



Teachers' grade retention beliefs and practices – the role of collective teacher culture

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Abstract

Teachers have a complex, multidimensional system of socially constructed beliefs that shape their practices. Grade retention beliefs, in particular, are embedded within a broader psycho-pedagogical framework and may be reinforced when shared by the teachers' community. The present study used a person-centred approach to identify teachers' profiles based on their perceptions of collective teacher culture and grade retention beliefs, to examine how these profiles relate to other psycho-pedagogical beliefs, and to their grade retention intentions and practices. An online questionnaire was completed by 1,597 Portuguese basic education teachers, assessing their beliefs about learning, assessment, intelligence, and grade retention; their intentions and practices regarding grade retention; and their perceptions of collective teacher culture. Latent profile analysis identified six profiles, differentiated by teachers' perceptions of the collective teacher culture (two weak, two moderate, and two strong), with three profiles supporting grade retention and three sceptical of it. Covariate analyses showed that teachers in the Grade Retention Support profiles reported stronger transmissive and fixed intelligence beliefs, whereas teachers in the Grade Retention Scepticism profiles reported more malleable intelligence beliefs. Teachers in the Strong Collective Teacher Culture profiles also endorsed more transmissive teaching and summative assessment beliefs. Teachers in the Scepticism profiles showed a lower intention to use this practice. The highest grade retention rates were observed within the Weak Collective Teacher Culture and Grade Retention Scepticism profile. These findings highlight the importance of reflective and collaborative practices among teachers to share effective strategies that enhance student success, strengthen collective efficacy, and reduce grade retention rates.

Keywords Teachers' beliefs · Grade retention · Collective teacher culture · Latent profile analysis

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1 Introduction

Research indicates that grade retention is an ineffective practice (Goos et al., 2021; Valbuena et al., 2021), yet it remains widely used in many countries as a solution for behaviourally and academically struggling students (Organisation for Economic Co-operation and Development – OECD, 2023). Teachers often hold positive beliefs about its effectiveness (Crahay et al., 2014; Santos et al., 2023), which relates to their grade retention practices (Bonvin, 2003; Santos et al., 2023; Santos & Monteiro, 2024). However, this relationship is complex, shaped by factors such as the strength and integration of beliefs within broader pedagogical views, and their acceptance within the educational community (Santos et al., 2023; Santos & Monteiro, 2022). But what other aspects of school culture could shape teachers' beliefs and practices? Teachers' perceptions of the school's social environment may have important implications for their motivation and for how they interact and support one another, which may have consequences for student learning (Skaalvik & Skaalvik, 2021).

In this sense, the collective teacher culture (CTC), a multidimensional construct developed under the planned behaviour and the social cognitive theory (Skaalvik & Skaalvik, 2021), could provide valuable insights to explain why teachers continue to use grade retention and can also serve as a key leverage point for designing interventions aiming to change teachers' beliefs about its effectiveness and their reliance on this practice. CTC comprehends individual perceptions of collective teacher efficacy, shared educational goals and values, and the value of consonance between individual and school beliefs (Skaalvik & Skaalvik, 2021). These perceptions may reinforce grade retention practice through shared beliefs, group norms, and peer pressure, even in the face of contradictory evidence suggesting its ineffectiveness. On the other hand, teachers who report stronger perceptions of CTC may be less likely to rely on grade retention because they experience professional coherence and collective efficacy, with positive consequences for students' learning. Thus, investigating the joint contribution of teachers' grade retention beliefs and perceptions of CTC to their grade retention practices seems valuable.

Therefore, the present study explored how teachers' perceptions of CTC relate to their beliefs, intentions, and practices regarding grade retention. We explored this relationship using a person-centred approach, which recognises individual differences among teachers. First, we identified subgroups of teachers with distinct profiles regarding their beliefs about grade retention and their perceptions of the CTC in their school. Then, we explored whether teachers' psycho-pedagogical beliefs (about learning, assessment, and the development of intelligence) relate to their membership in specific profiles. Finally, we examined how these teachers' profiles may be related to their grade retention intentions and practices.

1.1 Grade retention

Grade retention refers to the practice of requiring students to repeat a school year instead of advancing to the next grade with their peers (European Commission – EC, 2020). Research highlights its ineffectiveness, with minimal and short-lived benefits (Goos et al., 2021; OECD, 2012). Grade retention leads to higher educational costs

and adverse long-term effects, including higher dropout rates and lower secondary school completion rates (Hughes et al., 2018). Moreover, a meta-analysis by Goos et al. (2021) found stronger adverse effects of grade retention on students' academic achievement when retained students were compared with similarly struggling students who were promoted ($g = -0.21$). These findings suggest that grade retention does not provide the academic support students need and may, instead, hinder their overall progress.

However, regardless of the policies introduced to reduce its use, grade retention is still widely used in many countries and schools (EC, 2020). For example, since 1992, Portuguese legislation has recommended using grade retention in basic education only in exceptional circumstances (Grilo, 2019). Still, 17% of 15-year-old students in Portugal reported having repeated a grade at least once after entering primary school (OECD, 2023). Comparable or even higher rates are observed in several European countries, such as Spain, Belgium, and the Netherlands, where more than 20% of students reported having repeated a grade at least once (OECD, 2023). Despite legislation and research on the negative effects of grade retention, teachers in several countries continue to endorse it and believe in its effectiveness (Cipriano & Da Martins, 2021; Crahay et al., 2013; Meissner et al., 2025; Ribeiro et al., 2018; Rodrigues et al., 2017; Santana, 2019; Santos et al., 2023; Santos & Monteiro, 2024). Understanding this discrepancy requires exploring the factors influencing teachers' beliefs and intentions.

1.2 Teachers' beliefs and intentions

Beliefs are subjective understandings about the world (Philipp, 2007) that differ from knowledge by incorporating more evaluative and affective components, including a great deal of episodic material from personal experiences or the individual's culture (Skott, 2015). Studies about grade retention beliefs, in several countries, including Portugal, have identified that many teachers, and particularly those who teach in primary education, believe that repeating a grade brings several benefits to students in terms of learning and competence development, viewing its advantages as outweighing its drawbacks (Bonvin, 2003; Cipriano & Da Martins, 2021; Crahay et al., 2013, 2014; Range et al., 2012; Ribeiro et al., 2018; Rodrigues et al., 2017; Santana, 2019; Santos & Monteiro, 2021, 2023; Tomchin & Impara, 1992).

The persistence of positive beliefs about grade retention has been linked in the literature to the grade-replacement effect (Jimerson & Ferguson, 2007; Van Canegem et al., 2021). Goos et al.'s (2021) meta-analysis suggests that short-term improvements are often observed when retained students are compared with their younger classmates, who naturally constitute the most immediate and salient reference group. From a classroom standpoint, this may lead teachers to perceive grade retention as beneficial, as their evaluations are typically based on comparisons within the newly formed cohort. However, teachers rarely have the opportunity to compare retained students with similarly low-achieving peers who were promoted, a more appropriate counterfactual for assessing the effectiveness of grade retention. Such comparison conditions are necessary to evaluate whether grade retention has an added value beyond what similar students achieve without it. Evidence from meta-analytic studies

indicates that such comparisons often yield less favourable outcomes for retained students, as previously noted (Goos et al., 2021). This discrepancy between classroom-based observations and research-based evidence may help explain the persistence of grade retention-supportive beliefs.

Another possible explanation for the persistence of favourable beliefs about grade retention is that these beliefs may be embedded within teachers' broader psycho-pedagogical belief systems. Following belief-system theories (e.g., Fives & Buehl, 2012; Green, 1971, cited by Philipp, 2007; Rokeach, 1968), grade retention beliefs can be conceptualised as more specific and derivative beliefs, potentially grounded in broader beliefs about teaching and learning, assessment, intelligence, and educational justice. Research (Santos et al., 2023) has shown that the more teachers viewed learning as mere knowledge transmission, the more they believed grade retention was effective. The more teachers believed in the constructivist teaching model and the malleability of intelligence, the less they believed in the benefits of grade retention (Santos et al., 2023). However, previous studies have reported inconsistent findings across countries. While studies conducted in Portugal and Brazil have generally found stronger associations between psycho-pedagogical beliefs and grade retention beliefs (Ribeiro et al., 2018; Santos et al., 2023), studies from Switzerland and Belgium reported weaker or less consistent relationships (Boraita, 2015; Crahay et al., 2013, 2014). In the case of Portugal, the interconnectedness between psycho-pedagogical beliefs and grade retention beliefs may affect their stability, potentially making them more enduring. It could also influence teachers' practices and affect the adoption of new educational policies aimed at reducing grade retention rates.

The theory of planned behaviour (Ajzen, 1991) provides a valuable conceptual framework for understanding how beliefs relate to teachers' practices. The theory posits that our actions are driven by both personal and social reasons (Pryor, 2022). The personal reason refers to a positive or negative evaluation of performing a behaviour. If we believe the behaviour will lead to positive outcomes (i.e., we hold a positive attitude toward it), we are more likely to adopt a favourable attitude toward performing it. At the same time, it involves the perception of the ability to perform that behaviour (i.e., behavioural control).

The social reason refers to the subjective norm and includes the perception of whether people approve or disapprove of a given behaviour. These perceptions shape our intention to perform the behaviour, i.e., our decision about whether to perform a given behaviour, thereby facilitating the relationship between beliefs and actual behaviour (Pryor, 2022). Therefore, the theory suggests that teachers with positive beliefs about the effectiveness of grade retention, who could control the decision-making of retaining a student, and who perceive grade retention as a practice approved by colleagues and society, would demonstrate a higher intention of retaining a student and, therefore, will rely more on this practice as a solution for their behavioural and academic difficulties. The present study focuses specifically on the role of teachers' beliefs, given their well-documented importance in shaping intentions and instructional practices (Pryor, 2022).

Empirical research directly examining the relationship between teachers' beliefs and their reported grade retention practices remains relatively limited. Nevertheless, studies conducted in Portugal and in other educational contexts have consis-

tently reported associations between teachers' beliefs, attitudes, and grade retention practices (e.g., Allende et al., 2025; Andrews, 2012; Bonvin, 2003; Santos et al., 2023; Santos & Monteiro, 2021, 2022, 2024; Tomchin & Impara, 1992). Teachers who believe in the effectiveness of grade retention, especially in its effectiveness in promoting academic success, tend to rely more on this practice. Furthermore, those who view grade retention as a tool for preventing failure prioritise academic performance in grade retention decisions, whereas those who see it as a behavioural or motivational tool emphasise student maturity and behaviour (Santos & Monteiro, 2024). These findings indicate that teachers' decisions align with their beliefs about the effectiveness of grade retention, reinforcing the need to explore strategies to alter these perceptions.

However, the relationship between beliefs, intentions, and practices is not always present. Buehl and Beck (2015) suggest that these relationships are complex and can change according to the context. Environmental and cognitive factors can function as facilitators or obstacles to the expression of teachers' beliefs into their practices (Buehl & Beck, 2015). The relationship between grade retention beliefs and practices seems to be stronger when teachers' beliefs are defended with a high degree of conviction (Santos et al., 2023; Santos & Monteiro, 2022), when they feel that the educational community shares their beliefs (Santos et al., 2023), and when there are no strict educational policies that guide teachers in their grade retention decision-making (Santos & Monteiro, 2023). Notably, teachers' perceptions of their educational community's beliefs about grade retention play an important role in shaping the link between their own beliefs and their practices. In two studies with different samples, Portuguese teachers who were uncertain about the effectiveness of grade retention tended to retain more students when they believed their colleagues strongly supported grade retention. Conversely, they were less likely to retain students when they believed their colleagues shared their scepticism about its effectiveness (Santos et al., 2023; Santos & Monteiro, 2022). These findings suggest that beliefs endorsed by the school community appear to be more easily implemented, and that teachers with weaker convictions may be inclined to adopt the views and practices they perceive their colleagues hold. This highlights the critical role of the perceived school culture in shaping and sustaining teachers' beliefs and decisions regarding grade retention. To our knowledge, however, research examining the role of perceived collective teacher culture in teachers' grade retention beliefs and practices remains scarce, particularly outside the Portuguese context.

1.3 Collective teacher culture

Individual beliefs do not develop in isolation. Instead, they are deeply embedded in the broader organisational culture of the school, which reinforces shared norms and practices. A school's organisational culture encompasses shared assumptions, rituals, values, climate, and behaviours within the institution (Moller et al., 2013). School culture can have important implications for teaching practices and, consequently, for grade retention practices. Building on the planned behaviour and the social cognitive theories, Skaalvik and Skaalvik (2007, 2021, 2023) developed the collective teacher culture (CTC) model. This framework outlines how teachers collaborate, share norms

and values, and collectively develop professional practices, offering valuable insights into why teachers may continue to use grade retention practices beyond their personal beliefs and intentions.

The CTC is a multidimensional construct that comprehends perceptions of shared educational goals and values, value consonance between individual and school beliefs, and collective teacher efficacy in achieving educational goals (Skaalvik & Skaalvik, 2021). The perception that teachers and school administration share common educational goals and values is a key aspect of CTC. Shared educational goals unite teachers and foster collaboration, creating a distinct school identity (Skaalvik & Skaalvik, 2021). Additionally, the perceived value consonance, i.e., the degree to which teachers feel they share the prevailing norms and values at the school, is also a relevant aspect of CTC. Teachers who feel that their school's prevailing norms and values align with their own may experience contextual consonance (Rosenberg, 1979, cited by Skaalvik & Skaalvik, 2021), fostering a sense of belonging that can enhance engagement and job satisfaction. Another central component of CTC is collective teacher efficacy, which is also crucial for fostering a strong collective teacher culture, as many educational challenges, including promoting students' success and reducing grade retention, depend on teacher collaboration. The teacher-shared beliefs in their collective ability to influence students' outcomes have been positively associated with improvements in teaching practice (Donohoo, 2018; Salas-Rodríguez & Lara, 2023; Skaalvik & Skaalvik, 2019), in teachers' collaboration, commitment, autonomy and engagement (Skaalvik & Skaalvik, 2007, 2019, 2021), and students' performance (Bozkurt et al., 2021; Salas-Rodríguez & Lara, 2023).

From this perspective, perceptions of collective teacher culture may therefore play a critical role in shaping how teachers' beliefs are translated into intentions and practices. Prior research suggests that teachers' perceptions of the educational community's grade retention beliefs may interact with their own beliefs, influencing the strength and stability of the belief–practice relationship (Santos et al., 2023; Santos & Monteiro, 2022). Consistent with this perspective, Buehl and Beck (2015) argue that professional beliefs are not enacted in isolation but are embedded within broader social and contextual frameworks. From this standpoint, decisions regarding grade retention may reflect not only individual belief systems but also teachers' perceptions of shared norms, value consonance, and professional expectations within the collective teacher culture of their school. When grade retention is perceived as a collectively shared norm or value, teachers may be more likely to adopt or sustain its use, even when holding ambivalent or conflicting beliefs. Moreover, weaker perceptions of collective teacher efficacy may further reinforce grade retention as a viable instructional response, particularly when alternative interventions are perceived as requiring stronger collective resources (Goddard, 2001), such as co-teaching, intensive small-group instruction, individualised tutoring, or behavioural and cognitive-behavioural interventions (Range et al., 2012). In this regard, the collective teacher culture framework, including its dimensions, may play a significant role in explaining different patterns of associations among teachers' beliefs, intentions and practices, as predicted by the theory of planned behaviour.

Thus, it is essential to investigate the joint contribution of teachers' CTC perceptions and grade retention beliefs on their grade retention practices. This could serve

as a critical leverage point for designing interventions aimed at reducing teachers' beliefs in its effectiveness and their use of this practice.

1.4 The current study

Expanding on previous research, the present study aimed to analyse how teachers' beliefs about grade retention and their perceptions of collective teacher culture (CTC) relate to their grade retention intentions and practices. Because these dimensions may combine in different ways across teachers, we adopted a person-centred approach, which recognises individual differences among teachers and transcends conventional variable-centred methods (Howard & Hoffman, 2018). A person-centred approach will enable us to identify subgroups of teachers with different profiles in their beliefs about grade retention and perceptions of CTCs, allowing us to examine how interactions among these variables may relate to their intentions and practices. Accordingly, our first research question was:

RQ1 What are the distinct profiles of Portuguese teachers regarding their beliefs about grade retention and their perceptions of collective teacher culture?

Previous person-centred studies on teachers' beliefs about grade retention have consistently identified profiles characterised by varying levels of support for or scepticism toward grade retention (Boraita & Marcoux, 2016; Ribeiro et al., 2018; Santos et al., 2023). However, these studies did not examine how such beliefs interact with teachers' perceptions of CTC. Therefore, although we expected profiles characterised by support for and scepticism toward grade retention to emerge, no specific hypotheses were formulated regarding the combinations involving CTC perceptions.

Additionally, we also explored whether teachers' psycho-pedagogical beliefs (about learning, assessment, and the development of intelligence) relate to teachers' membership in specific profiles. Following belief-system theories (e.g., Fives & Buehl, 2012; Green, 1971, cited by Philipp, 2007; Rokeach, 1968), psycho-pedagogical beliefs about learning, assessment, and the development of intelligence can be conceptualised as broader, more primary beliefs that may shape more specific beliefs about grade retention. Previous variable-centred studies have reported associations between psycho-pedagogical beliefs and teachers' beliefs about grade retention (Crahay et al., 2014; Santos et al., 2023). However, no previous studies have examined how these psycho-pedagogical beliefs may relate to teacher profiles combining grade retention beliefs and perceptions of CTC. Therefore, our second research question was:

RQ2 Are teachers' psycho-pedagogical beliefs (about learning, assessment, and intelligence development) related to their membership in specific profiles?

Based on previous findings, we expected stronger beliefs in the constructivist learning model and in the malleability of intelligence to be associated with profiles characterised by greater scepticism toward grade retention. However, more transmissive

and summative beliefs were expected to be associated with profiles that support grade retention.

Our third goal was to examine whether the identified teacher profiles were associated with teachers' grade retention intentions and their reported grade retention practices. Drawing on the theory of planned behaviour (Ajzen, 1991), teachers' beliefs about the effectiveness of grade retention were expected to influence their intentions and reported practices. However, previous research also suggests that beliefs may be more easily translated into practice when they are perceived as shared and supported within the school context (Buehl & Beck, 2015; Santos et al., 2023; Santos & Monteiro, 2022). In this regard, perceptions of shared educational goals and values may reflect the extent to which teachers perceive a common school culture regarding educational decision-making, potentially reinforcing shared norms surrounding the use of grade retention. Value consonance may strengthen the alignment between teachers' individual beliefs and perceived school norms, potentially facilitating the enactment of these beliefs in practice. Additionally, collective teacher efficacy may shape whether teachers perceive alternative responses to school difficulties as feasible, potentially influencing reliance on grade retention. Therefore, our third research question was:

RQ3 How do teacher profiles differ regarding grade retention intentions and reported grade retention practices?

We expected teachers' beliefs about grade retention to be more strongly reflected in their intentions and reported practices when accompanied by stronger perceptions of value consonance and shared educational goals within the school culture. Thus, profiles characterised by stronger support for grade retention combined with stronger perceptions of value consonance and shared educational goals were expected to report higher intentions to retain students and higher use of grade retention, whereas profiles characterised by greater scepticism toward grade retention combined with stronger perceptions of value consonance and shared educational goals were expected to report lower intentions and lower reported use of grade retention. Additionally, teachers in the profiles characterised by weaker perceptions of collective efficacy may rely more on grade retention.

Consequently, we expected distinct teacher profiles to emerge, reflecting differing configurations of grade retention beliefs and perceptions of collective teacher culture. These beliefs and perceptions will interact and affect teachers' intentions and grade retention practices (See Fig. 1).

2 Methods

2.1 Participants

The study took place in Portugal during the academic year 2020/2021. In Portugal, primary and secondary education is compulsory and free. Basic education (i.e., primary and lower secondary education) is organised into three cycles. The first cycle

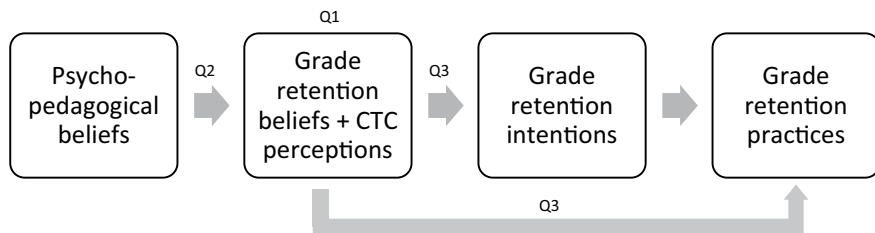


Fig. 1 Conceptual representation of the relationships studied in the present study

covers the first four grades of schooling, the second cycle covers the 5th and 6th grades, and the third cycle comprises 7th to 9th grade. According to the legislation (*Decreto-Lei* [DL] 55/2018), first-grade students cannot be retained. In the first cycle, the decision to retain a student is mainly based on the appreciation of a single teacher as the lead classroom teacher (DL 55/2018), while in the remaining basic education cycles, the teachers' council makes grade retention decisions (*Portaria*, 223-A/2018). In secondary education (i.e., grades 10 to 12), on the other hand, grade transitions are marked by high-stakes assessments and performance benchmarks that may not directly reflect teachers' beliefs about grade retention as an intervention for academic or behavioural development. Therefore, for the present study, we relied only on data from primary and lower secondary school teachers, since the decision-making processes and contextual factors influencing grade retention at the secondary education significantly differ from those at earlier educational levels (DL 55/2018). Hence, our target population included all teachers from primary and lower secondary public schools of Continental Portugal (811 schools), the Azores (66 schools), and Madeira Islands (25 schools). Madeira's first-cycle schools were not included because they were part of another study with similar purposes.

After the study's approval by Portugal's Directorate-General for Education (*Direção-Geral da Educação*, No. 0091900022) and the Ethics Committee of the ISPA – *Instituto Superior* (No. D/020/11/2019), an email was sent to all the country schools' principals requesting the dissemination of an online survey to the teacher community. To mitigate potential self-selection bias associated with the mass-mailing recruitment strategy, we used a comprehensive contact list designed to reflect the target population and implemented multiple reminders at three-week intervals over a three-month period. Additionally, respondent distribution was monitored across national regions, allowing targeted follow-up reminders to schools in underrepresented regions. Participation was voluntary, and confidentiality was guaranteed.

One thousand nine hundred fifty-four Portuguese teachers agreed to respond to the survey. Teachers who reported teaching exclusively in secondary education were excluded from the analyses. The final sample included 1,597 teachers teaching in primary and lower secondary education (ages between 21 and 68, $M=50.2$, $SD=7.6$; teaching experience between 0 and 48 years, $M=25.2$, $SD=8.6$). In Table 1, we present the characteristics of the participants. Our comparison of the entire sample collected with the census population for the academic year 2020/2021 (*Direção-Geral de Estatísticas da Educação e Ciência*, DGEEC, 2022) indicated similar patterns in the distribution by sex and teaching educational level (see supplementary materials).

Table 1 Sample characterisation

Characteristic		<i>n</i>	%
Sex	Male	366	22.9
	Female	1227	76.8
	Missing	4	0.3
Educational level	1 st cycle	420	26.3
	2nd cycle	331	20.7
	3rd cycle	833	52.2
	Missing	13	0.8
Qualifications	Bachelor's degree	1094	68.5
	Post-graduation	174	10.9
	Master	291	18.2
	PhD	31	1.9
	Missing	7	0.4
Number of students in the classroom	0–9	57	3.6
	10–19	404	25.3
	20–29	1067	66.8
	30+	35	2.2
	Missing	34	2.1
School location	Urban – populated area	308	19.3
	Medium-sized city or large town	485	30.4
	Suburban – outskirts of a populated area	313	19.6
	Small town or village	458	28.7
	Rural	24	1.5
	Missing	9	0.6
GR experience	Yes	531	33.2
	No	1063	66.6
	Missing	3	0.2
GR knowledge	Very low	89	5.6
	Low	227	14.2
	Average	948	59.4
	High	298	18.7
	Very high	32	2.0
	Missing	3	0.2
Nr. retained students	0	784	49.1
	1–3	716	44.8
	4–6	46	2.9
	7–9	6	0.4
	10 or more	5	0.3
	Missing	40	2.5

N=1597; *GR* grade retention

Still, there was an over-representation of teachers with master's and PhD qualifications, and the North and Alentejo Regions were underrepresented. Therefore, the reported results should be interpreted cautiously, and generalisation to the Portuguese population could not be assured.

2.2 Measures

2.2.1 Grade retention beliefs

Teachers' beliefs were assessed using the Portuguese version of the questionnaire developed by the *Développement Apprentissage et Intervention en Situation Scolaire* team (DAISS team, Crahay et al., 2013, 2014; Ribeiro et al., 2018), which included a section that assessed teachers' beliefs about grade retention and another section that evaluated their psycho-pedagogical beliefs (see supplementary materials). The grade retention beliefs scale had 12 items and assessed teachers' beliefs about the socio-affective risks of grade retention, its effectiveness in preventing failure, and its effectiveness in regulating students' motivation and behaviour. Teachers answered using a six-point Likert scale (1 = strongly disagree to 6 = strongly agree).

2.2.2 Psycho-pedagogical beliefs

The psycho-pedagogical beliefs scale included 15 items that measured teachers' psycho-pedagogical beliefs about the teaching/learning process (transmissive and constructivist models), school assessment (summative and formative purposes), and intelligence development (fixed and malleable development) (see complete measure items in the supplementary materials). Teachers answered using a six-point Likert scale (1 = strongly disagree to 6 = strongly agree).

2.2.3 Perceptions of collective teacher culture

We included a ten-item scale based on Skaalvik and Skaalvik's (2007, 2021) questionnaire assessing teachers' perceptions of the collective teacher culture, which originally comprises four dimensions: perceptions of shared educational goals and values, the value consonance between individual teachers' beliefs and the school's shared beliefs, collective teacher efficacy, and collegial support. Given our focus on belief-related and normative dimensions of CTC, we prioritised the assessment of components directly related to shared values, value consonance, and perceived collective efficacy. Collegial support was not included because it refers more directly to relational and practical support among colleagues rather than to the belief-related cultural dimensions central to the present study. Teachers answered using a six-point Likert scale (1 = strongly disagree to 6 = strongly agree). We also included one item that assessed teachers' perceptions of the value consonance of their grade retention beliefs (see supplementary materials). Teachers were asked to report their own perceptions of collective teacher culture. Thus, the CTC variable reflects individual perceptions of the collective culture rather than a school-level construct derived from aggregated responses.

2.2.4 Grade retention intentions

The questionnaire included a seven-item scale assessing teachers' intentions to retain students for behavioural reasons (misbehaviour or lack of effort) or for achievement

reasons (low academic skills or grades) (see supplementary materials). Teachers answered on a six-point Likert scale (1 = strongly disagree to 6 = strongly agree).

2.2.5 Grade retention practices

Teachers were asked how many students were retained in their classes in the previous school year (1 = none; 2 = one to three; 3 = four to six; 4 = seven to nine; 5 = more than ten).

2.2.6 Control variables

The questionnaire also included a demographic section at the end. It collected data on teachers' teaching experience (in years), qualifications (1 = bachelor's degree, 2 = post-graduation, 3 = master, 4 = PhD), sex (0 = female, 1 = male), school location (1 = urban, 2 = medium-sized city or large town, 3 = suburban, 4 = small town or village, 5 = rural), class size (number of students in the classroom: 1 = 0–9, 2 = 10–19, 3 = 20–29, 4 = > 30), and teaching educational level (1 = 1st cycle, 2 = 2nd cycle, 3 = 3rd cycle). Teachers were also asked about their current level of knowledge of research about grade retention effects (1 = very low to 5 = very high) and whether they were retained during their school career (0 = no; 1 = yes).

The validity of the structure, along with its reliability and the consistency of the measures across educational levels, was evaluated (see supplementary materials for more details). All measures presented a valid structure, adequate levels of reliability, construct replicability, convergent and discriminant validity, and were invariant across teachers' educational levels. Only the collective teacher efficacy dimension of the collective teacher culture measure lacked discriminant validity. This limitation was not considered critical for the person-centred analysis conducted, since the focus lies on identifying response patterns rather than isolating the effects of independent constructs.

2.3 Data analysis

After assuring the measures' structural validity and reliability, we averaged the item responses of each dimension of both teachers' grade retention beliefs and their perceptions of collective teacher culture (CTC) instruments. Descriptive analyses and bivariate correlations were conducted to provide a general exploratory overview of the relationships among the study variables.

Using the standardised mean scores, we conducted a latent profile analysis (LPA) to identify different profiles or groups of teachers with different grade retention beliefs and CTC patterns (Research Question 1). To perform the LPA, we followed the procedures of Ferguson et al. (2020), in which multiple models were analysed, varying the number of classes or profiles. Each model is compared against the previous model to decide the adequate number of latent profiles that share a meaningful and interpretable pattern of responses on grade retention beliefs and CTC dimensions. We used the following criteria to decide on model retention: Bayesian Information Criterion (BIC), Sample-Adjusted BIC (SABIC), and Akaike Information Criterion (AIC).

Lower values in these criteria indicate a better fit. We also used entropy as a measure of uncertainty to support our decision-making. Values of 0.80 or greater indicate that profile classification of the individuals occurs with minimal uncertainty (Ferguson et al., 2020). We report the average posterior classification probabilities (ALCP), which indicate the likelihood that cases are accurately classified into the correct profile, with a recommended threshold level of 0.80 (Ferguson et al., 2020). We used Lo, Mendell, and Rubin (LMR) and bootstrap likelihood ratio tests (BLRT) to compare the models. Non-significant LMR or BLRT tests suggest that the more parsimonious model fits better. Significant tests indicate that the current assessed model is better than the more parsimonious model (Ferguson et al., 2020). In addition, we also evaluated the theoretical support for the model that exhibited the best fit, as well as the interpretability of the identified profiles.

Once the best-fitting model was selected, we evaluated the relationship between teachers' profiles and their psycho-pedagogical beliefs (Research Question 2). Teachers' beliefs regarding the teaching/learning process (transmissive and constructivist models), learning assessment (summative and formative purposes), and intelligence development (fixed and malleable) were included as predictors. Teachers' experience and scientific knowledge on grade retention, their teaching experience and qualifications, sex, school location, class size, and teaching educational levels were included as control variables. We regressed the latent profile construct on the predictors and control variables using the three-step BCH approach described in Ferguson et al. (2020). In this step, cases with missing data were removed from the sample.

To answer Research Question 3, we compared two theoretically relevant outcomes across the identified profiles (i.e., criterion-related validity evidence): Teachers' intention to retain a student for behavioural or achievement reasons, and teachers' grade retention practices (i.e., the number of students retained in the last year). Using SPSS (v. 31), we conducted a Multivariate Analysis of Covariance (MANCOVA) to compare mean teachers' intentions to retain students for behavioural and achievement reasons across profiles, controlling for the variables identified as related to teachers' intentions in correlation analyses. The MANCOVA was followed by a discriminant analysis. This is a multivariate technique that identifies the linear combinations of variables (i.e., discriminant functions) that best differentiate the groups, facilitating interpretation of multivariate group differences.

To examine the relationship between teacher profiles and grade retention practices, we conducted a hierarchical binary logistic regression. Teachers' grade retention practices were recoded into a dichotomous variable indicating whether teachers had retained no students or at least one student during the previous school year (0 = did not retain any student; 1 = retained at least one student). This decision was made because the original variable was ordinal, with some response categories containing relatively few cases. In the first block, we included control variables and teachers' grade retention intentions, given their theoretical role as proximal predictors of behaviour. In the second block, we included teacher profile membership as a predictor to examine whether profiles explained additional variance in grade retention practices beyond intentions and background characteristics. Teacher profiles were entered into the logistic regression as dummy-coded variables.

3 Results

Descriptive statistics and results of correlation analyses for all variables in the study are presented in Tables 1 and 2. We observed that while grade retention beliefs were more strongly related to teachers' intention to use grade retention, either for behavioural or achievement reasons, perceptions of CTC were more strongly associated with the number of students retained. The more teachers believed in the effectiveness of grade retention, the more likely they were to intend to use grade retention. Additionally, the lower the perceived CTC, the higher the number of students retained.

3.1 Teachers' profiles regarding their grade retention beliefs and collective teacher culture perceptions

To identify distinct profiles of teachers based on their patterns of grade retention beliefs and CTC perceptions, we estimated a series of LPA models with between 1 and 8 profiles (Models 1 through 8). The fit statistics of each model are provided in the supplementary materials. The six-profile solution (Model 6) was deemed most appropriate based on the fit indices. This model revealed several qualitatively distinct profiles of theoretical interest, with notable content differences (see Fig. 2; Table 3). The entropy value for this model (0.77) indicated that cases were correctly assigned to their respective latent profiles with acceptable certainty (values between 0.60 and 0.80 are considered acceptable, according to Spurk et al., 2020).

The six-profile model is depicted in Fig. 2 and detailed in Table 3. Variations in CTC perceptions primarily drove the differences between the six latent groups. As a result, we organised the profiles based on the strength and direction of these perceptions. Teachers in Profile 1 presented the weakest CTC perceptions, characterised by a low sense of collective efficacy, limited shared goals, and minimal value consonance, both in general and concerning the effectiveness of grade retention. In contrast, teachers in Profile 6 presented the strongest CTC perceptions, with high levels across all CTC dimensions. Accordingly, the six profiles were labelled based on the overall level of CTC perceptions: two Weak CTC profiles (Profiles 1 and 2), two Moderate CTC profiles (Profiles 3 and 4), and two Strong CTC profiles (Profiles 5 and 6).

As shown in Table 3; Fig. 2, Profiles 2, 4, and 6 shared similar beliefs favouring grade retention. Thus, they were considered Grade Retention Support (GR Support) profiles. They view it as an effective practice for preventing failure and for external regulation of students' behaviour and motivation, with no or very little socio-affective risks. These profiles, however, presented low, average, and high levels of CTC, respectively, signalling Weak, Moderate, and Strong CTC perceptions. Conversely, Profiles 1, 3, and 5 shared similar beliefs against the effectiveness of grade retention, with low, average, and high levels of CTC, respectively. They could be considered Grade Retention Scepticism (GR Scepticism) profiles with Weak, Moderate, and Strong CTC perceptions. Teachers in these profiles, who doubted the effectiveness of grade retention, consistently reported lower levels of CTC than their counterparts who supported grade retention (i.e., $P1 < P2$; $P3 < P4$; $P5 < P6$). Additionally, value consonance regarding the effectiveness of grade retention was particularly low in

these profiles, indicating that teachers in the GR Scepticism profiles felt their views on grade retention were not shared by the community, even though some degree of general value consonance was present, as seen in Profile 5.

3.2 Psycho-pedagogical beliefs relationships with profile membership

We used the three-step BCH analysis to examine the relationship between teacher profiles and psycho-pedagogical beliefs while controlling for sociodemographic and professional variables. Teachers in the GR Support profiles (Profiles 2, 4, and 6) tended to agree more with the transmissive teaching model and the belief that intelligence is a fixed trait compared to teachers in the GR Scepticism profiles (Profiles 1, 3, and 5). In contrast, teachers in the GR Scepticism profiles were more likely to view intelligence as malleable than those in GR Support profiles (See Table 4).

Constructivist beliefs also tended to be stronger in GR Scepticism profiles. However, these differences were only observed in specific pairwise comparisons. Significant (or marginally significant) differences emerged between the GR Scepticism profiles (Profiles 1, 3, and 5) compared with the Moderate CTC and GR Support profile (Profile 4), and between the Strong CTC and GR Scepticism profile (Profile 5) versus the Weak CTC and GR Support profile (Profile 2). The remaining comparisons were non-significant (see Table 4).

Additionally, the results suggest that beliefs in the transmissive teaching model and the summative purpose of assessment were stronger in the Strong CTC perceptions profiles (Profiles 5 and 6) and in the Moderate CTC and GR Support profile (Profile 4, see Table 5). According to the three-step BCH analysis, there were no differences between the profiles regarding their beliefs about the formative purposes of assessment. Results regarding the control variables are reported in the supplementary material.

3.3 Grade retention intentions across teacher profiles

To assess differences between the profiles in teachers' intentions to retain students for behavioural and achievement reasons, we used MANCOVA, controlling for teachers' teaching experience, educational level, knowledge regarding grade retention effectiveness, and psycho-pedagogical beliefs. These variables were considered given their relation to teachers' grade retention intentions (See Table 2). Analyses showed that profile membership was related to teachers' grade retention intentions, $V = 0.32$, $F(10,3062) = 59.29$, $p < .001$, $\eta_p^2 = 0.16$, $\pi = 1.00$ (see details in the supplementary material). In particular, a significant relationship was observed with teachers' intention of using grade retention for both behavioural reasons, $F(5,1531) = 44.34$, $p < .001$, $\eta_p^2 = 0.13$, $\pi = 1.00$, and for achievement reasons, $F(5,1531) = 135.05$, $p < .001$, $\eta_p^2 = 0.31$, $\pi = 1.00$, with the relationship being stronger with the latter dimension.

The MANCOVA was followed by a discriminant analysis. The analysis revealed two discriminant functions. The first explained almost all the variance in the difference between the profiles (98.5%, canonical $R^2 = 0.60$). In contrast, the second explained only 1.5% (canonical $R^2 = 0.09$). In combination, these discriminant functions significantly differentiated the Profiles – $\Lambda = 0.63$, $\chi^2(10) = 724.73$, $p < .001$.

Table 2 Correlations for study variables and descriptive statistics of continuous variables

Variables	Profile variables						Outcome variables				Descriptive statistics		
	1	2	3	4	5	6	7	8	9	10	Missing	M	SD
Control variables													
Sex ^a	0.00	0.01	-0.02	-0.02	0.02	-0.09**	0.01	0.06*	-0.03	0.03	4	-	-
Qualifications	-0.09**	-0.04	-0.05	-0.06*	0.06*	-0.09**	-0.02	0.00	-0.04	0.02	7	-	-
Teaching experience	-0.03	-0.06*	-0.05	-0.09**	0.18**	-0.12**	-0.13**	-0.14**	-0.15**	-0.08**	39	25.2	8.6
Class size	-0.03	-0.04	-0.03	-0.05	0.03	-0.05*	0.00	-0.02	-0.01	0.11**	34	-	-
School location	0.06*	0.04	0.05	0.08**	-0.01	0.09**	0.04	0.03	0.01	-0.10**	9	-	-
Educational level	-0.05*	-0.04	-0.12**	-0.13**	0.09**	-0.21**	0.05	0.06*	-0.09**	0.27**	13	-	-
GR experience ^b	0.04	0.00	0.03	0.04	-0.12**	0.06*	0.05	0.05	0.08**	0.01	3	-	-
GR knowledge	0.03	0.01	0.07**	0.02	0.08**	-0.08**	-0.06*	-0.03	-0.12**	-0.04	3	3.0	0.8
Psycho-pedagogical beliefs													
Transmissive beliefs	0.16**	0.14**	0.17**	0.18**	-0.05	0.22**	0.16*	0.18**	0.15**	0.05*	1	4.2	1.1
Constructivist beliefs	0.06*	0.10**	0.12**	0.00	0.18**	-0.01	-0.05*	-0.06*	-0.04	-0.04	0	5.0	0.8
Summative A beliefs	0.17**	0.16**	0.19**	0.10**	0.06*	0.16**	0.19**	0.13**	0.16**	0.01	2	4.4	1.0
Formative A beliefs	0.10**	0.15**	0.16**	0.05	0.11**	0.13**	0.09**	0.07**	0.09**	0.01	2	4.5	1.1
Fixed I beliefs	0.05*	0.03	0.06*	0.11**	-0.01	0.24**	0.20*	0.18**	0.14**	0.02	1	2.9	1.1
Malleable I beliefs	0.06*	0.11**	0.12**	0.04	0.26**	-0.04	0.00	-0.01	-0.06*	-0.06*	1	4.9	0.8
CTC													
1. Shared beliefs	1	0.70**	0.69**	0.51**	-0.01	0.10**	0.13**	0.06*	0.07**	-0.07**	0	4.0	1.2
2. Value consonance	0.70**	1	0.71**	0.48**	0.08**	0.03	0.09**	0.02	0.00	-0.09**	0	4.0	1.2
3. Collective efficacy	0.69**	0.71**	1	0.48**	-0.04	0.14**	0.14**	0.04	0.11**	-0.11**	0	4.2	1.0
4. GR value consonance	0.51**	0.48**	0.48**	1	-0.20**	0.29**	0.23**	0.16**	0.24**	-0.08**	0	3.5	1.3
GR Beliefs													
5. GR socio-affective risk	-0.01	0.08**	-0.04	-0.20**	1	-0.49**	-0.37**	-0.28**	-0.59**	-0.04	0	3.5	1.3
6. GR Prevention failure	0.10**	0.03	0.14**	0.29**	-0.49**	1	0.53**	0.46**	0.66**	-0.01	0	3.5	1.2
7. GR External regulation	0.13**	0.09**	0.14**	0.23**	-0.37**	0.53**	1	0.42**	0.50**	0.02	0	3.3	1.3
GR Intentions and practices													
8. Behavioural reasons	0.06*	0.02	0.04	0.16**	-0.28**	0.46**	0.42**	1	0.50**	0.09**	2	2.6	1.1

Table 2 (continued)

Variables	Profile variables			Outcome variables						Descriptive statistics		
	1	2	3	4	5	6	7	8	9	10	Missing	M SD
9. Achievement reasons	0.07**	0.00	0.11**	0.24**	-0.59**	0.66**	0.50**	0.50**	1	0.06*	2	4.2 1.2
10. N° retained students	-0.07**	-0.09**	-0.11**	-0.08**	-0.04	-0.01	0.02	0.09**	0.06*	1	40	- -

N = 1597; *CTC* collective teacher culture; *GR* grade retention; *A* assessment; *I* intelligence. ^a0 = Female teachers, 1 = Male teachers; ^b0 = Teachers not retained, 1 = Teachers retained during their school path

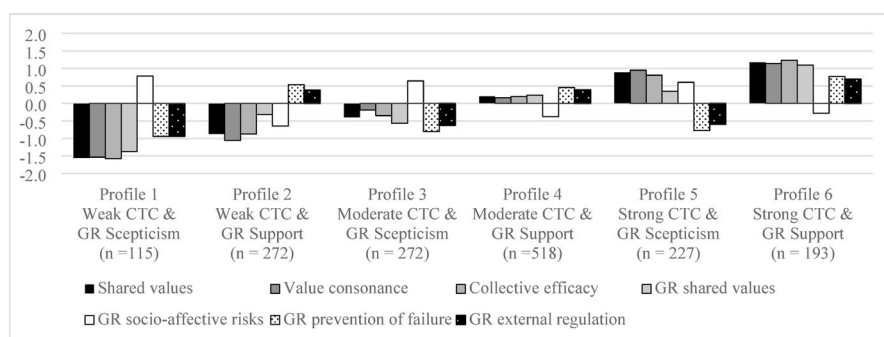


Fig. 2 standardised mean values for each profile emerged in model 6. $N=1597$; CTC=Collective Teacher Culture; GR=Grade Retention

The correlations between the intentions dimension and the discriminant functions revealed that teachers' intentions of retaining students for behavioural reasons loaded evenly highly onto both functions ($r = .58$ for the first function and $r = .81$ for the second) and teachers' intentions of retaining students for achievement reasons loaded more highly on the first function ($r = .97$), than on the second function ($r = -.25$).

The discriminant function plot showed that the first function discriminates the three GR Scepticism profiles (Profiles 1, 3, and 5) from the three GR Support profiles (Profiles 2, 4, and 6) (See Fig. 3). Our results indicate that teachers in the GR Scepticism profiles had a lower intention to retain students, regardless of the reason, than teachers in the GR Support profiles (See Fig. 4). The second function differentiates Profiles 2 and 5 from Profiles 3 and 6, but these differences are minimal. Although behavioural grade retention intentions showed stronger loadings on the second function, the conceptual meaning of this dimension was not clearly distinguishable, suggesting limited interpretability of the second discriminant function.

3.4 Grade retention practices across teacher profiles

To examine differences among teacher profiles in reported grade retention practices, we conducted a hierarchical binary logistic regression to predict whether teachers had retained at least one student during the previous school year. Control variables and teachers' grade retention intentions were entered in the first block, followed by teacher profile membership in the second block. Control variables included teachers' experience, class size, students' educational level, teachers' beliefs about the transmissive teaching model, and teachers' intention to retain for achievement reasons, as these variables were significantly associated with grade retention practices in preliminary analyses (See Table 2). The school's location, teachers' beliefs about intelligence as malleable, and teachers' behavioural intentions were removed after confirming that they were not related to teachers' grade retention practices.

The first block was statistically significant $\chi^2(5)=154.01$, $p < .001$, explaining between 9.6% (Cox & Snell R^2) and 12.9% (Nagelkerke R^2) of the variance in grade retention practices. The inclusion of teacher profile membership in Block 2 significantly improved model fit, $\Delta\chi^2(5)=23.83$, $p < .001$. The final model – $\chi^2(10)=177.84$,

Table 3 Six-profile model results

Latent profile variables	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Profile 6
	Weak CTC & GR Scepticism <i>n</i> = 115 (7.2%) M (SE)	Weak CTC & GR Support <i>n</i> = 272 (17.0%) M (SE)	Moderate CTC & GR Scepticism <i>n</i> = 272 (17.0%) M (SE)	Moderate CTC & GR Support <i>n</i> = 518 (32.4%) M (SE)	Strong CTC & GR Scepticism <i>n</i> = 227 (14.2%) M (SE)	Strong CTC & GR Support <i>n</i> = 193 (12.1%) M (SE)
CTC						
Shared values	2.1 (0.7) ^a	2.9 (0.8) ^b	3.5 (0.7) ^c	4.2 (0.7) ^d	5.0 (0.6) ^e	5.4 (0.5) ^f
Value consonance	2.1 (0.7) ^a	2.7 (0.7) ^b	3.8 (0.8) ^c	4.2 (0.7) ^d	5.2 (0.6) ^e	5.4 (0.5) ^f
Collective efficacy	2.6 (0.6) ^a	3.3 (0.7) ^b	3.8 (0.6) ^c	4.4 (0.6) ^d	5.0 (0.5) ^e	5.4 (0.4) ^f
GR value consonance	1.7 (0.7) ^a	3.0 (1.1) ^c	2.7 (0.8) ^b	3.8 (1.0) ^d	3.9 (1.1) ^d	5.0 (1.0) ^e
GR beliefs						
Socio-affective risks	4.5 (1.1) ^c	2.7 (1.0) ^a	4.4 (1.1) ^c	3.0 (1.0) ^b	4.3 (1.1) ^c	3.2 (1.2) ^b
Prevention of failure	2.3 (0.9) ^a	4.2 (1.0) ^b	2.4 (0.8) ^a	4.1 (0.9) ^b	2.5 (0.8) ^a	4.5 (0.9) ^c
External regulation	2.1 (1.0) ^a	3.8 (1.1) ^c	2.4 (1.0) ^b	3.8 (1.0) ^c	2.5 (1.0) ^b	4.1 (1.1) ^d

CTC collective teacher culture; GR grade retention. Means were labelled alphabetically from lowest to highest. Means labelled with the same letter were not significantly different. Means labelled with different letters are significantly different from each other according to Games-Howell and Tukey HSDS post-hoc test for $\alpha = .003$ (Bonferroni correction)

Table 4 Three-step BCH regression coefficients predicting teacher profile membership

Predictors	GR Support Profiles (2, 4, and 6)	Comparison group – GR Scepticism Profiles											
		Profile 1 – Weak CTC				Profile 3 – Moderate CTC				Profile 5 – Strong CTC			
		OR	b	SE	p	OR	b	SE	p	OR	b	SE	p
Transmissive	Weak CTC	1.64	0.50	0.14	<0.001	1.32	0.28	0.12	0.033	1.13	0.12	0.12	0.333
	Moderate CTC	1.80	0.59	0.13	0.008	1.44	0.37	0.11	0.003	1.23	0.21	0.12	0.357
	Strong CTC	2.40	0.88	0.17	<0.001	1.94	0.67	0.15	<0.001	1.65	0.50	0.17	0.009
Constructivist	Weak CTC	0.66	-0.42	0.21	0.138	0.74	-0.30	0.17	0.178	0.56	-0.57	0.18	0.008
	Moderate CTC	0.60	-0.52	0.20	0.040	0.67	-0.40	0.17	0.056	0.51	-0.68	0.18	<0.001
	Strong CTC	0.76	-0.28	0.24	0.380	0.86	-0.16	0.21	0.616	0.65	-0.43	0.23	0.158
Summative	Weak CTC	1.53	0.43	0.18	0.036	1.09	0.08	0.14	0.595	0.99	-0.01	0.14	0.928
	Moderate CTC	1.76	0.57	0.17	0.005	1.25	0.22	0.13	0.140	1.13	0.13	0.14	0.446
	Strong CTC	2.64	0.97	0.21	<0.001	1.88	0.63	0.18	<0.001	1.70	0.53	0.19	0.015
Formative	Weak CTC	0.72	-0.33	0.17	0.254	0.94	-0.06	0.14	0.703	0.89	-0.12	0.13	0.584
	Moderate CTC	0.89	-0.12	0.16	0.629	1.16	0.15	0.14	0.455	1.10	0.09	0.14	0.629
	Strong CTC	1.15	0.14	0.21	0.577	1.50	0.40	0.18	0.195	1.42	0.35	0.19	0.266
Fixed	Weak CTC	1.55	0.44	0.15	0.006	1.53	0.42	0.12	<0.001	1.63	0.49	0.12	<0.001
	Moderate CTC	1.66	0.51	0.13	<0.001	1.64	0.50	0.16	<0.001	1.75	0.56	0.11	<0.001
	Strong CTC	1.51	0.42	0.15	0.012	1.59	0.40	0.13	0.002	1.59	0.46	0.14	0.003
Malleable	Weak CTC	0.54	-0.62	0.19	0.005	0.57	-0.56	0.11	0.008	0.57	-0.57	0.17	0.008
	Moderate CTC	0.58	-0.54	0.17	0.015	0.62	-0.48	0.16	0.006	0.62	-0.49	0.17	0.013
	Strong CTC	0.71	-0.34	0.24	0.309	0.75	-0.28	0.21	0.312	0.75	-0.29	0.24	0.313

N = 1515. *CTC* collective teacher culture; *GR* grade retention; *p*-values were corrected using a false discovery rate correction

Table 5 Estimated means and pairwise comparisons of psycho-pedagogical beliefs across teacher profiles

Predictors	Profile 1 Weak CTC & GR Scepticism <i>n</i> = 110		Profile 2 Weak CTC & GR Support <i>n</i> = 264		Profile 3 Moderate CTC & GR Scepticism <i>n</i> = 259		Profile 4 Moderate CTC & GR Support <i>n</i> = 491		Profile 5 Strong CTC & GR Scepticism <i>n</i> = 212		Profile 6 Strong CTC & GR Support <i>n</i> = 179	
	<i>M</i> (<i>SE</i>)		<i>M</i> (<i>SE</i>)		<i>M</i> (<i>SE</i>)		<i>M</i> (<i>SE</i>)		<i>M</i> (<i>SE</i>)		<i>M</i> (<i>SE</i>)	
<i>M</i> Transmissive beliefs (<i>SD</i>)	3.7 (1.3) ^a		4.1 (1.0) ^c		3.9 (1.1) ^{a,b}		4.3 (1.0) ^{c,d}		4.2 (1.1) ^{b,c}		4.7 (1.0) ^d	
<i>M</i> Constructivist beliefs (<i>SD</i>)	5.0 (0.8) ^{b,c}		4.8 (0.8) ^{a,b}		5.0 (0.8) ^{a,b,c}		4.9 (0.7) ^a		5.1 (0.7) ^c		5.1 (0.7) ^{a,b,c}	
<i>M</i> Summative A beliefs (<i>SD</i>)	4.1 (1.3) ^a		4.2 (1.1) ^b		4.3 (1.1) ^{a,b}		4.5 (0.9) ^b		4.5 (0.9) ^b		4.9 (0.9) ^c	
<i>M</i> Formative A beliefs (<i>SD</i>)	4.5 (1.2) ^a		4.3 (1.1) ^a		4.4 (1.1) ^a		4.6 (0.9) ^a		4.6 (1.0) ^a		5.0 (0.9) ^a	
<i>M</i> Fixed I belief (<i>SD</i>)	2.5 (1.1) ^a		3.0 (1.1) ^b		2.7 (1.1) ^a		3.1 (1.0) ^b		2.7 (1.1) ^a		3.2 (1.1) ^b	
<i>M</i> Malleable I beliefs (<i>SD</i>)	5.0 (0.8) ^b		4.7 (0.9) ^a		4.9 (0.8) ^b		4.8 (0.7) ^a		5.0 (0.8) ^b		5.0 (0.8) ^{a,b}	

N = 1515. *CTC* collective teacher culture; *GR* grade retention; *I* intelligence; *A* assessment. Means labelled with the same letter were not significantly different. Means labelled with different letters are significantly different from each other according to the covariance analysis Z-test, using false discovery rate correction. Means were labelled alphabetically from lower to higher. Control variables included in the model: Sex, teachers' qualifications, teaching experience, class size, school location, educational level, grade retention knowledge and teachers experiencing grade retention

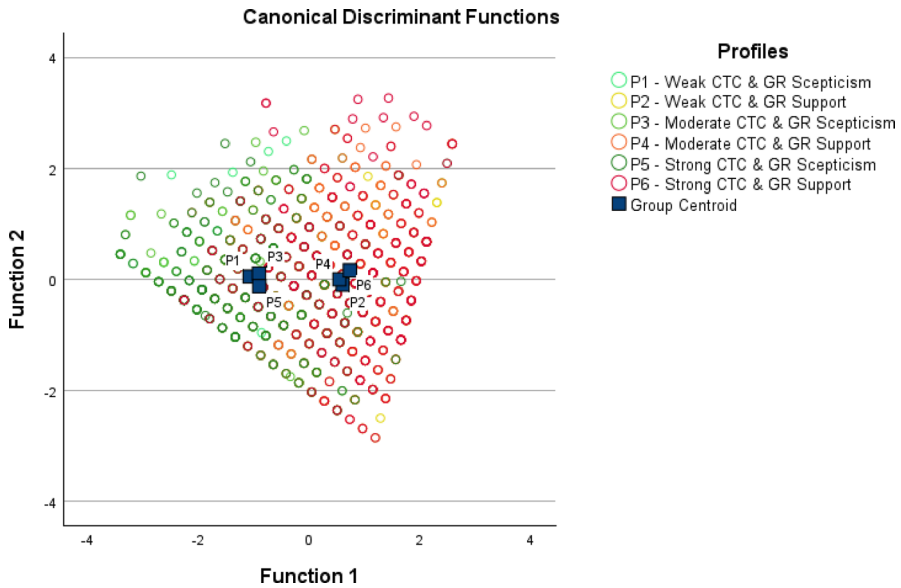


Fig. 3 Discriminant analysis results. $N = 1544$. CTC = Collective Teacher Culture; GR = Grade Retention

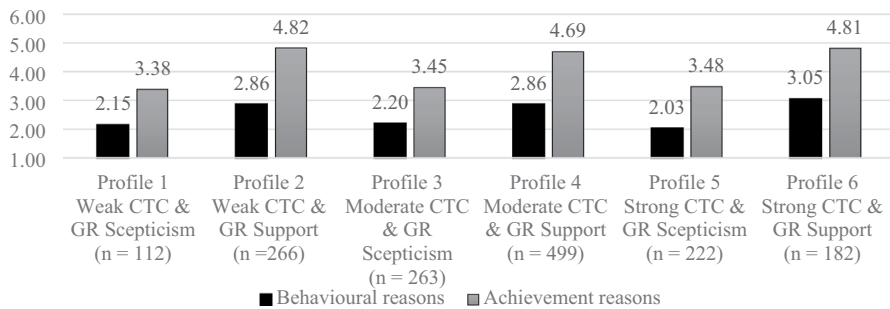


Fig. 4 Mean estimates for teachers' intention to retain students for behavioural and achievement reasons. $N = 1544$. CTC = Collective Teacher Culture; GR = Grade Retention. Control variables in the Model are evaluated at the following values: Teaching experience $M = 25.16$, education level $M = 2.27$, grade retention knowledge $M = 2.97$, fixed intelligence beliefs $M = 2.94$, transmissive beliefs $M = 4.18$, constructivist beliefs $M = 4.97$, summative assessment beliefs $M = 4.43$

$p < .001$ – explained between 11.1% (Cox & Snell R^2) and 14.7% (Nagelkerke R^2) of the variance in grade retention practices. The model correctly classified 64.6% of the cases. Regression coefficients, odds ratios, and significance test results for teachers' profile membership are presented in Table 6. Complete results regarding predictors entered in each block are available in the supplementary material.

Given that all profiles differ in their CTC levels, and we expected that profiles with a lower sense of CTC would retain more students, repeated contrast analyses were used to compare each profile with the previous one (see Table 6). The analysis revealed that teachers in the Weak CTC and GR Scepticism profile had approximately

Table 6 Logistic regression results

Predictors	β	SE	<i>p</i>	OR
Weak CTC & GR Scepticism (P1) vs. Weak CTC & GR Support (P2)	0.612	0.27	0.022	1.84
Weak CTC & GR Support (P2) vs. Moderate CTC & GR Scepticism (P3)	0.155	0.20	0.447	1.17
Moderate CTC & GR Scepticism (P3) vs. Moderate CTC & GR Support (P4)	0.146	0.18	0.421	1.16
Moderate CTC & GR Support (P4) vs. Strong CTC & GR Scepticism (P5)	0.231	0.19	0.227	1.26
Strong CTC & GR Scepticism (P5) vs. Strong CTC & GR Support (P6)	-0.418	0.23	0.072	0.66

N = 1517. CTC collective teacher culture; GR grade retention

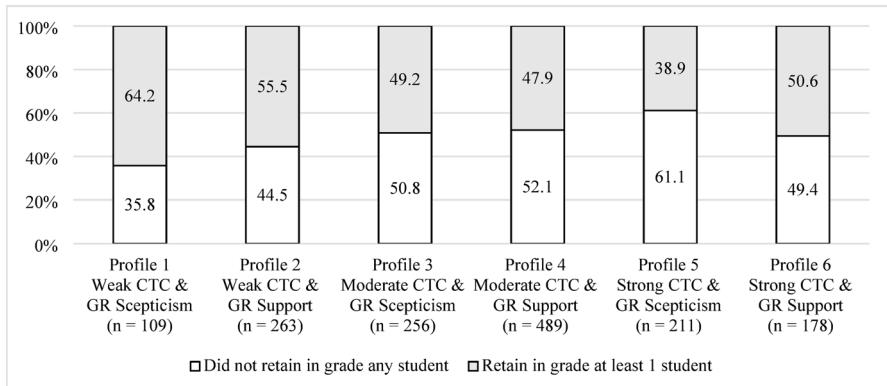


Fig. 5 Distribution of grade retention practices among the teachers' profiles. *N* = 1506. CTC = Collective Teacher Culture; GR = Grade Retention

84% higher odds of reporting grade retention practices than those in the Weak CTC and GR Supports profile. No significant differences were found between the other profiles. However, differences between the two Strong CTC profiles were marginally significant. Teachers in the GR Scepticism profile (Profile 5) had approximately 34% lower odds of reporting grade retention practices than those in the GR Support profile (Profile 6).

A simple contrast using Weak CTC and GR Scepticism Profile as the reference group showed that teachers in this group retained more students than teachers in all other profiles ($p < .022$) (see Fig. 5). Compared with teachers in Profile 1, teachers in the remaining profiles had significantly lower odds of reporting grade retention practices. Specifically, teachers in Profiles 2, 3, 4, 5, and 6 presented approximately 46%, 54%, 60%, 68%, and 52% lower odds, respectively, of reporting having retained at least one student during the previous school year.

4 Discussion

In the present study, we employed a person-centred approach and latent profile analysis to understand how teachers integrate their beliefs about grade retention and collective teacher culture to form distinct groups. Subsequently, we explored how teachers' psycho-pedagogical beliefs (about learning, assessment and intelligence development) relate to teachers' membership in specific profiles. We then compared these profiles to examine how differences in profile membership relate to teachers' grade retention intentions and practices.

4.1 Teachers' profiles regarding their grade retention beliefs and collective teacher culture perceptions

The latent profile analysis identified six distinct groups, with the main differences observed in their CTC perceptions, with Profile 1 representing the lowest level of perceived collective teacher culture, characterised by low collective efficacy, low shared goals, and low-value consonance—i.e., experiencing their context as value and goal fragmented, with reduced value consonance and lower confidence in teachers collective capability—and Profile 6 reflecting the highest level of perceived culture, with high levels across all CTC dimensions—i.e., perceiving their school context as professionally aligned, normatively coherent, and collectively competent. Teachers in Profiles 2, 4, and 6, who share similar beliefs favouring grade retention, were categorised as Grade Retention Support (GR Support), with Weak, Moderate, and Strong CTC perceptions, respectively. Teachers in Profiles 1, 3, and 5, who share similar beliefs opposing grade retention, were categorised as Grade Retention Scepticism (GR Scepticism), with Weak, Moderate, and Strong CTC perceptions, respectively.

Most teachers in our sample were classified into a GR Support profile (Profiles 2, 4, and 6). This is consistent with previous results since grade retention practices are historically rooted in Portuguese education (Ferreira et al., 2015; Rodrigues et al., 2017; Santana, 2019). Their beliefs may reflect the grade-replacement effect, whereby teachers' evaluations are influenced by the comparison structure inherent to classroom settings (Jimerson & Ferguson, 2007; Van Canegem et al., 2021). Retained students remain visible and are compared with younger cohorts, while similarly low-achieving students who progress are no longer part of the reference group. This asymmetry may generate observational biases that inadvertently reinforce the perceived benefits of grade retention. Such dynamics may help explain why so many teachers were in GR Support profiles, despite substantial empirical evidence highlighting the limited effectiveness of grade retention.

On the other hand, teachers in the GR Scepticism profiles (Profiles 1, 3, and 5) consistently showed lower CTC levels than those in GR Support profiles ($P1 < P2$; $P3 < P4$; $P5 < P6$). Value consonance related to the effectiveness of grade retention was particularly low in the GR Scepticism profiles, suggesting that teachers who doubted grade retention's effectiveness felt that their community did not support their beliefs, even if some general value consonance exists, as seen in the Strong CTC and GR Scepticism profile (Profile 5). These findings indicate that belief in grade retention's effectiveness functions as a shared social norm, perpetuated by the majority.

This may leave GR Scepticism teachers feeling isolated and undermined, thus lowering their CTC levels.

4.2 Relationship between psycho-pedagogical beliefs and profile membership

Considering the results from the three-step BCH analysis, our findings were in line with those found in previous studies in Portugal (Santos et al., 2023; Santos & Monteiro, 2022) and revealed a relationship between teachers' grade retention beliefs and their psycho-pedagogical beliefs. Teachers in the GR Support profiles were more likely to endorse beliefs consistent with the transmissive teaching model and fixed conceptions of intelligence, whereas those in GR Scepticism profiles were more likely to report malleable views of intelligence. As observed by Berger et al. (2018), these results suggest that teachers' general beliefs about the teaching-learning process may shape more specific psycho-pedagogical beliefs, such as grade retention beliefs. For example, the transmissive model, which emphasises the teacher's role as the primary knowledge transmitter and problem-solver (OECD, 2009), often involves structured and teacher-controlled practices and learning through repetition (Berger et al., 2018). Within this framework, arguments frequently used to justify grade retention — such as the creation of more academically homogeneous classrooms and the opportunity for students to consolidate knowledge through repetition (as observed by Pouliot, 1999 and Santana, 2019)— are conceptually aligned with transmissive views of teaching and learning (OECD, 2009).

Similarly, teachers who believe intelligence is fixed, innate, and unchangeable (De Kraker-Pauw et al., 2017) may be more likely to interpret students' difficulties as less responsive to instructional adaptation. As a result, grade retention may be perceived as a pedagogically reasonable response, providing students with additional time to meet academic expectations. Conversely, teachers who believe intelligence is malleable, controllable, and can be improved through effort and positive interactions tend to be less likely to view grade retention as effective (De Kraker-Pauw et al., 2017). These teachers may be concerned that grade retention could lead to feelings of failure and shame, undermining the positive emotional environment necessary for intellectual growth and future success (Goffin & Monseur, 2013).

Therefore, teachers' psycho-pedagogical beliefs play a crucial role in shaping their perspectives on grade retention, making them more resistant to change and more easily reflected in their teaching practices (Buehl & Beck, 2015).

The results also suggest that beliefs in the transmissive teaching model and in the summative purpose of assessment are stronger in profiles with Strong CTC perceptions. Since a transmissive approach offers clear, structured instruction (OECD, 2009), and summative assessments provide tangible goals and benchmarks for students' performance, these assessment practices, aligned with the transmissive approach, could likely foster a more cohesive and consistent collective teacher culture. Teachers tend to be more aligned on goals, monitoring, and expected outcomes in these environments. This strong sense of structure and clarity can promote collaboration, coherence, and a stable learning environment within a strong teacher culture. As Skaalvik and Skaalvik (2023) observed, CTC levels are higher when teachers

support a learning goal structure that values and recognises students' effort, improvement, and understanding.

Still, these associations should not be interpreted as implying that particular pedagogical orientations are inherently more appropriate. Rather, they reflect different frameworks through which teachers interpret student learning, assessment, and progression, as well as how they experience professional environments.

4.3 Grade retention intentions and practices across teacher profiles

Our third research question explored how teachers' profiles differed regarding their intention to retain students for academic and behavioural reasons and regarding in their grade retention practices. The planned behaviour theory suggests that teachers' beliefs about the effectiveness of grade retention can influence their intention to retain students and their use of grade retention (Andrews, 2012; Ajzen, 1991). Accordingly, teachers in the GR Scepticism profiles, who opposed grade retention, showed a lower intention to use this practice in our study. However, this did not necessarily translate into fewer students being retained in the past. Teachers from the Weak CTC and GR Sceptic profile (Profile 1) reported retaining more students than all other profiles, despite strongly doubting the effectiveness of grade retention and having lower intentions of using it, even after controlling for teachers' educational level. As suggested by the social cognitive theory, the school's culture in which teachers work (Goddard, 2001) may be related to their ability to execute their intended actions. The extremely low levels of CTC reported by teachers in Profile 1 may have affected their engagement and self-efficacy, as observed by Skaalvik and Skaalvik (2023). These teachers could have experienced their school environment as a dissonant context, leading to a lower sense of belonging, lower job satisfaction, and less autonomy (Skaalvik & Skaalvik, 2011). As indicated by Skaalvik and Skaalvik (2011), drawing on Rosenberg's (1979) work on contextual dissonance, teachers who do not align with the school's prevailing norms and values are likely to receive more negative feedback and less positive recognition for their practices.

To further interpret Profile 1, it is useful to distinguish between injunctive and descriptive norms. Injunctive norms refer to perceived approval, expectations, and potential social sanctions surrounding a behaviour, whereas descriptive norms refer to what is perceived to be commonly done in a given context (Cialdini et al., 1990; Lapinski & Rimal, 2005; Rimal & Real, 2005). In our framework, teachers' value consonance can be interpreted as an indicator of perceived injunctive normative alignment at the school level, insofar as it reflects the extent to which teachers perceive their own views as congruent with the prevailing norms and values of their educational community. More specifically, grade retention value consonance reflects perceived alignment with injunctive norms regarding grade retention. It captures the extent to which teachers perceive that their stance on the effectiveness of grade retention is shared and socially endorsed by colleagues and school leadership. Accordingly, the extremely low levels of value consonance and grade retention value consonance in Profile 1 suggest low perceived injunctive alignment regarding grade retention and heightened contextual mismatch. In such contexts, teachers may anticipate negative feedback and reduced recognition for deviating from what is perceived as institu-

tionally expected. This can increase pressure to conform even when personal beliefs are sceptical. This interpretation is consistent with normative accounts showing that perceived injunctive pressure can shape behavioural enactment beyond individual attitudes and intentions (Cialdini et al., 1990; Rimal & Real, 2005). At the same time, descriptive norms may help explain why grade retention remains behaviourally prevalent in Profile 1. When grade retention is experienced as a routine response in the school context, it may be perceived as what is typically done, thereby providing a descriptive normative cue, particularly in environments characterised by weaker collective efficacy and limited shared goals, where coordinated alternatives may be harder to enact. Evidence also indicates that descriptive norms can influence behaviour beyond attitudes and intentions (Rivis & Sheeran, 2003). Thus, for Profile 1, the belief–intention link may remain intact, while the intention–behaviour link is attenuated by low perceived injunctive alignment combined with descriptive normative cues and organisational constraints, making grade retention a norm-consistent and pragmatically available course of action.

In conclusion, our findings revealed that teachers in profiles characterised by weaker CTC perceptions tended to report higher grade retention practices. Teachers in the Weak CTC and GR Support Profile (Profile 2), who had slightly higher levels of CTC, retained fewer students than those in the Weak CTC and GR Scepticism profile (Profile 1), despite believing in the effectiveness of grade retention and intending to retain students for both behavioural and achievement reasons. As CTC levels increased, grade retention practices decreased. This trend, however, was disrupted in the Strong CTC and GR Scepticism profile (Profile 5), where teachers reported the lowest proportion of retained students. When strong CTC perceptions were combined with scepticism about the effectiveness of grade retention, the alignment between teachers' intentions and their actual practices became more pronounced. Teachers in the Strong CTC and GR Support profile (Profile 6), despite having the strongest CTC levels, had approximately 52% higher odds of reporting grade retention practices than teachers in the Strong CTC and GR Scepticism profile (Profile 5). The findings suggest that the relationship between CTC perceptions and grade retention practices varied according to teachers' grade retention beliefs. Stronger perceptions of collective teacher culture do not necessarily correspond to lower use of grade retention. Instead, CTC may shape how teachers' beliefs about grade retention are translated into practice. In profiles characterised by stronger support for grade retention, higher levels of value consonance and shared educational goals may facilitate the enactment of these beliefs in teachers' decisions and practices, increasing the use of grade retention.

4.4 Final considerations

This study's strengths, such as the use of robust psychometric measures invariant across educational levels, a large sample, and an innovative person-centred analytical approach (latent profile analysis), are not without their limitations. Its cross-sectional design prevents drawing causal conclusions, and the sample may not represent the wider teacher population. Because participation relied on voluntary responses to a mass mailing, the sample may be subject to self-selection bias and may not fully

represent the target population. Future studies could reduce this risk by employing probability-based sampling strategies and additional mixed-mode recruitment methods to improve representativeness. Another limitation is the lack of information about participants' schools. Analyses were limited to the individual level and did not allow the reconstruction of school-level culture. Future research would benefit from including school identifiers and recruiting enough teachers within each school to examine shared cultural patterns using aggregated or multilevel approaches. Additionally, the measure of grade retention practices does not capture students' characteristics, relying only on teachers' reported numbers of previously retained students. Furthermore, teachers' current beliefs and intentions regarding grade retention may be influenced by this prior use of the practice, as they may adjust their beliefs based on perceived classroom outcomes. This introduces potential reciprocal relationships between beliefs and practices in the present study. These factors should be considered when interpreting the findings, emphasising the need for more longitudinal, representative, and context-sensitive approaches in future research. Moreover, future studies could benefit from integrating teacher well-being and student-related variables to examine how these factors interact with belief systems and perception of the collective teacher culture.

Despite its limitations, this study offers valuable insights into teachers' beliefs and practices that can inform real-world applications. The latent profile analysis highlights the crucial interplay between teachers' personal beliefs about grade retention and their perceptions of the CTC. Even teachers who doubt the effectiveness of grade retention may retain more students if they feel isolated in their beliefs or perceive weak collective efficacy within their school. Conversely, teachers who support grade retention may retain fewer students if they experience a strong CTC. These findings emphasise the importance of fostering reflective and collaborative practices in schools that actively encourage the sharing of experiences and strategies for promoting student success. Professional learning communities should not only address the drawbacks of grade retention, but also the range of instructional and assessment practices available to teachers. This includes fostering reflection on different approaches to learning, assessment, and students' abilities, as well as promoting evidence-informed pedagogical responses (Santos et al., 2023). Greater coherence between teachers' beliefs, perceived school norms, and instructional practices may facilitate the adoption of research-supported strategies, such as differentiated instruction, curricular accommodations, and small-group interventions (Santos et al., 2023). Such developments may contribute to reduced reliance on grade retention, enhanced student learning, and improved professional satisfaction.

Our findings also suggest that, while transmissive teaching and summative assessment are often criticised as overly traditional or teacher-centred, they offer significant benefits by providing structure, clear goals, and consistency (Bietenbeck, 2014; Echazarra et al., 2016). These elements can foster shared expectations, a sense of collective ownership, and a united approach to decision-making (Skaalvik & Skaalvik, 2011, 2023). However, it is crucial that these goals focus on a learning- or mastery-oriented structure, prioritising students' effort, improvement, and understanding and recognising that mistakes are a natural part of the learning process (Skaalvik & Skaalvik, 2023). In contrast, a performance-driven goal structure that emphasises

achievement and test scores rather than progress can hinder the development of a positive perception of CTC (Skaalvik & Skaalvik, 2023). Therefore, while valuing and exploring student-centred and formative approaches, fostering a strong sense of structure and clear goals may enhance teachers' collaboration, coherence, and a stable learning environment within a strong teacher culture.

Finally, effective school leadership is pivotal in cultivating a supportive and trust-based environment for the entire school community (Bozkurt et al., 2021; Moller et al., 2013). Leaders can create conditions where teachers feel empowered to seek alternatives to grade retention by setting clear goals, aligning teachers' development and training with these goals, and promoting shared responsibility (Meyer et al., 2022; Moller et al., 2013). They can also dedicate time to collective reflection on student data and best practices, ensuring timely discussions about grade retention, and focus on preventive measures and evidence-based interventions. Moreover, promoting mentoring relationships, peer-observation programs, or collaborative practice development can facilitate the sharing of successful strategies across the school, further strengthening a cohesive culture (Sebba et al., 2010). By enhancing collective teacher efficacy and fostering collaborative problem-solving, school leaders can improve student outcomes and equip teachers with a broader range of intervention strategies, ultimately reducing reliance on grade retention.

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Data availability The datasets, materials and code generated for this study are available on request from the corresponding author.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

Ethical approval All procedures performed in this study involving human participants were in accordance with ethical standards. Informant consent was obtained from all individual participants included in the study. The study was approved by Portugal's Directorate-General for Education (*Direção-Geral da Educação*, No. 0091900022) and the Ethics Committee of the ISPA – *Instituto Universitário* (No. D/020/11/2019).

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