0.70
Factors considered during grade retention decision-making	$\chi^2(97) = 158.87$, $p < .001$; CFI = 0.931; TLI = 0.914;	0—No important to 10—very important	Achievement	3	Reading achievement	0.83
					Writing achievement	
	RMSEA = 0.058, $p = .197$		Maturity	3	Maturity/general development; Attention	0.74
			Especial education	2	Intelligence; Especial education needs	0.74
			Socioaffective	8	Effort; Motivation; Socioemotional competence	0.89

Abbreviations: CFI, comparative fit index; RMSEA, root mean square error of approximation; TLI, Tucker–Lewis index.

2.2 | Instruments

The online questionnaire included a scale to assess teachers' beliefs about grade retention effectiveness based on the Portuguese translation of the Développement Apprentissage et Intervention en Situation Scolaire team's retention beliefs questionnaire (Ribeiro et al., 2018). Santos and Monteiro (2021) and Santos et al. (2023) tested this scale in the Portuguese population, observing good structural validity and reliability indicators. In Table 2, we present scale characteristics, reliability indicators (omega index, ω), and structural validity (chi-square [χ^2], comparative fit index—CFI, Tucker–Lewis index—TLI, and root mean square error of approximation—RMSEA) for the present sample. Additionally, a list of 18 factors was included for respondents to rate the importance of each one for making second-grade retention decisions. Factors included were selected based on Bonvin's (2003) and Tomchin and Impara's (1992) studies (see Table 2). See Supporting Information S1: material for further details.

To assess teachers' decision-making style used in grade retention decisions, we adapted the DSS (Hamilton et al., 2016). Since a person's decision style is both a function of the situation and their general decision-making styles tendencies (Thunholm, 2004; Voss et al., 2022), we adapted the DSS to incorporate the grade retention decision situation in the questionnaire (See Supporting Information S1: material). The factor analysis performed with the present sample identified the exact dimensions observed by Hamilton et al. (2016) (see Table 2).

Finally, the teachers answered a sociodemographic questionnaire that allowed us to collect information regarding sex, age, academic qualifications, functions performed at the school, experience as a teacher, and seniority in their school. Teachers were also asked about the number of students they retained the last time they were second-grade lead classroom teachers and if they believed their colleagues agreed with grade retention practices (1 = strongly disagree to 6 = strongly agree).

2.3 | Data analysis

After validating the scales through confirmatory factor analysis and confirming the reliability of the measures, the total score of each dimension was calculated (mean of the items). We also count the number of factors each teacher considered important (classified with six or more on the Likert scale). A descriptive analysis of the collected data was performed, and measures of central tendency (Mean [*M*]) and dispersion (minimum [*Min*], maximum [*Max*], standard deviation) were calculated. Person's (*r*) and Spearman's (r_s) correlation coefficients were calculated to observe the relationship between variables. We employed a Path Analysis to test our theoretical model using Mplus 8.4 with the diagonally weighted least squares estimator, the PROBIT function, and the complex survey data option available in the Mplus software, with teachers clustered in school to account for schools' variability. The default Mplus procedure handled missing data (0.04%), that is, full information maximum likelihood, where the missingness is allowed to be a function of the observed covariates but not the observed outcomes (Muthén & Muthén, 1998–2017).

In our theoretical model, based on Shavelson and Stern's (1981) decision-making framework, teachers' beliefs about grade retention and decision-making styles were specified as predictors of the factors' importance considered during grade retention decision-making. Teachers' professional and sociodemographic characteristics (sex, qualification, professional experience, school location, and type of school) were also included as control variables. We used the following indices and minimum criterion, for the assessment of the model's fit: χ^2 small (relative to the degrees of freedom) or nonsignificant *p* value; CFI and TLI higher than 0.90; and RMSEA and standardized root mean residual (SRMR) lower than 0.08 (Hair et al., 2014). Structural coefficients' significance was evaluated with Z-tests produced by the Mplus software, and an overall significance level of 0.05 was used. To make the model parsimonious, we removed all nonsignificant paths that did not affect the model's fit or predictive power.

3 | RESULTS

3.1 | Teachers' retention practices and factors considered during decision-making

According to teachers' answers, the last year they were second-grade lead classroom teachers, most teachers did not retain students (n = 95, 55.2%). Still, almost half of the teachers retained one student (n = 37, 21.5%) or more than one student (n = 40, 23.3%).

Table 3 shows that, on average, teachers considered up to 12 factors when deciding whether to retain or promote a second-grade student. Factors related to student achievement, especially reading performance, were the most relevant for decision-making. Most teachers agree these factors were important at some level (assessed with an importance of six or more—See Supporting Information S1: material). Still, factors related to maturity were also considered relevant (especially the ability to work independently and their general development). Other factors considered relevant were students' effort, attendance, and motivation. There was less agreement about the importance of other factors like students' special education needs, self-confidence, socioemotional skills, or behavioral problems (see Supporting Information S1: material).

3.2 | Grade retention beliefs

Grade retention beliefs' descriptive characteristics are presented in Table 3. The values were distributed along the entire scale range, indicating a significant variability in teachers' beliefs. On average, teachers disagreed slightly that retention might have socioaffective risks for students. On the contrary, they agreed that it could effectively prevent failure. They did not seem to agree or disagree with the effectiveness of retention as an external regulator of students' behavior and motivation, presenting an average value in this dimension close to the midpoint of the scale (3.5). On average, teachers agreed that their colleagues approve grade retention practices.

3.3 | Teachers' decision-making styles

In Table 3, we also can observe that teachers, on average, consider that their retention decision followed a more rational and less intuitive style. We observe that the minimum value reported on the rational style scale is 3, so almost all teachers agree on using the rational style. In the intuitive style scale, we observe that almost the entire range of the scale is used, indicating a more significant variability in the use of this style.

3.4 | Relationship between grade-retention beliefs and practices, decision-making styles, and factors considered

The bivariate correlations in Table 4 confirmed a relationship between teachers' beliefs, decision-making styles, factors considered in second-grade retention decisions, and grade retention practices. We perform a path analysis to confirm these relationships with a multivariate analysis controlling for teachers' sociodemographic characteristics. We included only the paths with significant or marginally significant correlation coefficients in the model. The model did not include the variable "number of factors considered important" due to multicollinearity issues with the factor dimensions. Still, bivariate correlations in Table 4 indicated that the more teachers believed in the effectiveness of retention and less in its risk, the more factors they considered in the decision-making. Also, the more intuitive the teacher was, the more factor they considered.

TABLE 3 Descriptive statistics for study variables.

Dimensions	*Min.*	*Max.*	*M*	*SD*
Number of factors considered[a]	0.0	18.0	12.1	4.7
Factors considered				
Achievement in reading	2.0	10.0	8.1	1.8
Motivation	1.0	10.0	7.1	2.1
Ability to work independently	2.0	10.0	7.4	1.9
Achievement in writing	3.0	10.0	7.8	1.7
Age	0.0	10.0	5.3	3.0
Special education needs	0.0	10.0	6.4	3.2
Maturity/general development	0.0	10.0	7.2	2.3
Attention	0.0	10.0	6.6	2.2
Effort	1.0	10.0	7.8	2.0
Intellectual ability	0.0	10.0	6.6	2.3
Achievement in mathematics	1.0	10.0	7.4	2.0
Family involvement	0.0	10.0	5.5	2.8
Self-confidence	0.0	10.0	6.4	2.5
Mother tongue	0.0	10.0	6.1	2.8
Behavioral problems	0.0	10.0	5.2	2.8
Socioemotional skills	0.0	10.0	6.1	2.5
Student involvement	0.0	10.0	7.1	2.4
Attendance	0.0	10.0	7.1	2.6
Factors considered—Dimensions				
Achievement	2.3	10.0	7.8	1.6
Maturity	2.3	10.0	7.1	1.7
Special education needs	0.0	10.0	6.5	2.4
Socioaffective	1.3	10.0	6.5	1.8
Grade retention beliefs				
Socioaffective risks	1.0	6.0	2.8	1.1
Preventing failure	1.0	6.0	4.8	1.1
External regulation	1.0	6.0	3.1	1.2
Colleagues' agreement with grade retention	1.0	6.0	4.2	1.3
Decision-making style				
Rational	3.0	6.0	5.6	0.5
Intuitive	1.0	5.8	3.3	1.1

[a]Count of the factors assessed with an importance of six or more.

Abbreviation: SD, standard deviation.

TABLE 4 Correlation coefficients between grade retention beliefs and practices, decision-making styles, and factors considered.

	Retention practices[a]	1[b]	2[b]	3[b]	4[b]	5	6[b]	7[b]	8[b]	9	10[b]
1. Achievement	−0.04	1									
2. Maturity	−0.07	.37***	1								
3. Special education needs	−0.05	.29***	.56***	1							
4. Socioaffective	−0.15**	.26***	.63***	.51***	1						
5. Number of factors important	−0.10	.38***	.68***	.63***	.79***	1					
6. Socioaffective risks	−0.14*	−.07	−.10	−.01	−.03	−.05	1				
7. Preventing failure	0.14*	.31***	.15**	.09	.07	.16***	−.35***	1			
8. External regulation	0.06	.25***	.26***	.19***	.24***	.30***	−.20***	.56***	1		
9. Colleagues' agreement with retention	0.16**	.18**	32***	.16**	.13**	.12**	−.28***	.48***	.45***	1	
10. Rational	0.08	.32***	.11	.10	.04	.03	.10	.12*	.07	.18**	1
11. Intuitive	−0.05	.12*	.11	.21***	.22***	.19**	.13*	.18**	.27***	.07	−.03

[a]Spearman's coefficient.

[b]Pearson's coefficcient.

*$p < .100$; **$p < .050$; ***$p < .001$.

After removing all nonsignificant paths, the model presented an excellent fit—$X^2(52) = 51.26$, $p = .503$; RMSEA < 0.001, CI 90% = [0.000, 0.045], $p = .977$; CFI = 1.00, TLI = 1.01; SRMR = 0.043. The results indicated that the more the teachers believed in grade retention effectiveness for preventing failure, the more importance they gave to achievement factors when making grade retention decisions ($b = 0.254$, $\beta = .194$, $p = .013$). Additionally, the more they believed in its effectiveness for regulating students' behavior and motivation, the more importance they gave to maturational factors ($b = 0.420$, $\beta = .295$, $p < .001$). Furthermore, teachers who believed that their colleagues agreed with the grade retention practice also tended to believe more in the effectiveness of retention for preventing failure ($b = 0.431$, $\beta = .509$, $p < .001$) and for regulating students' behavior ($b = 0.523$, $\beta = .540$, $p < .001$), believe less in its socioaffective risk ($b = -0.183$, $\beta = -.211$, $p = .002$), had a more rational decision-making style ($b = 0.074$, $\beta = .171$, $p = .039$), and gave more importance to the achievement's factors ($b = 0.253$, $\beta = .198$, $p = .032$) and the special educational needs factors ($b = 0.355$, $\beta = .183$, $p = .016$).

Regarding the decision-making style, we observed that the more rational the teacher's style was, the more importance they gave to achievement factors ($b = 0.791$, $\beta = .268$, $p = .001$). On the other hand, the more intuitive the teacher was, the more importance they gave to the special education needs ($b = 0.411$, $\beta = .180$, $p = .028$) and socioaffective factors ($b = 0.427$, $\beta = .247$, $p < .001$). The results also showed that the more intuitive the teacher's style was, the more they believed in the effectiveness of grade retention ($b = 0.171$, $\beta = .184$, $p = .006$ for preventing failure and $b = 0.330$, $\beta = .308$, $p < .001$ for regulating students), but also the more they believed in its socioaffective risk ($b = 0.166$, $\beta = .154$, $p = .011$).

Only two variables were related significantly to the number of students teachers retained the last time they were second-grade teachers. The more the teachers believed in the effectiveness of retention for preventing failure, the more students they retained ($b = 0.200$, $\beta = .211$, $p = .018$). Socioaffective factors also explained teachers' retention practices ($b = -0.104$, $\beta = -.190$, $p = .020$). The more the teachers' considered the socioaffective factor, the fewer students they retained. Although these variables had a significant relationship, only 7.2% of the variance was explained, which was nonsignificant ($p = .114$).

Some correlations existed between teachers' sociodemographic and professional characteristics and the variables under study (see Figure 1). The more experienced the teacher, the less they believed in the effectiveness of grade retention for preventing failure ($b = -0.023$, $\beta = -.172$, $p = .004$) and the less they used the rational style ($b = -0.015$, $\beta = -.229$, $p = .011$). Results also showed that, although teachers with more qualifications believed more in the socioaffective risks of retention ($b = 0.335$, $\beta = .200$, $p = .013$), they gave less importance to the socioaffective factors ($b = -0.731$, $\beta = -.256$, $p = .003$). Teachers from private schools (that were also less experienced and more qualified) gave more importance to socioaffective factors ($b = 1.388$, $\beta = .321$, $p < .001$). Finally, male teachers believed less in the effectiveness of grade retention for preventing failure ($b = -0.498$, $\beta = -.139$, $p = .013$).

4 | DISCUSSION

The present study aimed to understand better the high retention rates observed in the second grade in RAM (Portugal) and contribute to explaining the sociocognitive processes involved in the decision-making of this pedagogical practice. We started by identifying the factors the professionals consider during the retention decision-making, their beliefs about retention effectiveness, and their cognitive decision-making style.

Our results indicated that retention was commonly used in the RAM. Almost half of the teachers indicated they retained at least one student the last time they were second-grade lead classroom teachers. Teachers consider several factors important when deciding whether to retain or promote a second-grade student. As observed in previous studies (Bonvin, 2003; Rodrigues et al., 2017; Santana, 2019; Young et al., 2019), factors related to student achievement, especially reading performance, were the most relevant for decision-making. Still, the ability to work independently and students' general development, effort, attendance, and motivation were also considered relevant. The choice of these factors is consistent with Piaget's Cognitive Development Theory and the Self-

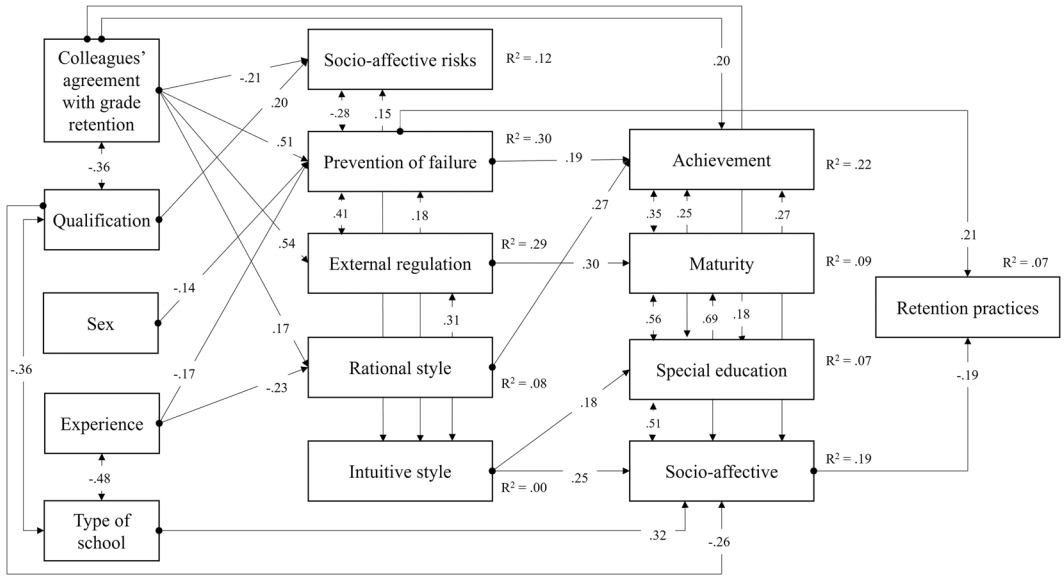

FIGURE 1 *Standardize coefficients of the PROBIT Model Tested*. $n = 194$. Estimator: WLSMV. Nonsignificant covariances between independent variables are not presented—$X^2(52) = 51.26$, $p = .503$; RMSEA < 0.001, CI 90% = [0.000, 0.045], $p = .977$; CFI = 1.00, TLI = 1.01; SRMR = 0.043. CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardized root mean residual; TLI, Tucker–Lewis index; WLSMV, weighted least squares.

Determination Theory, which are central in justifying retention (Goos, 2013; Van Canegem, 2022). Piaget's cognitive development theory states that development precedes learning (Slavin, 2014). Therefore, many teachers assumed that learning problems at the beginning of schooling, especially in reading, are because the student has not yet reached the general development and maturity that allows him to learn easily and quickly (Beswick et al., 2008; Cameron-Minard, 1993; Martinez-Hicks et al., 2015; Range et al., 2012; Tomchin & Impara, 1992). Consequently, the teachers in the present study may believe that retention gives students time to develop the skills needed to reach the learning goals of that curricular year.

On the other hand, according to the Self-Determination Theory, grade retention could work as an external regulator for students who show low effort and learning motivation. That is, the student acts due to external pressures or consequences administered by others (Ryan & Deci, 2000). Therefore, these teachers may believe that the threat of being held back leads students to try harder (Crahay et al., 2013; Range et al., 2012; Tomchin & Impara, 1992).

Confirming other studies made with Portuguese teachers (Rodrigues et al., 2017; Santana, 2019; Santos & Monteiro, 2021; Santos et al., 2023), most teachers agreed that second-grade retention can effectively prevent failure and did not think retention may have socioaffective risks for students. They just were not sure about the effectiveness of retention as an external regulator of students' behavior and motivation. Teachers' beliefs were inconsistent with the research evidence about grade retention effectiveness (Goos et al., 2021). As Santos et al. (2023) observed in a previous study with Portuguese primary teachers, teachers' beliefs about the effectiveness of grade retention may be more supported by their beliefs about learning and development than by their knowledge of the research evidence. Teachers tend to believe retention in the first grades effectively prevents failure because students need a solid foundation in fundamental skills to avoid failure in the highest levels of education (Cameron-Minard, 1993; Ede, 2006; Martinez-Hicks et al., 2015; Tomchin & Impara, 1992). They also believe that early

retention affects students' self-esteem less because they are less aware of what is happening, accepting retention better (Cameron-Minard, 1993; Ede, 2006; Martinez-Hicks et al., 2015; Tomchin & Impara, 1992).

Regarding teachers' decision-making styles, findings indicated a significant variability in the use of the intuitive style. Still, on average, teachers' retention decisions followed a more rational and less intuitive style. Studies using the DSS also found higher levels in the rational style than in the intuitive style (Hamilton et al., 2017), but not with such contrasting values. In the present study, almost all teachers agreed on using the rational style. These results could indicate that teachers perceive grade retention as a high-risk decision. Perceived risk of the decision might impact the selection of a decision-making style independently of their general decision-styles tendencies (Chang & Wu, 2012; Thunholm, 2004; Voss et al., 2022). According to Chang and Wu (2012), higher levels of perceived risk are related to a more significant uncertainty or greater importance of the potential negative consequences of the decision. Decisions considered highly risky could dispose individuals to place more emphasis on the accuracy of judgment and the use of a rational style (Chang & Wu, 2012). Thus, it is possible that the pressure teachers felt to use retention only in exceptional circumstances, as required by law (Portaria, 233–A/2018), the complexity of the decision, and the uncertainty of the effectiveness of grade retention dispose teachers to use a more rational style. The results do not necessarily mean teachers effectively use a rational style during retention decision-making. As Vanlommel et al. (2017) observed, teachers may collect rational data but still base their decision only on their intuitive expertise.

To answer our fourth research question, we analyzed the relationship among teachers' beliefs, their decision-making style, the factors teachers consider during retention decisions, and the number of students retained the last time they taught second grade. Our findings indicated that teachers with a more intuitive style believed more both in the effectiveness of retention and its socioaffective risks. Previous studies confirm that intuitive decisions are often biased because of the conservation of beliefs (Hubbard et al., 2014; Kahneman, 2003; Vanlommel et al., 2017). Teachers with an intuitive style try to avoid data that deny the validity of their beliefs and personal experiential knowledge (Kahneman & Frederick, 2005; Vanlommel et al., 2017). Therefore, these teachers may reject the international research data that indicates little evidence of grade retention effectiveness in preventing failure (Goos et al., 2021). After retaining a student, teachers assess the effects of practice and often witness some improvement in student performance on assessment tests in the year following retention (e.g., Griffith et al., 2010). Several studies document positive short-term effects on the academic performance of retained students, especially when compared to their peers who are in the same grade for the first time (Goos et al., 2021). However, most teachers do not monitor student performance after the first year (Cameron-Minard, 1993; Schnurr et al., 2009; Thomas, 2018). Therefore, teachers cannot witness the long-term negative effects of retention reported in research, such as the risk of new retention or even dropping out of school (Goos et al., 2021). Nor can they know what would have happened if the students had progressed to the next year or another intervention had been applied.

Intuitive teachers still seem to witness the short-term adverse socioaffective effects reported by the literature (Goos et al., 2021). Previous studies report that teachers consider retention a traumatic experience that negatively impacts the student's self-esteem (Crahay et al., 2014; Tomchin & Impara, 1992; Young et al., 2019). But these beliefs did not seem to guide the Portuguese teachers' choice of factors considered during the grade retention decision or their retention practices. Their beliefs about retention effectiveness were more relevant.

Additionally, teachers who believed their colleagues agreed with retention practices also believed more in the effectiveness of retention and less in its socioaffective risks. The existence of a pedagogical culture that promotes the construction and maintenance of favorable beliefs about the effectiveness of retention is worrying because several authors consider beliefs the best indicators of the individual decisions made by teachers in their practices (Borko et al., 2008; Buehl & Beck, 2015). Our results align with this argument since we found that teachers' who believed more in grade retention's effectiveness for preventing failure retained more students the last year they were second-grade teachers.

Our findings also confirm Fives and Buehl's theory (2012) that beliefs serve to filter information. Teachers who believed in the effectiveness of grade retention for preventing failure gave more importance to achievement

factors. On the other hand, teachers who believed in the effectiveness of grade retention for regulating students' behavior and motivation gave more importance to maturational factors. Thus, beliefs seem to define what information teachers consider relevant or not to make decisions.

Although previous research indicated that individuals with a rational style try to identify as many factors and alternatives as possible before making any decisions (Hamilton et al., 2016), our results indicated that teachers with a more intuitive style considered a higher number of factors. We observed that the rational style was related only to the achievement factors. Perhaps rational teachers gave more importance only to achievement factors because Portuguese legislation and schools' policies defined performance criteria for students' achievement (DL 55/2018; Santos & Monteiro, 2022). These criteria allow teachers to make a more objective assessment, accordingly to their decision-making style with explicit purposes and preset goals or approaches (Vanlommel et al., 2017).

On the other hand, intuitive teachers gave more importance to special educational needs and socioaffective factors. According to Vanlommel et al. (2017), these are the factors teachers primarily assess through observation and intuitive processes. A goal or specific question probably does not guide these observations because most teachers have difficulties defining specific criteria for assessing these factors (e.g., Alves, 2004; Santos, 2008). Instead, observations are most likely governed by teachers' intuitive expertise and beliefs (Vanlommel et al., 2017), as observed in the present study, where intuitive teachers believed more in the socioaffective risk of retention, considering the socioaffective factors more in their decisions.

Ultimately, teachers' cognitive styles and beliefs define what information they consider relevant or not to make decisions. But only one group of factors seems to influence the number of students retained by the teachers. The less importance teachers gave to socioaffective factors, the more students they retained. These results suggest that many teachers who retained two or more students did not consider it essential to contemplate students' socioaffective characteristics during the retention decision-making. Furthermore, teachers' beliefs about the socioaffective risks of retention did not seem to be involved in the decision-making. This could be troublesome because retention impact not only students' academic achievement but also their socioaffective characteristics and school career (Goos et al., 2021). In addition, socioaffective factors such as engagement (Chang et al., 2016), self-confidence (Çiftçi & Yildiz, 2019), socioemotional competence (Puertas-Molero et al., 2020), and motivation (Howard et al., 2021) had a substantial impact on students' academic achievement. Therefore, a quality decision should consider all these factors and how retention will impact them (Range et al., 2011). Furthermore, comprehensive programs promoting academic, social, and emotional learning may increase students' academic success and reduce retention (Jimerson et al., 2006; Mattison et al., 2018).

5 | LIMITATIONS AND FUTURE DIRECTIONS

It is necessary to recognize some limitations of the present study. First, the sample was small and unrepresentative, so our results cannot be generalized to the target population. Second, it is necessary to emphasize that this is a cross-sectional correlational study. Therefore, no conclusions can be drawn about the causality of teachers' beliefs and decision-making styles in the factors considered and in the use of retention. Another limitation of this study is the self-report nature of the measures, which might significantly affect the decision-making styles data. Galotti et al. (2014) observed that self-report of decision-making style reflected how people viewed themselves as decision-makers but were not necessarily the best predictor of actual behavior. Future studies may complement self-report using observational methods that analyze verbal and nonverbal indicators of decision-making propensities in real grade retention decisions (Connors et al., 2016). Additionally, teacher retention practices referred to the last year in which they were second-year teachers. Since in most schools in the Region, the same teacher accompanies the same class throughout the 4 years of the cycle, to maintain pedagogical continuity, the retention practices under study may refer to a practice carried out up to 4 years earlier. Consequently, there was a high temporal distance between the data collected from practices and the data from beliefs and decision-making styles. Future longitudinal

studies should corroborate the results found in the present study by collecting beliefs and decision-making styles and following the decision-making process and the factors considered in factual and specific cases.

6 | IMPLICATIONS

Despite these limitations, our findings hold specific implications. The teachers questioned in the present study know that retaining a student requires thoughtful planning and analysis of available information. Consequently, they try to use a rational style to make the decision. But their decisions are shaped by their beliefs and intuitive experiences, influencing the information they consider relevant and, ultimately, the decision to retain or not a student. Therefore, their decisions are boundedly rational (Bakshi, 2023). When deciding, teachers look for the best possible alternative to prevent school failure. Because of their limited time, knowledge, memory, and cognitive capacities to process and analyze all information available, they use their beliefs and intuitive process as heuristics to simplify the process. Throughout their careers, teachers acquire a knowledge structure that enables them to recognize cues in the splash of information surrounding the grade retention decision (Vanlommel, 2018). The intuitive processes are helpful because they "help teachers recognize a problem quickly, focus attention on relevant data, understand what data means in a specific context, and weigh the importance of different data sources when a decision is made" (Vanlommel, 2018, p. 175). But can be a source of bias if there is an overconfidence in data collected intuitively and if other objective and rational data is ignored (Vanlommel, 2018).

Grade retention can have differential effects on their academic, cognitive, and socioaffective development, and teachers must consider all these factors during the decision. But most importantly, deliberate and systematic data on all factors should be collected to inform teachers' decision-making, challenging and complementing information derivative from intuitive processes to prevent confirmation bias (Vanlommel, 2018). Our findings suggest that intuitive experience informs teachers' retention decisions by maintaining their beliefs in the effectiveness of grade retention and guiding the factors considered during the decision-making. Therefore, training programs and policies aiming to reduce the use of grade retention that do not consider the intuitive bases of teachers' decision-making may not lead to the desired result, as Vanlommel et al. (2017) suggested. Teachers' training must raise awareness of the possible pitfall of the intuitive process of collecting data, especially confirmation bias and the rejection of empirical data that supports the ineffectiveness of grade retention practices.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data sets generated for this study are available on request from the corresponding author.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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