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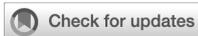
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Teachers' concerns about inclusive education and the links with teachers' attitudes

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The present research investigates teachers' concerns about inclusive education and said concerns' specific links with attitudes teachers have regarding this policy. More precisely, while the literature has already identified that teachers share distinct concerns regarding inclusive education (e.g., lack of resources, increased workload, appropriateness, or the difficulties associated with this policy), the first purpose of this exploratory study was to identify whether and how teachers specifically rank these concerns in terms of priority. Additionally, while teachers' concerns can be negatively associated with attitudes toward inclusive education, the present study also sought to investigate the distinct manner in which teachers' concerns predict these attitudes. A correlational study involving 508 French teachers was conducted indicating that teachers express the most concern about, by order of descending importance, resources, workload, difficulties, and appropriateness. Moreover, despite the fact that the latter factor was deemed least important, it most consistently predicted the voicing of negative attitudes by teachers toward inclusive education. This interesting paradox, as well as the implications and limitations of the present findings, are discussed.

KEYWORDS

teachers, concerns, attitude, France, inclusive education

1. Introduction

Enabling every child to benefit from a mainstream education, regardless of their special educational needs (SEN), remains one of the major challenges facing our education systems (Ferguson, 2008). Indeed, improving social participation and the learning opportunities of students with SEN is all too necessary but appears costly at every level, from the policy level (i.e., investment of money to change the education system) down to that of practitioners (i.e., modifying teaching practices to meet students' needs). It is therefore not surprising that teaching staff should express concerns regarding this policy (Sharma and Desai, 2002). Our aim with the present exploratory research is twofold. First, we seek to examine the manner in which teachers potentially rank these concerns hierarchically and, second, how said ranking relates to teachers' attitudes toward this policy.

1.1. Teachers' concerns about inclusive education

The inclusion of students with special educational needs has brought about a genuine upheaval in teachers' daily routines. Indeed, they have gone from teaching relatively homogeneous groups of students for whom a single pedagogical method was used to deal with a student body for whom a single traditional method is no longer sufficient. In addition, while teachers used to be relatively alone in managing the classroom, they must now collaborate with teaching or students' assistants, special education teachers and even paraprofessionals (e.g., speech or occupational therapists, medical doctors). In other words, teaching has changed, and as with all changes and innovations in education, it has given rise to concerns.

The literature regarding concerns about inclusive education is extensive, as teachers' concerns were rapidly identified as a hindrance to the full implementation of inclusive education. For our purposes, concerns refer to the "questions, uncertainty and possible resistance that teachers may have in response to new situations and/or changing demands" (Yan and Deng, 2019, p. 385). In other words, concerns are negative expectations related to a specific event or behavior. Not surprisingly, such concerns are negatively associated with teachers' attitudes toward inclusive education (i.e., the more concerns teachers have regarding inclusive education, the less they support the implementation of this policy) and intentions to use inclusive practices (i.e., the more concerns teachers have regarding inclusive education, the lesser their intentions to use endorse inclusive teaching practices, see Miesera et al., 2019).

Regarding types of concern, both qualitative and quantitative studies show that teachers fairly universally and consistently indicate that they lack resources to include students with SEN. They state that their workload is increasing, that they are experiencing more difficulties with classroom management and/or that the inclusion of students with SEN reduces teaching/education quality (see Sharma and Desai, 2002; Bhatnagar and Das, 2013; Miesera et al., 2019; Sahli Lozano et al., 2022; Warnes et al., 2022). Nevertheless, it should be noted that in the reference tool to record these concerns (i.e., the "Concerns about Inclusive Education Scale"—CIES, Sharma and Desai, 2002), the scope of these concerns is larger since for example, for teachers' concerns about resources, items focus on funding, staff, infrastructure or learning material (see method section for more details regarding the specific tool we will use here). Put differently, the four above-mentioned concerns should be considered as quite broad categories.

Since its publication, this tool has been used in a large number of studies throughout the world (e.g., Australia, Korea, and Switzerland), often with the goal of comparing individuals' concerns based on their professional status (i.e., teacher or school principal, Sharma and Desai, 2002; Warnes et al., 2022), country of origin (Sharma et al., 2018), or training (Sokal et al., 2013; Song et al., 2019). The main reason behind such interest was, and

remains, that better understanding teachers' preoccupations regarding inclusive education could open doors in the development of specific responses (from policymakers to special education teachers) to help teachers overcome negative expectations and allow students with SEN to fully benefit from mainstream education.

1.2. Hierarchy of concerns and attitudes toward inclusive education

Quite surprisingly, none of the abovementioned studies specifically and statistically compare teachers' concerns in order to identify a hierarchy among them. It is nevertheless possible that teachers express distinct levels of preoccupation by domain. As a support to this claim, Warnes et al. (2022), in the qualitative part of their study, cited "Resources" as the greatest concern spontaneously expressed by teachers. We have synthesized the available quantitative data from the studies having used the CIES (and identified the same 4-factor structure) within Table 1, which tend to confirm that participants did not rate the four concerns at the same level. More precisely, while their order slightly differs between studies, a grand mean calculation suggests that participants express greater concern regarding the lack of resources – by order of preoccupation—than acceptance of students with SEN, the potential threat to academic standards, and, finally, the projected increase in workload. Such a comparison invites more rigorous study, since identifying how these core concerns are hierarchized among teachers could be additionally relevant to the implementation of inclusive education (by providing more precise knowledge about where to direct the response).

In the same vein, level of concern may be negatively associated with teachers' attitudes toward inclusive education (Sokal and Sharma, 2014; Miesera et al., 2019; even if this relationship is not always observed, see for example Yada and Savolainen, 2017). There might also be added value in knowing how specifically distinct concerns are associated with teachers' attitudes in order to develop effective (specific) responses regarding the acceptance of inclusive education. The purpose of this exploratory study is thus to provide preliminary answers to these two questions: (1) Are concerns ranked hierarchically among teachers, and if so, how? And (2) are concerns specifically related to teachers' attitudes toward inclusive education, and if so, how? It should be noted that the present study was conducted with French teachers. The chosen context is particularly relevant to the teachers' concerns, since inclusive education has been one of the main transformations introduced in France's education system over the last decade (with numerous changes within the past 5 years especially). The debate over the legitimacy of this paradigm (and thus the associated preoccupations) remains particularly vivid in the country (see Ployé, 2018; Galle, 2021; Jellab, 2021).

This study has been pre-registered (AsPredicted #90237, see here: https://aspredicted.org/KTL_7G6) and the associated data and materials are fully accessible here: <https://osf.io/fsjcu>.

TABLE 1 Synthesis of studies that have used the CIES and provide information regarding the means for each concern.

Study	Country	N	Mean for workload	Mean for resources	Mean for acceptance	Mean for academic standard	Hierarchy (descriptive)
Bhatnagar and Das (2013)	India	500	1.99	2.76	2.32	2.33	R > AS > A > W
Miesera et al. (2019)	Germany	887	2.51	2.94	2.62	2.16	R > A > W > AS
Sharma and Desai (2002)	India	794	1.72	2.79	2.09	2.16	R > AS > A > W
Sharma and Nuttal (2016)*	Australia	030	1.68	2.65	2.48	2.2	R > A > AS > W
Sharma et al. (2018)	Australia/ Italy	309	1.80	2.60	2.09	1.97	R > A > AS > W
Song et al. (2019)*	Korea	116	1.81	2.42	2.33	1.43	R > A > W > AS
Sokal and Sharma (2014)	Canada	137	1.95	2.57	2.00	1.90	R > A > W > AS
Sokal et al. (2013)*	Canada	060	1.86	2.52	2.44	2.30	R > A > AS > W
Warnes et al. (2022)	United Kingdom	093	2.48	2.61	2.12	2.46	R > W > AS > A
Grand mean calculation	N/A	2,926	2.06	2.77	2.31	2.14	R > A > AS > W

Descriptive mean of the scale was not always provided. The scores presented here are calculated from the information available in the paper. R, Resources; W, Workload; A, Acceptance; AS, Academic standard.

*Pre-intervention scores were collected.

2. Materials and methods

2.1. Participants

Due to the correlational nature of the study, we used Schönbrodt and Perugini's (2013) work on critical sample size to detect a small-to-medium effect size with an 80% confidence level, determining that a sample size of 250 participants should be sufficient to obtain stable correlations. During the period in which the study was promoted on social and professional networks (i.e., 3 weeks), 508 participants completed the questionnaire. This sample included 451 women and 31 men, with 26 missing data. Most participants were over 40 (55.4%) and had more than 10 years of experience as in-service teachers (63%) in elementary schools and kindergartens (86%). Finally, almost all participants had experience with inclusive education (96.3%), but only a slight majority were familiar with disability (56.5%).

2.2. Material

2.2.1. Concerns about inclusive education

To measure teachers' concerns about inclusive education, the short-form version of the CIES validated by Sahli Lozano et al. (2022) was used. This scale includes 12 items in total, 3 for each concern. For resources, items cover concerns regarding staff and funding. For workload, items seek to capture teachers'

concerns regarding the extended time they would need and the few incentives they would get while including students with SEN. It should be noted that in comparison with the original scale developed by Sharma and Desai (2002), the factor "Acceptance" has been replaced by "Difficulties." This new factor encompasses 3 items solely focused on the difficulties associated with the implementation of inclusive education (in terms of discipline, equal attention, or emotion). Similarly, the factor "Academic Standard" has been slightly reorganized into an "Appropriateness" factor which only include items pertaining to declining teaching performance in teaching and learning in inclusive classrooms (for full details regarding the changes, see Sahli Lozano et al., 2022). Finally, additional modifications have been made for the purposes of this specific study. First, the research team translated items into French in order to make them accessible to the participants. Second, instead of using a 4-point Likert scale, participants were prompted to indicate the extent to which they agree with each item from 1, Totally disagree to 5, Totally agree. Third and finally, items in the original scale are written in the future tense (e.g., "My workload will increase"). However, since inclusive education is a reality, the research team chose to rewrite them in present tense, specifying the inclusive education context (e.g., "With inclusive education, my workload is increasing," see online material).

If replicating the confirmatory factor analysis conducted by Sahli Lozano et al. (2022) translated a good fit of our model (CFI = 0.996; RMSEA = 0.029; SRMR = 0.042), it should be noted

that reliability analyses were less satisfactory for the factors “Resources” ($\omega = 0.59$) and “Workload” ($\omega = 0.64$), but good for “Difficulties” ($\omega = 0.75$) and “Appropriateness” ($\omega = 0.87$).

2.2.2. Attitudes toward inclusive education

In order to measure teachers’ attitudes toward inclusive education, participants were prompted to indicate the extent to which they agree with six items extracted from the MATIES scale (Mahat, 2008, one of the most psychometrically sound questionnaires regarding this question, Ewing et al., 2018). In her original scale, the author proposed a measure to assess the cognitive, affective, and behavioral components of teachers’ attitudes toward inclusive education. For the present study, only the six items referring to the cognitive component were used (e.g., “I believe that an inclusive school is one that permits academic progression of all students regardless of their ability”; “I believe that students with disabilities should be educated in special schools”—reverse coded—). Participants were asked to indicate their level of agreement on the same 5-point scale as earlier. The reliability analysis was satisfactory ($\omega = 0.79$). Descriptive statistics and correlations between all variables are presented in Table 2.

2.3. Procedure

Data were collected using an online questionnaire sent out to teachers in March 2022 via social and professional networks. Participants were informed that the study was anonymous, that no personal data would be collected, and that they could quit at any time without justification or prejudice. Participants who did not object to participating were then invited to complete the two scales and, finally, socio-demographic data (age, gender, grade level taught, seniority, and inclusive education experience) were collected. At the end of the study, participants were fully debriefed regarding the purpose of the research.

3. Results

3.1. Pre-registered analyses

As indicated in the pre-registration form, three analyses were planned. First, a repeated measure analysis of variance with the

distinct concerns as a within factor (i.e., Resources, Difficulties, Appropriateness, and Workload) was conducted in order to identify how teachers prioritized the factors. Then, the attitudes mean score was regressed on a model in which the four concerns were entered as predictors. Finally, a Relative Importance Analysis (Tonidandel and LeBreton, 2011) on these four predictors assessed the extent to which each predictor contributes to the model.

3.2. Hierarchy of concerns

The ANOVA conducted indicated that the levels of preoccupation significantly differ depending on the type of concern, $F(3,1,521) = 699.46, p < 0.001, \eta_p^2 = 0.58$. More precisely, as indicated in Figure 1 below, French teachers appear to be more concerned about the lack of resources ($M = 4.10, SE = 0.03$) than, respectively, the workload generated ($M = 3.85, SE = 0.04$), the perceived difficulties ($M = 3.34, SE = 0.04$), and the appropriateness of inclusive education ($M = 2.39, SE = 0.05$; all $p_{Bonferroni} < 0.001$). This hierarchy is slightly distinct from the one presented earlier and will be discussed further below.

3.3. Links between concerns and attitudes toward inclusive education

In order to study how each concern relates to teachers’ attitudes toward inclusive education, we conducted an analysis in which the attitude score has been regressed on a model including the 4 concerns. Overall, this model explained nearly 36% of the variance in the attitudinal score ($R^2 = 0.359$). Regarding the links between each concern, the analysis revealed that, surprisingly, the concerns regarding resources, $B = -0.00, SE = 0.04, t(503) = -0.03, p = 0.98, 95\% \text{ CIs } [-0.08; 0.08]$, or workload, $B = -0.06, SE = 0.04, t(503) = -1.29, p = 0.20, 95\% \text{ CIs } [-0.13; 0.03]$ are not related to teachers’ attitudes. However, the more concerned teachers were about the difficulties that inclusive education might generate, the less supportive they were of this policy, $B = -0.14, SE = 0.04, t(503) = -3.35, p < 0.001, 95\% \text{ CIs } [-0.22; -0.06]$. In the same vein, the more teachers were concerned that inclusive education could cause a decline in teaching performances or academic achievement, the less favorable they were toward this policy, $B = -0.29, SE = 0.04, t(503) = -8.27, p < 0.001, 95\% \text{ CIs } [-0.36; -0.22]$.

TABLE 2 Descriptive statistics and intercorrelations between variables.

Variables	M	SD	1	2	3	4	5
1. Resources	4.10	0.76	–				
2. Workload	3.85	0.79	–0.49***	–			
3. Difficulties	3.34	0.98	–0.44***	–0.55***	–		
4. Appropriateness	2.39	1.08	–0.38***	–0.45***	–0.71***	–	
5. Attitudes	3.62	0.74	–0.27***	–0.35***	–0.52***	–0.58***	–

*** $p < 0.001$.

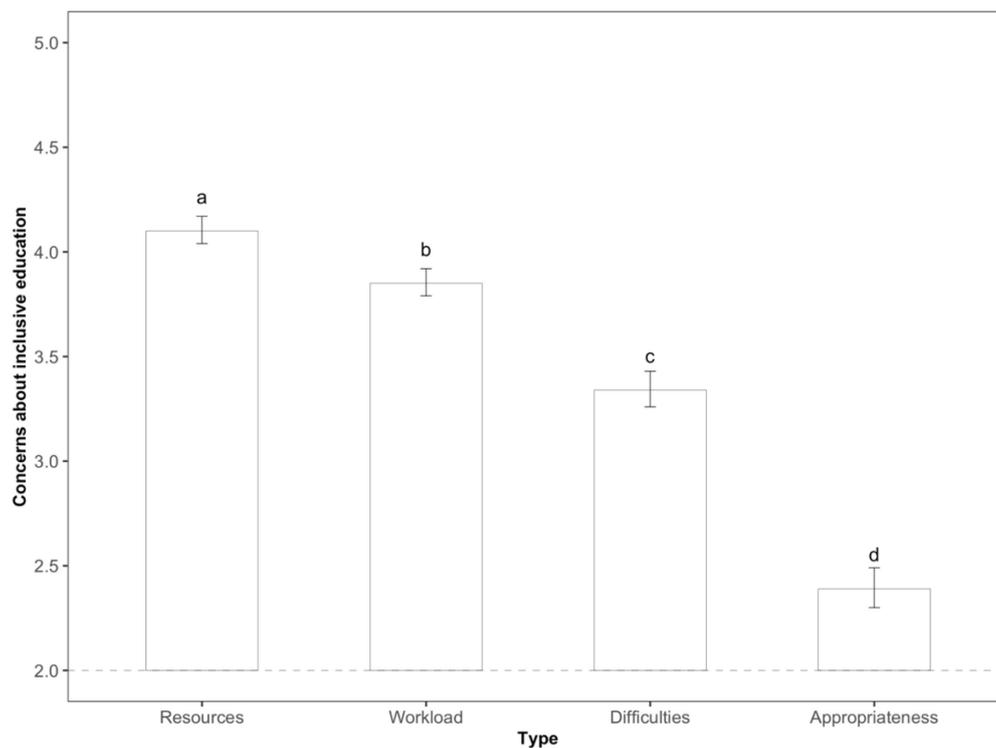


FIGURE 1
French teachers' concerns about inclusive education. Different letters indicate significant differences between groups ($p < 0.05$). Error bars represent 95% CIs.

Finally, since the predictors are correlated (see Table 2), a regression analysis might not be the best choice to properly partition variance in the predicted criterion (i.e., attitudes). To address this limitation, a relative importance analysis was conducted (for more details, see Tonidandel and LeBreton, 2011) through an RWA-Web Shiny App (Tonidandel and LeBreton, 2015). Confidence intervals for individual relative weights and all corresponding significance tests were based on bootstrapping with 10,000 replications (see Tonidandel et al., 2009). The results from this analysis confirm that the weighted linear combination of our four concern variables explained 35.9% of the variance in teachers' attitudes. An examination of the relative weights revealed that all four variables accounted for a statistically significant amount of variance in teachers' attitudes, as none of the 95% CIs for the tests of significance contained zero, with, by order of importance, Appropriateness ($RW = 0.186$, 51.9%), Difficulties ($RW = 0.112$, 32.3%), Workload ($RW = 0.040$, 11.2%), and Resources ($RW = 0.020$, 5.7%).

The relative weight results differ slightly from those obtained in the regression analysis, since in the analysis presented above, neither Workload nor Resources provided a statistically significant incremental effect in the prediction of teachers' attitudes, holding constant all of the remaining concern variables. The lack of concordance between the results from these two analyses is not uncommon. For Tonidandel and LeBreton (2011), this suggests that both variables are to explain for non-trivial variance in

teachers' attitudes, but that the correlations they share with one another (and the other concern variables) means that they account for little unique, incremental variance.

This analysis also revealed that the relative weight of Appropriateness was significantly greater than all of the remaining concern variables (none of the 95% CIs for the tests of significance contained zero). In sum, it appears that the majority of the predicted variance in teachers' attitudes could be attributed to their fear of a potential decline due to inclusive education, a concern that is weaker yet than other concerns in teachers' minds. This interesting paradox will be discussed in the next section.

4. Discussion

Implementing inclusive education is challenging. Teachers stand at the very core of this new paradigm, and understanding their worries is essential to changing the system and shaping their professional development. Drawing on an abundant literature on teachers' concerns about inclusive education, we conducted an exploratory study seeking to identify a potential hierarchy among these concerns as well as their specific links to teachers' attitudes toward inclusive education.

Our results from this single correlational study involving French teachers indicated a clear pattern as regards concerns. Indeed, it seems that teachers are worried about, by order of

priority, resources, workload, difficulties, and the appropriateness of inclusive education. Unsurprisingly, a lack of resources is clearly the number one preoccupation for teachers when it comes to implementing inclusive education (a result less obvious from the students', [Goldan and Schwab, 2020](#), or the parents' perspective, [Paseka and Schwab, 2020](#)). If funding is clearly an essential tool for the implementation of inclusive education ([Meijer and Watkins, 2019](#)) and appears to be, at least in teachers' minds, the solution for the success of this policy, three warnings should, however, be mentioned regarding this issue. First, distinct kinds of resources exist (i.e., human resources, material resources, spatial resources, and training) and more research is needed to identify the priority among them. Second, even in countries (e.g., Italy) where resources have been expended, teachers continue to claim for more investments (e.g., more special education teachers, reduced class sizes, and more training for teachers, [Saloviita and Consegna, 2019](#)). Third and finally, as mentioned by [Sharma and Vlcek \(2021, p. 63\)](#), "more funding is unlikely to result in better outcomes unless clear mechanisms are in place to identify how funds will be used to support teachers and resource schools." In other words, if increasing the resources is clearly needed, these warnings suggest that other factors should also explain why implementing inclusive education remains so difficult.

Among the findings, it appears that an increase in workload is an important concern among French teachers. If such result is not surprising given the literature ([Gunnþórsdóttir and Jóhannesson, 2014](#), see also [Warnes et al., 2022](#)) it should be noted that this concern was less salient in previous studies from other countries (i.e., as in India or Australia, see [Table 1](#) above). This difference might be explained by a cultural factor, since inclusive education in France is somewhat recent and still not always properly understood by teachers ([Perrin et al., 2022](#)). While multicultural studies often compare teachers' concerns as a function of their countries' policy (see [Sharma et al., 2018](#); [Sahli Lozano et al., 2021](#)), another variable of interest could be the history of inclusive education within the country. One might reasonably assume that teachers from countries with many years of experience including students with disabilities would express fewer concerns regarding projected workloads in light of their professional habits. Such comparisons could also aid in identifying trends in the evolution of concerns over time (even if a cross-sectional study cannot replace a longitudinal study).

Finally, and maybe more importantly, the present results raise a paradox that merits attention. Indeed, while Resources and Workload appear to be the most important concerns before Difficulties and Appropriateness, subsequent analyses (i.e., regression and RIA) revealed that the former account for less variance in teachers' attitudes toward inclusive education than the latter. As a matter of fact, if teachers appear to be right to not be overly worried about appropriateness (see [Szumski et al., 2017](#); [Kart and Kart, 2021](#); [Krämer et al., 2021](#)), the fact that this concern is the strongest (negative) predictor of attitudes toward inclusive education is particularly thought-provoking. This indeed suggests that teachers believe that allowing some – initially excluded

– students to participate and offering them the same learning opportunities could pose a threat to their school's standing (by enhancing the risk of lowered academic quality). It seems that this fear of school devaluation could be linked to the very functions of school since, according to the functionalist perspective on education ([Dornbusch et al., 1996](#)), educational institutions notably have a selection function (i.e., sorting students into different curricula to ultimately allot them social positions commensurate with their individual merit, [Autin et al., 2015, 2019](#); [Darnon et al., 2009](#)). This selection function, by determining which students are "worthy" of pursuing the most prestigious courses of study ([Batruch et al., 2019](#)), should serve the prosperity of society ([Parsons, 1959](#)) and has been identified as incompatible with inclusive education ([Khamzina et al., 2021](#)). Therefore, for teachers who inherently contribute to this selection function, welcoming students with SEN could be perceived as a risk of having to devote more time to them, thereby preventing other students from reaching the expected benchmarks (thus, risking a "poorer" selection). While this threat is not always salient due to the low number of students with SEN who are fully included (for an example on students with Autism Spectrum Disorder in France, see [Rattaz et al., 2020](#)), perhaps also explaining low concern, their numbers appear sufficient to produce negative attitudes. If future studies were to investigate more deeply the origin of this appropriateness concern and its relationship to teachers' attitudes, they could also investigate the consequences of this concern from the perspective of students with SEN. They may indeed be perceived as the source of a threat to teaching quality, and looked upon more negatively among teachers who strongly endorse this preoccupation.

Although these results seem promising and likely to open new perspectives, a few limitations must be mentioned. First, we chose to translate the questionnaire validated by [Sahli Lozano et al. \(2022\)](#) without conducting a full translation and validation process. This might explain some mediocre reliability indices, inviting caution regarding the interpretation of the results. It should also be noted that, as evoked in the introduction section, that the four concerns measured through this tool represent general categories that are maybe too broad. Future research can study more precisely the scope of these concerns (i.e., what they cover) and how they could also differ depending on the type of needs or disability faced by students. It would not be surprising that the concern hierarchies identified were different for students with a motor disability versus those with an Autism Spectrum Disorder (for an example regarding attitudes see [Jury et al., 2021](#)). Finally, this study was conducted in a specific context (i.e., the French context), which inherently reduces the generalizability of findings. A cross-cultural study investigating how and whether this hierarchy differs between countries would also contribute greatly to a better understanding of the barriers to inclusive education.

Notwithstanding these limitations, the present results offer contributions to the literature. Indeed, by showing that teachers

not only have concerns about inclusive education but assign them a clear hierarchical ranking, our study opens avenues for both new research and interventions to develop more specific responses and, perhaps, more effective action to mitigate these concerns. Additionally, by showing that the relationship between attitudes and inclusive education depends on the type of concerns, the study also helps to understand some of the inconsistent results regarding this specific point, calling on researchers to investigate these relationships more deeply. Finally (and unfortunately), the present research is another illustration of the long road that education systems must still travel before every student can enjoy their right to education.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found at: <https://osf.io/fsjcu>.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

Author contributions

AL, CD, MJ, and SC conceived and designed the study and collected the data. MJ analyzed the data and drafted the

manuscript. AL, SC, and CD provided critical revisions. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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