INCLUSIVE SCHOOLS FOR A DIVERSE WORLD: PSYCHOLOGICAL AND EDUCATIONAL FACTORS AND PRACTICES HARMING OR PROMOTING INCLUSION AT SCHOOL

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INCLUSIVE SCHOOLS FOR A DIVERSE WORLD: PSYCHOLOGICAL AND EDUCATIONAL FACTORS AND PRACTICES HARMING OR PROMOTING INCLUSION AT SCHOOL

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Editorial: Inclusive schools for a diverse world: Psychological and educational factors and practices harming or promoting inclusion at school

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Editorial on the Research Topic
Inclusive schools for a diverse world: Psychological and educational
factors and practices harming or promoting inclusion at school

Inclusion is for schools a primary goal in providing instruction and education (Daiute et al., 2021) in an equal and fair learning environment for every student. Since the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994), all the educational systems were called to implement some sort of inclusive actions in their schools to make them open to the diversity of the pupils and equipped to meet their social and academic needs. This implied important intended consequences on the educational practices put in action at school, on the non-discriminatory nature of the society, and on the economic sustainability of educational systems (Ainscow et al., 2019). The Salamanca agreement framed many important changes in the way pupils are involved and supported in education.

However, inclusive education is not a clearly defined construct, and it is differently conceptualized and implemented in various educational contexts of several countries, implying diverse attitudes toward it by different stakeholders (Krischler et al., 2019; Leijen et al., 2021).

A number of definitions of inclusion can be observed (Göransson and Nilholm, 2014), where it can be described by simply placing students with disabilities or

with special needs in general education classrooms (*placement* definition), providing resources for the social and academic needs of students with disabilities or with special needs (*specified individualized* definition) or of all students (*general individualized* definition), or by creating communities with specific characteristics (*community* definition). In this regard, attitudes toward the students with special education needs (SEN) play an important role in influencing the creation of an inclusive school.

This Research Topic includes articles discussing the different factors and variables harming or promoting social and academic inclusion in a variety of contexts and involving diverse stakeholders.

The first factor characterizing the studies here presented is the "who should be included", in other words the specificity of the students benefiting from the inclusion. An importantly targeted population, particularly in research in the last 10 years, is that of students who are migrant or from ethnic minorities (Costa et al.; Gitschthaler et al.; Wang; Glock et al.); their inclusion in general classroom would require teachers with intercultural competences and resources to overcome the eventual communication difficulties in the school language and to valorize the cultural richness of the classroom. Other articles focus on students with disabilities (Alvarez-Delgado et al.; Al Jaffal) or with special educational needs (Casino-García et al.; Lindner et al.; Kobs et al.). Noteworthily, several articles address inclusion of all the students, such as the works proposed by Liu et al., Schellenberg et al., Kivirand et al., and Graham et al..

The question of what factors influence inclusion at school may find an answer in different features of the experience and relationships in educational contexts. The papers included in this Research Topic confirm the important role of the teachers' attitudes (such as in Costa et al.; Kobs et al.; Glock et al.), as well as students' attitudes (Alvarez-Delgado et al.; Graham et al.).

Another important factor is represented by the teacher competence, in terms of multiculturality as it is discussed by Wang, and the question of how to teach students with specific disabilities (Al Jaffal). In this regard, studies investigating specific pedagogical interventions may give a valuable contribution to teacher training programs: the studies by Casino-García et al., Lindner et al., Gitschthaler et al., and Schellenberg et al. highlight the potential of curricular and extra-curricular strategies to support inclusion.

Finally, important differences may be observed in the implementation of inclusion according to the qualities of the school social context, as shown in the studies proposed by Liu et al., Kivirand et al., and Al Jaffal.

It is important that research in education not only investigates factors influencing the inclusion in schools but also tests and suggests practices and tools to promote inclusion. The studies presented in this Research Topic provide valuable indications and propose that teachers' training should play an important role rising the teachers' (and other school professionals') multicultural awareness, changing their attitudes and supporting equal and inclusive educational practices (Costa et al.; Wang; Glock et al.; Kivirand et al.). In addition, an intervention at the school level may increase important resources such as cultural services and school facilities, as showed by the studies of Liu et al., Gitschthaler et al., and Al Jaffal. Moreover, students are important actors in the scene of school inclusion: using collaborative students' practices (Casino-García et al.; Lindner et al.; Schellenberg et al.) and extracurricular activities in order to increase empathy and awareness (Alvarez-Delgado et al.) can contribute to changing the social climate of the classrooms.

In conclusion, we highlight the necessity to integrate the perspectives of different actors and stakeholders (in particular, teachers, students and families) to foster collaboration among different microsystems of the ecological environment where the students develop their competences and identity (Lindner et al.).

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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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Teachers' Implicit Attitudes Toward Ethnic Minority Students: A Systematic Review

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Although instruments to assess implicit attitudes were introduced more than 20 years ago, still there are few studies in the field of education that use them, despite the evidence that teachers with negative implicit attitudes can negatively affect the academic performance of their students. This review aims to summarize the results of studies that investigated the relationship between implicit ethnic attitudes of teachers and achievement of students. The review was conducted according to PRISMA-statement through searches in the scientific database PsychINFO, PsycARTICLES, and ERIC. Nineteen studies were included. Results show that overall teachers (from different school levels and different countries) hold negative implicit attitudes toward ethnic minority students, which play an important role in affecting the academic path of these groups of students. This review highlights the need to continue to use implicit attitudes procedures in future researches, in order to identify those factors that may contribute to the formation and expression of implicit attitudes of teachers; and the need to increase awareness of the implicit attitudes and multicultural practices of teachers in teaching programs.

Keywords: implicit attitude, ethnic bias, teacher – education, review – systematic, achievement gap

INTRODUCTION

The composition of the population of schools is profoundly changing due to the migration flows. The growing diversity could be an opportunity for both students and teachers, leading to a readjustment of teaching practices to meet the needs of students from different cultures (Passiatore et al., 2019). Unfortunately, students with an immigrant background often experience disadvantages in school, in most Organization for Economic Co-operation and Development (OECD) countries, first- and second-generation immigrant students report frequent unfair treatment from their teachers (OECD, 2019). Ethnic minority students show lower performances in school than ethnic majority peers (Haycock, 2001; Dee, 2005; Reardon and Portilla, 2015), and they drop out of school more frequently and earlier (Rumberger, 2011).

Several factors come into play when it comes to explaining this ethnic achievement gap. One of them seems to be the low socioeconomic status (SES) of ethnic minority families (Sirin, 2005), whereby ethnic minority students have a more restricted access to quality education (Strand, 2014). Further, language barriers have to be considered, since students who speak at home a language that is different from the language used in school may have disadvantages in the assessment tests used (OECD, 2016). It seems also that the levels of parental involvement and the relationship between

parents and teachers are able to influence the performance of students, and the ethnic minority parents often show the lowest levels of involvement and more negative relationships with teachers (Costa et al., in press).

Teachers might influence paths of the ethnic minority students through their grading. The interactions of teachers with their students in the classroom and a judgmental bias could exacerbate the disadvantageous experience of ethnic minority students in schools. This behavior pattern of teacher can also be a consequence of the implicit attitudes and expectations that teachers have toward students and their academic paths and career opportunities (Boser et al., 2014), which are commonly negative toward marginalized groups of students, namely, ethnic minorities (Pit-ten Cate and Glock, 2019).

Studying implicit attitudes in schools is extremely important (Langher et al., 2019), as teachers are required to work in a context that implies to manage multiple tasks simultaneously (Santavirta et al., 2007) and to respond immediately to situational demands (Doyle, 2006). These conditions often do not allow teachers to engage in controlled and thoughtful processes, leaving the way open to implicit attitudes. Hence, implicit attitudes can more easily influence the behavior of teachers, their teaching practices, and their judgments about students.

Considering the aforementioned facts, the aim of this review is to provide an overview of the implicit ethnic attitudes of teachers and their relation to academic outcomes of students from ethnic minorities, investigating factors that may play a role in implicit attitudes, such as age, gender, professional status of teachers, and school level, with a focus on the different methods used to assess implicit attitudes.

IMPLICIT ATTITUDES

Attitudes represent a mental association between an attitude object and its assessment (Eagly and Chaiken, 1993). They can be toward an object, an abstract concept such as inclusion, a person, or a group (Eagly and Chaiken, 1993). Attitudes are defined as "*a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor*" (Eagly and Chaiken, 1993, p. 1).

People develop attitudes throughout life, as a consequence of their own socialization processes with family and friends (Sherman, 1996; Rudman, 2004; Dovidio et al., 2010) and of their personal experiences (Sherman, 1996; Rudman, 2004). Anyhow, personal contact with the object or target group is not absolutely necessary in order to develop a set of attitudes toward them, as people can also learn from others how to evaluate these entities and they can also form their attitudes with the influence of media (Dovidio et al., 2010).

Attitudes reflect cognitive, affective, and behavioral experiences with the objects of attitude. The cognitive component of attitudes reflects socially shared knowledge and beliefs about the entity (Devine, 1989; Eagly and Chaiken, 1993) while the affective component represents the emotions and feelings associated with the attitude object (Eagly and Chaiken, 1993). The cognitive and affective components of attitudes (stereotypes and prejudices, respectively), therefore, differ in their content, since they are socially shared knowledge on the one hand and an evaluation (of a social group in our case) on the other (Eagly and Mladinic, 1989; Eagly and Chaiken, 1993), but they are often related and activated simultaneously (Eagly and Mladinic, 1989; Wittenbrink et al., 1997; Bessenoff and Sherman, 2000; Fishbein, 2008). For example, an object of attitude such as pupils of ethnic minorities, can simultaneously evoke a stereotype (the cognitive component), such as "they are bad at school," and the evaluation (the affective component), such as "I do not like it."

The behavioral component refers to the cognitive and affective components and represents the connection between beliefs, feelings, and (intended) behavior toward the object of the evaluation (Ajzen and Fishbein, 2005). According to this, the cognitive component can only partially predict behavior (Ajzen and Fishbein, 1980), since the behavior is composed of human beliefs, attitudes, and intentions (Ajzen and Fishbein, 2005).

When it comes to attitudes, the distinction between implicit and explicit should be considered. Implicit attitudes are automatic evaluations that come to mind in the presence of attitude object, whereas explicit attitudes are assumed to be the result of deliberative processes (Gawronski and Bodenhausen, 2006a). Hence, implicit attitudes seem to predict that automatic part of the behavior which is not subject to the intentional control (Olson and Fazio, 2009): the affective component (Fazio, 2007). On the other side, explicit attitudes reflect the cognitive component, since they are based on beliefs about the attitude object (Gawronski and Bodenhausen, 2007).

Implicit attitudes as automatic evaluations are characterized by the fact that they are uncontrolled, unaware, efficient, and unintentional (Bargh, 1994). The activation of implicit attitudes occurs as an automatic process that cannot be prevented (Devine, 1989; Bargh, 1999). The mere presence of the attitude object activates, without the need of awareness as in the case of explicit attitudes, the implicit attitude associated with it (Gawronski and Bodenhausen, 2006b).

Implicit and explicit attitudes toward a social group are often unrelated (Gawronski and Bodenhausen, 2006b). This could be due to the social desirability that comes into play in regulating the expression of explicit attitudes (De Houwer, 2006). That is, people are inclined to not show their actual attitude, but a socially accepted version of it. This is particularly true for socially sensitive issues such as the racial matter (Dovidio et al., 2009). Although implicit and explicit attitudes often do not coincide, both can have an impact on behavior (Fazio and Towles-Schwen, 1999; Olson and Fazio, 2009).

To explain the influence of attitudes on behavior, we refer to the dual-process model "Motivation and Opportunity as Determinants" (MODE) (Fazio, 1990; Fazio and Towles-Schwen, 1999). This model relies on the implicit–explicit distinction assuming that attitudes guide behavior through two different paths: explicit attitudes influence controlled and conscious behaviors, while implicit attitudes guide automatic and spontaneous behaviors. These two levels of awareness and behavior occur depending on different situations: whether people have time, cognitive resources, and motivation to reflect on their behavior and thus control it, or whether they do not

have sufficient cognitive resources and thus engage in automatic behavior. However, this does not mean that implicit and explicit processes are mutually exclusive. What influences the process that will determine behavior, is the situation and the opportunity to reflect, but the behavior is often mixed, and it is assumed that the automatic parts are always included (Olson and Fazio, 2009). In addition, given the automatic character of implicit attitudes, it is likely that they are always activated unconsciously, and thus have an influence on controlled processes as well (Fazio and Towles-Schwen, 1999).

METHODS TO MEASURE IMPLICIT ATTITUDES

The distinction between implicit and explicit attitudes takes place not only at the theoretical level but also at the measurement level. Direct methods are used to measure explicit attitudes, which are generally assessed using either a Likert scale or a semantic differential (Yang and Montgomery, 2013). Semantic differentials need attitude statements to be rated on a scale between bipolar adjectives (e.g., "good"–"bad"), while Likert scales require participants to indicate how strongly they agree or disagree with a statement. With these methods, respondents are directly asked to evaluate their attitudes, and it means that they are aware of what the researcher aims to measure (Petty et al., 2008).

These methods have been criticized for several reasons. Primarily, it is argued that people may not be aware of their actual attitudes (Greenwald and Banaji, 1995). Plus, assessing social sensitive issues (e.g., racial attitudes) makes it difficult to obtain results that are not biased through social desirability, because the respondents can have control over their responses, and the risk is that real attitudes are not recorded with those methods (De Houwer, 2006), but it is more likely that self-reported data reflect social norms rather than "real" attitudes (Fazio et al., 1995).

To overcome these problems, implicit attitudes should not be measured by a direct questionnaire. For these reasons, implicit measures do not rely on direct questions, but attitude is inferred from the reactions of the subject to different tasks, mostly by measuring reaction times (Wittenbrink and Schwarz, 2007).

The most used method to assess implicit attitudes is the "Implicit Association Test" (IAT; Greenwald et al., 1998), which presents a good reliability (Schnabel et al., 2008) and validity (Nosek et al., 2005; Greenwald et al., 2009).

IAT is a computer-based reaction-time procedure, and it is based on the assumption that people assign attributes to categories more quickly the more closely they are interrelated (e.g., "ethnic majority students" and "positive"). Two different categories of objects (the target attitude and a contrast attitude, for example, "students of ethnic minority" vs. "students of ethnic majority") and evaluation (positive vs. negative) are presented in the IAT.

Reaction time is measured in milliseconds and corresponds to the time interval between the presentation of a stimulus (e.g. a word or an image on the screen) and the response of the participant (pressing on a given keyboard key) is defined as reaction times (measured in milliseconds). Above

a specific threshold (3,000 ms in the IAT), reaction times are no longer considered automatic responses, because they might reflect controlled processes (Moors and De Houwer, 2006) or momentary inattention (Greenwald et al., 1998). According to the underlying assumption, people with positive attitudes toward ethnic majority group should pair positive stimulus with the category representing ethnic majority group faster than they do with negative stimulus and that same category.

A method which is also often used is the affective priming task (APT; Fazio et al., 1986, 1995), which also relies on reaction times but not on the association between concepts. Stimuli that should automatically activate a corresponding evaluation or affect (pleasant/unpleasant) are shown. The assumption is that the evaluation is still active when people are asked to categorize the words (positive or negative) that are presented immediately afterward. The reaction time in the APT is calculated between the appearance of the adjective (positive or negative) and the pressing of the key, because it is assumed that it will be faster if the valence of the adjective corresponds to the evaluation of the target stimuli presented in the previous task. Therefore, the shorter the reaction time, the stronger the association between the attitude object and the adjective. Another, less common, method to measure implicit attitudes, which does not rely on reaction times even if it refers to a similar theoretical framework, is the "affective misattribution procedure" (AMP; Payne et al., 2005). On a computer screen, the attitude object (e.g., pictures of ethnic minority students) or neutral objects (e.g., a gray rectangle) appears. Next, a Chinese character is presented, and the subject is asked to rate the degree of pleasantness/unpleasantness using two keys on the keyboard. This procedure has proven to be a good method to assess implicit ethnic attitudes, because it is not susceptible to social desirability (Payne et al., 2005, 2008). The underlying assumption is that the evaluation elicited by the target stimulus will still be active when the Chinese character is presented immediately afterward, on which then will be displaced. Nevertheless, since AMP is based on ratings, and therefore from explicit judgments, it is more likely to be a procedure that is susceptible to faking (Schnabel et al., 2008), more than the other implicit attitude measures that rely on reaction times.

Regardless of how they are measured, attitudes are not considered stable and unchanging throughout life. Instead, they may vary depending on contexts (Eagly and Chaiken, 1993; Gawronski and Bodenhausen, 2006a). Considering attitudes as the result of mental associations, the notion of *pattern activation* (Smith, 1996) can be useful to explain how these are not the outcome of a single process, but rather of the encounter between preexisting association in memory and external stimuli. Taking the example from Barsalou (1982), the associative pattern activated by *basketball* and *gym* can include the concept of *bouncing*, and not the concept of *floating*. While, if we think of *basketball* and *water*, the association can include the concept of *floating* but not *bouncing*. This means that the term *basketball* can evoke both concepts, *bouncing* and *floating*, but it will depend on the particular context in which the *basketball* stimulus is presented, which of these will be activated. Thus, applied to attitudes, the same object can activate different associations and different automatic affective reactions depending on the context in which the object is encountered.

METHOD

The review process was conducted according to the PRISMA Statement (Moher et al., 2015). The PRISMA Statement consists of a 27-item checklist and a four-phase flow diagram, which aims to guide authors in improving the reporting of systematic reviews and meta-analyses.

RESEARCH STRATEGIES

A systematic search of the international literature was conducted in the following electronic databases: PsycINFO, PsycARTICLES, and ERIC. The last research was conducted on February 25, 2021. No restriction of the country or school level was made. The search strategy used the keywords: [(implicit attitudes) AND (teach* OR education) AND (ethnic*)]. The generality of the keywords was purposely selected to include all the categories of students identified in the literature with the term "ethnic minorities" (e.g., first- and second-generation, students with immigrant background, newcomers) and all school grades. In addition, the reference lists of identified papers were searched.

ELIGIBILITY CRITERIA

To be included in the systematic review, studies had to be published in English, as the shared scientific language, in the last 10 years (2010–2020). This period was chosen because, although the IAT was introduced more than 20 years ago (Greenwald et al., 1998), studies concerning implicit attitudes of teachers only appeared in the past 10 years (Pit-ten Cate and Glock, 2019). Only studies published in scientific journals were considered, excluding doctoral dissertations, book chapters, conference proceedings, and reports. Reviews and metanalysis were also excluded. Implicit attitudes had to be measured and the participants had to be preservice or in-service teachers, therefore, studies focused only on explicit attitudes or involving peers or parents were excluded.

The search identified a total of 77 articles. Mendeley reference manager software was used for removing duplicates. After removing duplicates and a first screening made by reading the title, this pool was reduced to 57 articles. Screening involved the rejection of titles if it was clearly not fulfilling the inclusion of the aforementioned criteria. After a further screening made by reading the abstract, an additional 31 articles were excluded on the basis of the same inclusion criteria. In case of uncertainty, papers inclusion was discussed and agreed upon by at least two of the three authors. The full text of 26 articles was read, leading to an exclusion of additional 7 articles (please see **Figure 1** for details).

DATA COLLECTION

According to the PICOS approach (Liberati et al., 2009), the following information has been extracted from the selected studies: authors and year of publication, country, characteristics of participants, target students, implicit methods, and materials. These data are summarized in **Table 1**.

RESULTS

Of the 19 selected articles, 15 studies were conducted in Europe, 5 in America, and 1 in New Zealand. Twelve studies were on in-service teachers (primary, middle, secondary, and tertiary), 7 studies were on preservice teachers (from different tracks), and 1 study was on both.

Implicit Measurement Procedures

The majority of the presented studies used the "Implicit Association Test" to assess implicit attitudes (18 studies), 3 studies used the "APT," and 1 study used the "AMP."

In the study from Glock and Karbach (2015), three different methods of implicit measurement were used, and although they lead to different results, the conclusions that can be drawn are the same. In fact, it can be deduced that implicit attitudes of teachers toward students with migrant backgrounds are not in their favor, whether they are measured by the IAT, AMP, or APT (Glock and Karbach, 2015). More accurately, while the IAT and the AMP results showed negative attitudes of teachers toward ethnic minority students, the affective priming task revealed that teachers showed positive attitudes toward ethnic majority students rather than negative toward ethnic minority students (Glock and Karbach, 2015).

The other studies in this review that used the APT to measure implicit attitudes yielded the same results, i.e., participants showed positive implicit attitudes toward students from ethnic majority and no negative attitudes toward students with immigration background (Glock et al., 2013; Markova et al., 2016).

Teaching Status

The studies examining attitudes of preservice teachers conclude that their implicit ethnic attitudes are negative (Bonefeld and Dickhäuser, 2018; Glock and Böhmer, 2018; Glock and Kleen, 2019; Glock et al., 2019; Kleen et al., 2019). Just one study did find positive implicit attitudes toward ethnic minority students among preservice teachers (Harrison and Lakin, 2018b).

When studies are conducted on experienced teachers, the results are the same, with the presence of implicit negative attitudes toward ethnic minority students (van den Bergh et al., 2010; Vezzali et al., 2012; Conaway and Bethune, 2015; Kumar et al., 2015; Glock and Böhmer, 2018; Harrison and Lakin, 2018a; Kleen and Glock, 2018; Glock et al., 2019; Chin et al., 2020). Just one study found a positive implicit attitude toward ethnic majority students but not a negative one toward ethnic minority students (Abacioglu et al., 2019).

Teacher's and School's Characteristics

Few studies have controlled for the gender of teachers. The studies present in this review have shown that female teachers have less negative implicit attitudes (Abacioglu et al., 2019; Chin et al., 2020).

FIGURE 1 | Schematic presentation of selecting studies for systematic review (in accordance with PRISMA guidelines; Moher et al., 2015).
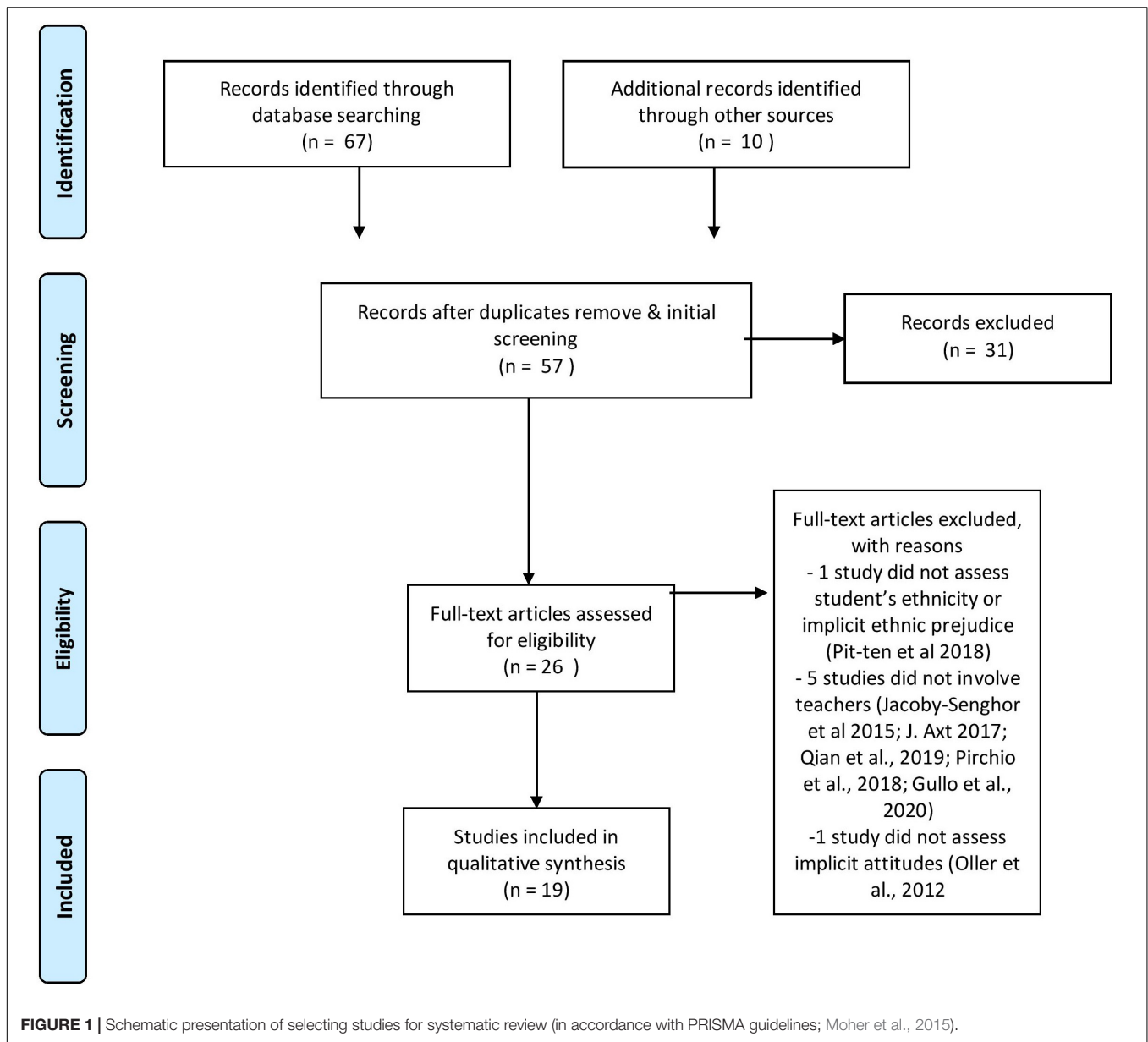
When the ethnicity of teachers is taken into account, teachers who are part of an ethnic minority group have been shown less biased attitudes toward ethnic minority students than teachers from the majority group (Glock and Kleen, 2019; Kleen et al., 2019; Chin et al., 2020).

In addition, the percentage of ethnic minority students attending the school setting of teacher also appears to matter. Teachers working in an ethnically diverse setting, with a large percentage of ethnic minority students, also showed less biased attitudes toward ethnic minority students (Glock et al., 2019; Chin et al., 2020).

With regard to the age of teachers, in the study of Glock and Böhmer (2018) with both samples of teachers, younger teachers were found to have fewer negative attitudes toward ethnic minority students than in-service teachers, while in a study

only on in-service teachers, the youngest was the least biased (Conaway and Bethune, 2015).

Teacher's Evaluation of Students' Academic Achievement and Behavior in Class

One study did not strictly examine attitudes of implicit teachers, but rather attitudes as a link between ethnic minority students and performance expectations (Peterson et al., 2016).

Negative implicit attitudes have been found to predict classroom behaviors and judgments of teachers (van den Bergh et al., 2010; Kumar et al., 2015; Peterson et al., 2016; Glock and Böhmer, 2018), and it is plausible to think that these are reflected in performances of students. In fact, although only a few studies

TABLE 1 | Information extracted from the selected studies.

Authorand year	Country	Sample and size	Ethnicity	Method implicit	Materials
Abacioglu et al., 2019	NL	35 primary school teachers	Majority vs. minority female	IAT	Target: student's name (female) Attribute: words (positive/negative)
Bonefeld and Dickhäuser, 2018	DE	203 pre-service teachers	German vs. Turkish	IAT	Target: pictures (male and female) Attribute: performance-related words (good/bad)
Chin et al., 2020	United States	39,776 kindergarten to 12th grade teachers	European American vs African American.	IAT	Target: pictures (male and female) Attribute: words (good/bad)
Conaway and Bethune, 2015	United States	147 in-service tertiary teachers	Caucasian vs. Hispanic or African American	Brief IAT	Target: student name (male and female) Attribute: words (good/bad)
Glock and Böhmer, 2018	DE	63 teachers and 50 pre-service teachers	Majority vs. minority	IAT	Target: pictures (male) Attribute: words (positive/negative)
Glock and Klapproth, 2017	DE	82 primary school teachers and 82 secondary school teachers	German vs. Turkish	IAT	Target: students' names (male) Attribute: words (positive/negative)
Glock and Kleen, 2019	DE	216 preservice teachers	German vs. Turkish	IAT	Target: student name (male) Attribute: words (positive/negative)
Glock et al., 2013	DE	40 preservice secondary school teachers	Majority vs. minority	APT	Prime: student picture (male) Attributes: words (positive/negative)
Glock et al., 2019	DE	145 preservice teachers	Majority vs. minority	IAT	Target: student name (male) Attribute: words (positive/negative)
Glock et al., 2019	DE	231 in-service teachers	Majority vs. minority	IAT	Target: student name (male) Attribute: words (positive/negative)
Glock and Karbach, 2015	DE	65 preservice teachers (different tracks)	Majority vs. minority	IAT AMP APT	Target: student picture (male) Attribute: words (positive/negative)
Harrison and Lakin, 2018a	United States	197 teachers (middle and secondary school)	Mainstream vs. English Learners	IAT	Target: words (English learner/mainstream) Attribute: words (good/bad)
Harrison and Lakin, 2018b	United States	116 preservice teachers	Mainstream vs. English Learners	IAT	Target: words (English learner/mainstream) Attribute: words (good/bad)
Kleen and Glock, 2018	DE	160 teachers	German vs. Turkish	IAT	Target: student name (male and female) Attribute:words (positive/negative)
Kleen et al., 2019	DE	149 preservice teachers	Majority vs. minority	IAT	Target: student name (male and female) Attribute: words (positive/negative)
Kumar et al., 2015	United States	241 in-service secondary school teachers	Caucasian vs. Arab/Chaldean	IAT	Target: students' pictures Attribute: words (positive/negative)
Markova et al., 2016	DE	46 pre-service teachers	Majority vs. minority male	APT	Prime: student pictures (male) Attribute: (positive/negative)
Peterson et al., 2016	NZ	38 teachers	European vs. Asians	IAT	Target: student's surnames Attribute: symbols of achievement (success/failure)
van den Bergh et al., 2010	NL	41 in-service primary school teachers	Dutch vs. Turkish/Moroccan	IAT	Target: student name (male) Attribute: words (good/bad)
Vezzali et al., 2012	ITA	5 primary school teachers	Italian vs. immigrant	IAT	Target: student name (male) Attribute: words (positive/negative)

have taken into account the actual outcomes of students, the evidence that is available to date shows that the implicit attitudes of teachers are related to differences in the achievement between student groups and this makes it clear that the negative attitudes of teachers can predict academic achievement of ethnic minority students (van den Bergh et al., 2010; Peterson et al., 2016; Chin et al., 2020). The behavior of teachers, when they present negative implicit ethnic attitudes, results in the choice of teaching practices that do not promote mutual respect, do not take into account the different cultures and they are also less likely to deal with interethnic conflict (Kumar et al., 2015).

In a Dutch study by van den Bergh et al. (2010), the authors examine attitudes toward students of Turkish and Moroccan heritage, as they are the least integrated ethnic minorities in the Netherlands, thus experiencing educational disadvantage. In this study, the performance of students on standardized tests was predicted by implicit attitudes of teachers, but not explicit attitudes. Ethnic minority students in classes where teachers had more negative implicit attitudes performed worse on achievement tests than ethnic minority students in classes where implicit attitudes were more positive (van den Bergh et al., 2010).

In a large-scale study in the United States a similar result emerged, that is, disparities in the performance of students from different ethnic groups were much higher where teachers reported higher levels of bias toward minority ethnic students (Chin et al., 2020).

Expectations of teachers of student academic success are also influenced by implicit attitudes. van den Bergh et al. (2010) showed that teachers with negative implicit attitudes rated their ethnic minority students as less intelligent and with less promising academic future prospects compared to ethnic majority students.

In their study on preservice teachers, Bonefeld and Dickhäuser (2018) have shown how implicit attitudes play a role in predicting teacher evaluations of students with migrant backgrounds, but their results are unexpected. In fact, the authors found that preservice teachers who implicitly associated ethnic minority individuals with good performance tended to assign lower grades to the ethnic minority student. It must be said, however, that this surprising result, which goes in the opposite direction of what they expected, may be due in part to the fact that their implicit evaluation instrument did not measure attitudes purely but, more precisely, implicit stereotypes.

Concerning the behavior of the teacher in the classroom, Kumar et al. (2015), showed that teachers who had implicit negative attitudes toward students of Arab descent were less likely to promote mutual respect among students in the classroom and consequently less likely to address cultural conflicts among students by adopting culturally adaptive practices and showed less commitment to culturally sensitive teaching.

One study also showed how prejudice reduction techniques carried out by teachers, such as the promotion of positive and inclusive intergroup attitudes and relationships between students of different ethnic and cultural backgrounds, can have a positive effect on students, who then appear more engaged (Abacioglu et al., 2019).

An interesting result emerged from an Italian study, showing a link between attitudes of teachers and attitudes of students (Vezzali et al., 2012), suggesting how ethnic majority students might be influenced by implicit attitudes of teachers and thus adopt negative behaviors toward ethnic minority students themselves. However, it should be noted that the sample for this study was extremely small (five teachers) and cannot be considered representative of the population.

DISCUSSION

Overall, this literature review showed that teachers and preservice teachers exhibit negative implicit attitudes toward ethnic minority students. The slightly different findings could result from the assumptions underlying the different measures used. The IAT measures the associative strength between categories and attributes, whereas the APT assess the evaluation activated after a prime is presented, following the assumption that the prime facilitates the evaluation of the adjectives presented afterward. This means that the evaluation automatically activated in the APT, in response to an item, may better relate to a single object instead of to the underlying category. For these reasons, it is possible that the IAT and APT measure two different constructs (Olson and Fazio, 2003). In addition, we should keep in mind the difference between *ingroup favoritism* and *outgroup derogation.* According to social-identity theory, people tend to prefer groups associated with the self as confirmation of their positive self-esteem (Dasgupta, 2004), so they will tend to favor their ingroup and sometimes derogate the outgroups (Tajfel, 1981; Tajfel and Turner, 1986; Turner et al., 1987). But research has shown that *ingroup favoritism* may play a stronger role than *outgroup derogation* in explaining the intergroup bias (Gaertner et al., 2006; Balliet et al., 2014) and therefore even if they are constructs on the same continuum, they remain separate.

It should be noted that, in the only study where positive implicit attitudes among preservice teachers were found, no explicit reference was made to the ethnicity of the students (Harrison and Lakin, 2018b). In fact, in the target of the implicit measure, the categories were English learner students/Mainstream students. Therefore, here ethnicity was only implied by native/non-native English speaker status and teachers may have implicitly valued the willingness to learn instead. However, this was not the case among middle and secondary teachers, whose implicit attitudes toward English learner students are not only not positive but rather, in line with other studies, they are found to be negative toward the minority group of students compared to mainstream students (Harrison and Lakin, 2018a). This is part of a more general limitation in the literature relative to the consideration of the characteristics and status of the target population of attitudes. In fact, the attitudes and expectations of teachers are investigated in the literature toward a variety of definitions of "ethnic minority students": in some cases, they are immigrant students, in other students born in the country from immigrant parents, in other, they are proper citizens belonging to minority groups. Of course, the status of students is important in defining the potential challenges

in establishing a positive relationship with the school context, in reaching satisfactory levels of academic achievement and in allowing good levels of family, school partnership (Costa et al., in press). As a consequence, the attitudes and expectation that the teachers may develop toward them as a group may be influenced by these characteristics and therefore future research could address this topic with a specific attention to this issue.

An interesting finding that emerges from this literature review is the absence of a difference in implicit attitudes between preservice and in-service teachers. Despite implicit attitudes of preservice teachers toward ethnic minority students are slightly less negative than those of in-service teachers, still they are negative. It was expected that preservice teachers would not exhibit negative attitudes, as they are more likely to have had more contact with ethnic minority people and, in line with the contact theory (Allport, 1954), such experiences should have a positive effect (Pettigrew, 1998). But it is not enough to assume that younger teachers (as preservice teachers are) may have more contact with ethnic minority people. Although it has been shown that being in a setting with a higher percentage of students from minority ethnic backgrounds can reduce implicit negative attitudes (Glock et al., 2019; Chin et al., 2020), it is not just the bare contact that matters, but the positive contact experience. Thus, there are other contact experiences, such as friendships, that might be relevant in research, that can have a positive influence on attitudes (Pettigrew et al., 2011), and that have not been addressed.

The age of teachers has been considered only in one study on in-service teachers (Conaway and Bethune, 2015), in which the youngest group was the least biased. In the other studies, it was assumed that preservice teachers were younger than in-service teachers. As true as this is in most cases, it would be appropriate not to confound the variables but to use the proper age to investigate also how generational social factors may impact implicit attitudes.

Usually, most of the teachers belong to the ethnic majority group (Gay, 2010; Marx and Moss, 2011) and generally show little concern for multicultural issues, probably due to a lack of cross-cultural interaction (Garmon, 2004; Gay, 2010). Additionally, White teachers feel less comfortable and less effective when interacting with students of ethnicities other than their own and therefore unfamiliar (Kumar and Hamer, 2012). Diversity is perceived as complicated, difficult, and overwhelming to deal with by most teachers (Dooly, 2005). The matching of student and teacher ethnicity is a topic already discussed (Monroe, 2005), and it would seem that students benefit more when teachers share their same ethnic or cultural background, because it allows them to build better relationships (Ladson-Billings, 1995). Two studies considered in this review found that teachers with an ethnic minority background had more positive implicit attitudes toward ethnic minority students than ethnic majority teachers (Glock and Kleen, 2019; Kleen et al., 2019). Interestingly, implicit attitudes were more positive when teachers shared the same ethnic background as students (Kleen et al., 2019) and not any minority ethnicity. It would seem, therefore, that it is not enough for students to have an ethnic minority teacher to have advantages, but only when the teacher and student share the same ethnic minority background the gap between majority and minority ethnic students narrow.

In any case, the cultural background is not the only aspect that teachers bring with them into the classroom. Gender seems to be another aspect on which implicit attitudes differ. In general, female teachers show a lower level of implicit (and explicit) ethnic prejudice (Abacioglu et al., 2019; Chin et al., 2020). On the other hand, the gender of the student also seems to play a role, not in terms of in-group favoritism, as no same-gender favoritism emerges (Kleen and Glock, 2018), but it appears that teachers have more positive implicit attitudes toward male students than female students in the secondary school (Glock and Klapproth, 2017; Kleen and Glock, 2018). Primary school teachers, instead, had negative implicit attitudes toward male students and more positive attitudes toward female students (Glock and Klapproth, 2017). This could be explained in light of the different focus in the different school levels. In primary school, teachers tend to build affective relationships with their students, and female teachers (who are the majority of primary teachers), have better relationships with female students (Spilt et al., 2012) than male teachers. At secondary school, on the other hand, the focus is more on performance than on affective relationships, and male students perform better in STEM[1] subjects than female students (Brotman and Moore, 2008); therefore, responses of teachers may have been mediated by this (Glock and Klapproth, 2017).

Even if only few studies have investigated the link between implicit ethnic attitudes of teachers and the achievement of students, the results show clearly how they are involved in the academic achievement of students. Teachers with negative implicit ethnic attitudes behave differently in classroom interactions, since they are less likely to promote student respect and resolve interethnic conflicts (Kumar et al., 2015) and they have negative expectations of their academic performance (van den Bergh et al., 2010). Implicit ethnic attitudes of teachers influence their judgments of ethnic minority students, and they evaluate them as less intelligent and less with fewer future academic prospects (van den Bergh et al., 2010).

CONCLUSIONS, LIMITS, AND FUTURE DIRECTIONS

Teachers play a critical role in creating an environment conducive to learning, and therefore they should aim to the creation of an unprejudiced space in which ethnic minority students can feel safe and can develop a sense of belonging that support their cultural identities (Carter, 2005). This could be achieved through an awareness of their own implicit attitudes toward ethnic minority students, by practicing prejudice reduction techniques (Abacioglu et al., 2019) and by engaging in cultural responding practices in the classroom and resolving interethnic conflicts (Kumar et al., 2015; Pirchio et al., 2017). It can be concluded that implicit attitudes toward ethnic minority students are negative in teachers, despite the teaching status, grade level, and country. Nevertheless, methodologically, measures of implicit attitudes

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[1]Science, technology, engineering, and mathematics (STEM).

could give us preference toward majority ethnic students, that does not necessarily imply negative attitudes toward ethnic minority students. Ingroup preference and outgroup derogation are distinct phenomena (Brewer, 1999) and therefore might be studied separately.

Implicit attitudes influence many aspects of social life, such as interpersonal behavior and communication, affect, and motivation (Bargh, 1994; Greenwald and Banaji, 1995), all of which are extremely important in the school setting. This literature review highlights the need of using implicit attitudes procedures in future research and the importance of educating preservice teachers to critically reflect on their attitudes and beliefs given the potential consequences that these have on their behavior, on their expectations and judgments of ethnic minority students, and on their educational practices.

A limitation of this review is that only studies in English were considered, and this may have excluded a whole section of research with results that could confirm or disconfirm the conclusions drawn here. Moreover, only one group of students was considered, but other implicit biases could come into play (e.g., toward students with Special Education Needs or students with low SES). Therefore, future research could widen the target group and take into account the differences within students, by extending the research on implicit attitudes of teachers when students exhibit different characteristics and not just belonging to an ethnic minority.

The use of implicit measures to investigate ethnic bias in teachers is still limited but growing, and as this review highlights, it is necessary to understand the role that implicit attitudes play in the academic path of students with ethnic minority backgrounds. Future research should explore the different factors that may contribute to the formation and expression of implicit attitudes of teachers (such as school contextual factors or interethnic relationships of teachers) in order to identify strategies with the aim to reduce the negativity of implicit ethnic attitudes in teachers. Teachers were reported to find it hard to discuss sensitive topics such as racism and discrimination (Vezzali et al., 2012), and one solution could be raising awareness of possible ethnic bias in teachers and introducing courses for preservice teachers that are focused on educating about cultural differences and multicultural teaching practices. Teachers need to gain awareness of and become respectful of minority ethnic students and their families and reflect on their own implicit attitudes and biases that might have consequences on their students (Cherner et al., 2020).

Interventions among teachers might be carried out employing the most effective strategies to reduce implicit prejudice, such as exposure to counterstereotypical exemplars (where participants are exposed to exemplars that contradict the stereotype of the outgroup), intentional strategies to overcome biases (participants are instructed to implement strategies to override or suppress their biases), or identifying the self with the outgroup (where they perform tasks to reduce barriers between themselves and the outgroup) (Fitzgerald et al., 2019). Nevertheless, successful interventions directed at reducing teacher bias have already been implemented (e.g., Pirchio et al., 2019), but it still remains an expensive and risky course of action due to the uncertain outcome when it comes to implicit prejudice (Fitzgerald et al., 2019).

In any case, although teachers play a key role in the education of students, it is necessary to consider that the attitudes of other people, such as parents and classmates (de Boer et al., 2010, 2012) can influence the inclusion of all students. For this reason, not only teachers should be prepared to deal with cultural diversity but also programs aimed at the inclusion of students with an ethnic minority background that involves their peers and parents, should also be considered. Principals and the broader culture of schools must also be taken into account, since it has been shown that principals and their impact on the culture's school environment influence the cultural practices of teachers (Quinn, 2002; Brown et al., 2019). Finally, it is necessary to place these interventions within a wider framework that includes culture and society more comprehensively, addressing structural issues, social biases with the ambition to change the culture and society outside the institutions (Fitzgerald et al., 2019). Therefore, early interventions (not just on preservice teachers but on a broader population, e.g., children in school) might be the best way to prevent the formation of ethnic biases.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

SC: conceptualization of the review, literature search, and writing of the original draft, revision, and editing of the manuscript. SP: conceptualization of the review, and revision and editing of the manuscript. VL: revision and editing of the manuscript. All authors contributed to the article and approved the submitted version.

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"Developing Capabilities". Inclusive Extracurricular Enrichment Programs to Improve the Well-Being of Gifted Adolescents

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The educational inclusion of gifted students requires not only equity but also emotional accessibility and social participation. However, different studies indicate that gifted students constitute a vulnerable group (for example, the incidence of bullying is higher). Psychosocial variables are determinants for the development and expression of giftedness, particularly during adolescence. This study analyzes the impact of an inclusive extracurricular enrichment program for gifted secondary school students on the well-being of adolescents. The program was based on the enrichment model of Renzulli and Reis (2016). The objective was to develop a cluster to facilitate high-achieving learning in collaboration with teachers, administrators, and guidance counselors from their schools as well as university professors and students that would address their emotions and socialization across the board and benefit or involve their peers in their regular classrooms. The intervention took place over two years: eight sessions, one afternoon per week, for five months during each school year. The sample consisted of 47 students from the first and second years of compulsory secondary education (*Educación Secundaria Obligatoria - ESO*) (age, mean (M) = 12.57, standard deviation (SD) = 0.82) during the first year and 27 students from the first, second, and third years of ESO (age, M = 13.48, SD = 0.94) during the second year; 61.4% were girls. Participants completed a questionnaire before (T1) and (T3) and after (T2) and (T4) each intervention. The results show better outcomes for psychological and subjective well-being, more positive moods, and a significant reduction in school fears. The results from this study indicate the importance of educational screening and support for gifted students to promote their well-being through collaborative enrichment activities.

Keywords: gifted, extracurricular enrichment, well-being, mood, school fears

INTRODUCTION

Educational Inclusion

Inclusion and equity in education are the cornerstone of the international education agenda for the coming years (UNESCO, 2016), and many countries and governments have included these items in their education policies (Ainscow, 2020; Martínez-Usarralde, 2021). Inclusive schools must ensure the highest possible development of the abilities of all pupils considering that effective education benefits all students (Ainscow, 2012, p. 40) by eliminating barriers that prevent true participation (Booth and Ainscow, 2015). In this regard, gifted students cannot be overlooked (Herranz and Sánchez, 2019). Our laws on education conform to the necessity of adequately addressing pupils' specific characteristics, but in practice, they are not often receiving what they truly need (Ersoy and Uysal, 2018; Parr and Stevens, 2019; Rodríguez-Naveiras et al., 2019), leading to underachievement (Siegle, 2018; Lamanna et al., 2019) and even school failure and early school withdrawal (Blaas, 2014).

Gifted Students

Who are gifted students? One of the most widely accepted theoretical models of giftedness is The Tripartite Model (Pfeiffer and Shaughnessy, 2020): "Giftedness through the lens of high intellectual ability; Giftedness through the lens of outstanding accomplishments; and Giftedness through the lens of potential to excel" (p. 376). This practical model integrates elements of earlier conceptions. In general, although many theories have been proposed, they are not mutually exclusive (Sternberg and Kaufman, 2018). At present, an evolutionary approach seems to predominate (Tourón, 2020); skills will only develop if the appropriate circumstances, educational opportunities and psychosocial variables are in place for natural abilities to be transformed into giftedness (Gagné, 2015). Depending on the baseline concept, between 5 and 15% of students are estimated to be gifted (Pfeiffer, 2017); however, the percentage of students identified in Spain is significantly lower at 0.4% (according to statistics from the Ministry of Education for the 2018-19 school year; Statistics from the Ministry of Education, 2021a,b). Teacher training is essential to detecting students' potential (Gali et al., 2017; López et al., 2019).

As achievement depends on abilities being nurtured, activities to develop giftedness should be offered to all children as early as possible, particularly those who demonstrate interest and effort (Renzulli, 2008), primarily in the form of enrichment, both in and out of school (Subotnik et al., 2011). Underachievement is a serious problem that can frequently occur among this group (Colangelo, 2002); up to 50% will exhibit it at some point in their lives (Siegle, 2018). Underachievement is defined as the discrepancy between academic ability and outcomes (Rimm, 1997).

The percentage of Spanish students achieving at the highest levels in reading, mathematics, and science based on the Programme for International Student Assessment (PISA) is below the OECD and European Union averages (Ministerio de Educación y Formación Profesional, 2019). However, while international interest in comparing the achievement of students with potential and adopting preventive measures has increased over the last decade (e.g., US Department of Education, 2015; Thomson et al., 2016), few studies have analyzed which school-related factors may influence underachievement of the most able students (White et al., 2018).

The scientific literature points to, for example, a dearth of curricular challenges (Little, 2012); boredom can lead to a lack of motivation in gifted students, as well as poorer outcomes (Feldhusen and Kroll, 1991). An unchallenging curriculum and academic trait boredom may have a negative influence on students' career aspirations (Krannich et al., 2019). Lower use of learning strategies may also be key (Gilar-Corbi et al., 2019). Poor family, school, and community environments may contribute to this phenomenon (Blaas, 2014; Plucker and Peters, 2018). Other problems experienced by gifted students may also lower their achievement, including maladaptive perfectionism (Yustikasari et al., 2020), social isolation (Vialle et al., 2007), stress (Suldo et al., 2009), depression, anxiety (Cross and Cross, 2015), loss of confidence (Siegle et al., 2020), twofold exceptionality (Reis and McCoach, 2002; McCoach et al., 2020), being a minority (Ford et al., 2018; Davis et al., 2020), and bullying (Bergold et al., 2019), among others.

Poor socioemotional well-being can be a factor in early withdrawal or underachievement (Blaas, 2014). Ritchotte et al. (2014) found that gifted students with low academic achievement are less emotionally engaged and more detached. Their scores for attitudes toward school and teachers are lower (McCoach and Siegle, 2003; Abu-Hamour and Al-Hmouz, 2013), although results are contradictory (Godor and Szymanski, 2017). Feeling different in an environment that is markedly anti-intellectual can lead to poor social acceptance (Cross et al., 2014; Allen, 2017), resulting in behaviors including hiding one's ability to avoid stigmatization (Blaas, 2014; Lamanna et al., 2019). Bullying victimization also has a negative impact on academic achievement (Al-Ali and Shattnawi, 2018). However, being with peers of a similar ability and close friends decreases boredom, disruptive behaviors, depression, and anxiety and increases students' sense of belonging (Stambaugh, 2017). Peer support has an even stronger influence on academic achievement than parental and teacher support, even when students are twice as exceptional (Wang and Neihart, 2015). Peer influence is very important for those students (Henfield et al., 2008).

Some studies have found that underachievement and disengagement increase during secondary school (Suldo et al., 2009; Barbier et al., 2019; Ireland et al., 2020). With age, problems with relationships and social acceptance by peers become more prevalent (Aperribai and Garamendi, 2020). Being able to identify those students is a crucial first step in providing a tailored response (Callahan et al., 2017) that minimizes underachievement and improves well-being (Lamanna et al., 2019).

The Well-Being of Gifted Students

Over the past decade, education and guidance professionals (Cross, 2020), departments of education, and policymakers

(Blaas, 2014) have expressed increasing concern about the well-being of gifted students. As a group, although the literature presents contradictory results (Neihart, 1999; Zeidner, 2020), they are not necessarily more likely than their peers to have disorders (Cook et al., 2020); however, when they exhibit mental health difficulties, the precipitating and impacting factors may be related to their unique characteristics (Cross and Cross, 2015). Accordingly, two exceptional learners may experience a range of emotional and social problems (Beckmann and Minnaert, 2018): frustration with school, high levels of negative emotions, adverse interpersonal relationships, etc. Some issues that also warrant consideration due to their impact on levels of well-being and increase gifted students' vulnerability include the presence of unhealthy perfectionism (Chan, 2012), asynchronous development (Rinn and Majority, 2018), overexcitability (Guthrie, 2019), negative stereotypes associated with their condition (Aziz et al., 2021), bullying (Bergold et al., 2019), excessive pressure from the environment (Zeidner, 2017), etc. They may also need different support than their peers (Woo et al., 2017).

When considering well-being, differentiating between psychological well-being (PWB), which is measured by external criteria, and subjective well-being (SWB), which is based on the internal personal criteria of each individual, is important. For SWB, satisfaction with life (SWL, an individual's cognitive assessment of his or her life) must be distinguished from emotional balance (the positive and negative emotions, experiences, and feelings that each person has) (Diener, 1984). Studies on psychological and subjective well-being in gifted children and adolescents are discussed from this perspective below.

With regard to psychological well-being, Kroesbergen et al. (2016) found small but significant differences among children aged 6 to 8 years in favor of students with normal or typical development; gifted students experienced lower self-concepts and social acceptance, especially the more creative students. Within the group of gifted students, levels of well-being were higher for those who were nominated by their teachers as *gifted students* and showed high academic achievement. Casino-García et al. (2021) found significantly lower scores for family, social, and physical self-concepts and for self-esteem in gifted children and adolescents aged 8 to 18 years. However, the scientific literature presents contradictory results (Hoge and Renzulli, 1993; Neihart, 1999; Litster and Roberts, 2011).

In terms of subjective well-being, especially when considering life satisfaction, research also offers different results. In a study conducted by Bergold et al. (2020), gifted adolescents showed a slight advantage in SWL, although this difference was significant only when compared to that of their normal or typical peers. Bergold et al. (2015) did not find significant differences between the SWL of identified and non-identified German students. Similarly, although no significant differences were identified in a study by Ash and Huebner (1998), school experiences had greater weight regarding SWL in the gifted group, ranking last in satisfaction in the group of non-identified students. However, Shaunessy et al. (2006) found differences in favor of the well-being of gifted students; those students did not differ in general

SWL but had higher satisfaction with friendships. Notably, the subjects were part of an International Baccalaureate program. In turn, Chan (2012) differentiated subjects based on the type of perfectionism that they exhibited: healthy perfectionists were the happiest and most satisfied with their lives, and those with unhealthy perfectionism were the least happy and least satisfied with life; non-perfectionists were in between the two groups. Studies analyzing the subjective well-being of gifted children and adolescents focusing on affective balance are scarce. Vialle et al. (2007) compared identified gifted students with their peers and found that they had higher mean scores for negative emotions and lower mean scores for positive emotions; only the sadness variable was significant. Similarly, students assessed by Casino-García et al. (2019) also felt sadder than their non-identified peers and had a significantly lower emotional balance, in particular, fewer positive experiences. Bergold et al. (2020) found that gifted adolescents are slightly disadvantaged in mood states compared to their normal typically developing peers, but this difference was not significant.

Research on gifted adult subjects shows similar results. Ramiro et al. (2016) found no differences other than in their satisfaction with material well-being, with higher satisfaction in the gifted population, which they attributed to the desire for consistency between what was expected and what was achieved among the gifted. However, Vötter and Schnell (2019) found significantly lower scores for subjective well-being in gifted adults; a sense of meaningfulness was a good predictor of that well-being over time.

Some studies have focused on which factors might affect gifted students' levels of well-being. In an analysis of socioaffective concerns based on a study conducted by Jen et al. (2016), the topics most often chosen to talk about with an adult in order of importance were emotions and feelings (stress, fear, worry, and other), future aspirations (future, university, career, etc.), relationships with other students, school, and school bullying. The need for career guidance has been underscored by some investigations (Yoo and Moon, 2006).

Notably, gifted students frequently experience bullying and cyberbullying (Allen, 2017; MacFarlane and Mina, 2018). In Spain, the figures are concerning and higher than those found for school populations of similar ages (González-Cabrera, 2018). Gifted children are more frequently cyber-victims (González-Cabrera et al., 2019). Victims and cyber-victims have worse psychological well-being characterized by more depression, stress, and anxiety, a poorer quality of life, and less social support. In fact, a quarter of those affected feel that their teacher has facilitated bullying to some extent (González-Cabrera, 2018).

A stereotype persisting among some teachers is that this group is less socially skilled, less prosocial, and less adaptable (Baudson and Preckel, 2016; López et al., 2019) and that maladjustment is associated with lower teacher motivation and perceived self-efficacy (Matheis et al., 2017). Shani-Zinovich and Zeidner (2013) stress that these students often do not view themselves as successful and do not perceive themselves to be happy people.

If students are happy and feel that they contribute to the common good, they will be more likely to thrive for their own benefit and for the benefit of society in general (Zeidner, 2020). Aspiring to develop their giftedness will be a source of personal

satisfaction and self-fulfillment for students and will not harm their mental health if its cultivation is guided by teachers, family, and the community (Subotnik et al., 2011). Teachers' awareness of their students' talents is a predictor of psychological well-being (Kroesbergen et al., 2016). Providing gifted students with the opportunity to learn new things at school through open-ended tasks in alternative settings and in a practical manner can help them feel satisfied and enjoy their daily school lives (Gomez-Arizaga et al., 2020). The development of potential requires not only effort but also training and support (Subotnik et al., 2011).

Programs for Gifted Students

The well-being of these students seems to depend on, among other factors, the appropriateness of the educational response (Neihart, 1999). Among the actions that can be taken with this group, enrichment is particularly noteworthy (Renzulli and Reis, 2016). "Enrichment is a term used to describe a set of programming options that extend and supplement the regular curriculum and often include topics that are not typically covered in the curriculum" (Subotnik et al., 2011, p. 23).

However, this measure is often not offered, or the activities that are proposed as enrichment are fun tasks, such as hobbies, or more extensive tasks—independent, individual projects—further differentiating them (Ireland et al., 2020). Again, a lack of teacher training seems to be key (Callahan et al., 2017; Güçyeter et al., 2017; López et al., 2019; Aperribai and Garamendi, 2020).

Gifted students need projects involving intellectual, creative, and cooperative challenges (Martin-Lobo et al., 2018). They prefer complex extracurricular subjects, authentic knowledge, real problems that require making connections between ideas, and selecting the format of the products of their learning; however, they also choose to work in teams with other students for part of the time (Kanevsky, 2011). Therefore, non-cognitive variables related to social adjustment and adaptation must also be considered in these proposals (Hernández and Gutiérrez, 2014).

Psychosocial variables are determinants in the development and expression of giftedness (Subotnik et al., 2011). Schools should identify these students and offer them activities during which they can meet other like-minded peers to reduce the stress and sense of loneliness that they sometimes feel and to address their concerns and fears, such as bullying (Vialle et al., 2007).

Most intervention programs for gifted students have focused on academic outcomes or cognitive variables (Memmert, 2006; Kuo et al., 2010; Welter et al., 2018); only a small number have focused on psychosocial aspects (Neihart, 2007). Enrichment programs can improve not only students' academic performance (Aljughaiman, 2011; Golle et al., 2018) or motivation (Gubbels et al., 2014) but also their self-concept (Feldhusen et al., 1990; Gubbels et al., 2014), same-sex and opposite-sex relationships (Rinn, 2006), and interpersonal problem solving (Martin-Lobo et al., 2018). They have been shown to be effective in both primary (e.g., Feldhusen et al., 1990; Gubbels et al., 2014; Kim, 2016; Martin-Lobo et al., 2018) and secondary schools (e.g., Rinn, 2006; Aljughaiman, 2011; Fraleigh-Lohrfink et al., 2013; Sastre-Riba, 2013; Singh, 2013). Participants consider these programs to involve activities that enable gifted students to acquire new concepts that are not learned at school and to make

friends (Sastre i Riba et al., 2015). Furthermore, the programs have generally demonstrated a positive impact on students' socioemotional development. More studies are needed to explore the effects on specific areas at all educational levels, specifically in secondary schools (Kim, 2016). We have not been able to locate any research specifically examining the impact of enrichment on subjective well-being or school fears.

Educators, guidance counselors, and learning support staff offering more intervention programs designed to minimize the risk of poor socioemotional health is crucial (Blaas, 2014; Eren et al., 2018). These students need to be provided with opportunities where they can apply their skills in emotionally charged situations (Zeidner, 2017).

Renzulli's Schoolwide Enrichment Model

The term enrichment is often used in practice without a clear definition (Shaughnessy and Waggoner, 2015), although the education of gifted students should be based on scientific models (Van Tassel-Baska et al., 2006).

The SEM, which was developed in the mid-1970s in the United States and has been applied for more than 30 years, has enabled the development of effective educational programs for both gifted and talented or high-achieving students from different backgrounds (Reis and Renzulli, 2009). It aims to develop the potential and creativity of all students (Renzulli and Reis, 1994) and understands learning as a challenging and fun process. To this end, teachers must adapt the curriculum, program, and services through enrichment activities for all students. As defined by Renzulli (2008), this model consists of a set of strategies with the aim of improving, as well as performance, the student's interest, engagement in the task and enjoyment of it. For Renzulli, the idea is not to "replace existing school structures but, rather, to apply the strategies and services that define the model to improve the structures to which schools have already made a commitment" (Renzulli, 2008, p. 37). Schools must design their own programs, adapting them to their reality, context, and students, which is what Renzulli identifies as the "continuum of services", including learning opportunities and three services: curriculum modification, differentiation, and compacting; Type I, II, and III enrichment and enrichment clusters; and talent portfolio development.

In the clusters, students from different years, alongside teachers from different subjects and people and institutions from the community, develop a project of interest that involves high-achieving learning. They are not preplanned activities but rather require exploration and collaboration. Within or outside school hours, in sessions of approximately two hours for 6-12 weeks, problems are solved, products are created, and a service is provided, which is focused on one discipline or an interdisciplinary approach. Participants are united by an interest in the topic and by emotion. Teachers guide, facilitate, and inspire. Sessions typically end with the presentation of a tangible product or with the production of useful information to promote action, which is presented to an interested audience (Renzulli, 1997; Renzulli and Reis, 2016).

The "Developing Capabilities (*Desarrollando Capacidades*)" Enrichment Program at the Catholic University of Valencia

Gifted students need responses within and outside the classroom that provide them with the support that they need. A wide range of resources are available for offering enrichment to students with high intellectual abilities depending on the characteristics of the educational system, the school, the students, etc. (Rodríguez-Naveiras et al., 2019), including establishing agreements with local actors associated with higher education, for example, participating in university mentorships (Ibáñez et al., 2020) or enrichment programs (Sastre-Riba, 2013). Being able to work in special programs with like-minded peers and experts is a measure valued by gifted students enrolled in mixed schools (Ireland et al., 2020). Extracurricular programs for gifted students can contribute to improving their well-being (Jen et al., 2016). The extracurricular enrichment program for gifted students at the Catholic University of Valencia (Universidad Católica de Valencia - UCV) is designed along these lines. As part of the Faculty of Teaching and Educational Sciences, the program was created with a twofold objective: (1) to provide an educational response that improves the well-being of gifted secondary school students through an extracurricular intervention program; and (2) to train teachers at the participating schools to identify these students and to participate in the process of designing a differentiated and enriched curriculum. Extracurricular enrichment thus becomes the practical part of a training course that is activated in parallel—Developing Abilities—to enable the university professors and school teachers participating in a cluster to develop the necessary skills to work with this group.

Dai et al. (2011) report a gap between what educators believe and what they actually achieve. Therefore, extracurricular enrichment programs must be evaluated for their efficacy and their effects on both the intellectual and personal development of the participants (Blaas, 2014; Sastre i Riba et al., 2015). Accordingly, the questions and hypotheses investigated in this study based on the information presented in the introduction are as follows:

Research Question 1. Can the psychological well-being of gifted students be improved by their participation in an extracurricular enrichment program or a cluster that also involves their teachers, some of their classmates, and other students from other schools? Based on the review of the scientific literature presented in the introduction, the well-being of gifted students may depend on the fit of the educational response. For gifted students, the recognition of their teachers is very important. These adolescents value school experiences more highly, as well as the friendship of their peers. The program provides them with experiences of academic enjoyment adapted to their interests shared by their classmates and other peers with similar interests and with the support of their teachers; thus, our hypothesis 1 is as follows: The extracurricular enrichment program will improve the psychological well-being of gifted students.

Research Question 2. Will participating in a cluster also improve gifted adolescents' subjective well-being, SWL, and balance of positive and negative emotions? Will their participation improve their mood? Will they feel happier and less sad? Studies show that these students sometimes have fewer positive experiences and feel different, sadder, and lonelier. The program allows them to learn about issues of their interest in a playful way with professional experts and to participate in interesting and enjoyable experiences in a team with other teenagers with whom they can identify and share their enjoyment, leading us to formulate hypothesis 2: Participation in the extracurricular enrichment program will improve the subjective well-being of gifted students; their SWL and emotional balance will improve; and they will have a more positive mood and feel less sadness.

Research Question 3. Will students' concerns and fears (in particular, fear of bullying) be significantly reduced following their participation in the program? As described in the introduction, meeting other like-minded peers can reduce the stress and sense of loneliness that gifted students sometimes feel and can also help them address their concerns and fears, such as fear of bullying. Being in contact with university professors in their areas of interest can guide them in their choices of educational pathways and career aspirations, which is why we formulate hypothesis 3 as follows: Through their participation in the program, adolescents' school fears will be significantly reduced, especially their concerns about bullying.

MATERIALS AND METHODS

Design and Participants

To evaluate the impact of the enrichment intervention program, a quasiexperimental research design was used. Three schools participated in the program for two academic years (2017-18, 2018-19). The intervention group was assessed at four different moments to determine the impact of the enrichment program: time 1 (T1), prior to the first intervention, time 2 (T2), following the first intervention, time 3 (T3), prior to the second intervention, and time 4 (T4), following the second intervention.

During the first year, following an information session during which the research team explained the project in detail, an annual participation agreement was signed. The program's participants were recruited directly by school guidance counselors and teachers after they received training on the concept of giftedness (Pfeiffer, 2017). Only one school had initially identified gifted students. Until the 2017-18 school year, the administration required a Psychological and Educational Report indicating an IQ equal to or higher than 130 on a standardized intelligence test for identification, which usually included the result of a creativity test and a teacherŠs report (Conselleria de Cultura, Educacio i Ciencia, 1999; Arocas et al., 2002). However, the scientific literature suggests that teacher-completed screening scales can help to identify other students who may have been overlooked due to their cultural and linguistic backgrounds. Accordingly,

using the new gifted student screening questionnaires developed by the Regional Ministry of Education (Conselleria de Educación) (Arocas et al., 2018), teachers collectively decided which students were potential candidates for the enrichment program (irrespective of their performance). In this study, in line with the National Association for Gifted Children (2010), students who showed outstanding levels of aptitude (an exceptional ability to reason and learn) or skill (performance) in one or more areas according to their teachers were included: mathematics, art, language, sports, etc.

The teachers invited the selected students and their parents to an information meeting with the researchers at the university. After collecting information and having their questions answered, they voluntarily gave their consent (assent in the case of children over 11 years of age) and authorization for processing of their data and image collection. One family requested that their son participate in the program, a student identified at another school, and he was admitted to the program. A total of 47 adolescents in the first and second years of compulsory secondary education (Educación Secundaria Obligatoria - ESO) participated in the study (T1-T2). Of these, only 15 had officially been identified as gifted prior to their participation. The mean age of the children was 12.57 years (SD = 0.82). Two experienced serious school bullying during the program. During the second year, the procedure was repeated, and the agreement was renewed. One of the schools had initiated its own enrichment program and decided to significantly decrease its number of participants and offered the program to them; three students from other schools did not return (the reasons are unknown). Four identified children who were not enrolled in those schools were admitted at the request of their families, without the presence of their teachers. In total, 27 adolescents aged 11 to 15 years (T3-T4) were in the first, second, and third years of ESO, 19 of whom had participated in the program the previous year. The average age of the children was 13.48 years (SD = 0.94).

Among the participants, 61.4% were girls, and 38.6% were boys. In general, the students who participated in the program were successful in school; 97% of the students passed all subjects the previous year. Their marks were outstanding (A + - A, 56.8%), very good (B + - B, 34.1%), and satisfactory (C + , 9.1%). Their average scores ranged from 7 to 10 points, with 9 points being the most frequent score. In addition, 93.2% of the students participated in extracurricular activities, 86.4% of the children lived with both parents, 45.5% had two siblings, 15.9% had three siblings, 15.9% had four siblings, and some were only children. In accordance with the Declaration of Helsinki, the study protocol was approved by the Research Ethics Committee of the institution (UCV2017-2018-35).

Program Description

The intervention program focused on offering different clusters in accordance with the model of Renzulli and Reis (2016) and was carried out over the course of two years in two periods of five months each. It began in January with the teachers and lasted from February to June with the children. Two interventions were carried out in successive years: eight weekly sessions each year for two and a half hours during one afternoon per week. During the first year, the children had the freedom to choose one of the areas offered: social-humanistic, artistic, or scientific. Guided by professors from the university and teachers from their schools, they worked in teams and created a campaign to develop civic values and improve the inclusion and health of their adolescent peers at their respective schools while consulting with their classmates and enlisting their collaboration in certain actions. The analysis was based on their needs and interests; they conducted surveys and collected information. To achieve this, a number of professionals from different fields provided them with information and tools using a range of resources and technology. The results of this project were presented at the university (to family members, faculty members, and undergraduate students) and at the three schools that signed the agreement (to their classmates, who were the targets of the campaign). All the participants traveled to all the schools by bus for a day of social interaction. The project can be reviewed in more detail at the following link: https://somprojecte.com/enriquecimiento-altas-capacidades/.

During the second year, the program revolved around international days, namely, Europe Day, World Immunization Week, International Chess Day, International Day of Women and Girls in Science, and a new proposal, Day of Existential Meaning. Based on an analysis of their interests and learning styles, a specific day was recommended to them, although they were free to choose which one to participate in. After some initial awareness-raising activities, they selected their project, which they then turned into a podcast and/or video that they published on a blog that they themselves had created. All the participants chose to celebrate World Radio Day or World Day for Audiovisual Heritage and took an active part in Safer Internet Day. Students at UCV, faculty, and professionals again guided the students in their projects, which they then presented to their families, faculty, and students as a group at the university; however, they also sought out other interested audiences to whom to present their individual projects: The Very Illustrious College of Pharmacists of Valencia (Muy Ilustre Colegio de Farmacéuticos de Valencia), the attendees of a Logotherapy Conference, a local radio program, etc. Many prestigious professionals (politicians, activists, journalists, designers, researchers, artists, etc.) gave talks and were interviewed by the adolescents; a wide variety of topics were discussed, such as fourth-generation rights, the creation of the European Union and its governing bodies, Brexit, anti-vaccine movements, research in Corpuscular Physics, and the meaning of life. The activities were interspersed with moments of social interaction, shared reading, analysis of emotions, games, etc. Those leading the clusters participated in a new edition of the teacher training course on giftedness. The following video presents a description of the second intervention program: https://www.youtube.com/watch?v=tQIK_jVVNz8. To consult the materials, visit the blog: https://diasinternacionalesucv.blogspot.com/.

Measures

The gifted students voluntarily completed a battery of questionnaires at UCV at four different moments prior to beginning the program and following the final session for each edition: the Psychologic Well-being Scale (BIEPS), the Satisfaction with Life Scale (SWLS), The Scale of Positive and Negative Experiences (SPANE), the Mood Questionnaire, and the School Fears Survey (Inventario de Miedos Escolares - IME).

To analyze psychological well-being, this study used the BIEPS by Martina and Castro (2000). Its psychometric properties can be found in Luna et al. (2020). The scale consists of 13 items assessing the results achieved with a given way of having lived (p. 45) scored using a three-point response scale (1 = I disagree; 3 = I agree). The scale collects information on four factors: autonomy, which refers to the ability to act independently (e.g., "I can accept my mistakes and try to improve"); psychosocial bonds, which refer to the quality of personal relationships that the adolescent establishes with other people (e.g., "I have friends to confide in"); projects, which refer to the adolescent's goals and purposes in life (e.g., "I think I know what I want to do with my life"); and self-acceptance as a feeling of well-being with oneself (e.g., "I am quite content with the way I am"). Cronbach's alpha coefficient for this scale indicated high internal consistency (Alpha = 0.68; $Alpha_{T1}$ = 0.69; $Alpha_{T2}$ = 0.75; $Alpha_{T3}$ = 0.88; $Alpha_{T4}$ = 0.60).

To analyze SWL, this study used the Spanish version of the SWLS (Diener et al., 1985) by Atienza et al. (2000). The scale consists of five items (five-point Likert scale: 1 = strongly disagree; 5 = strongly agree) addressing the person's global evaluation of his or her life (e.g., "In most aspects, my life is as I would like it to be"). To do this, the person analyzes the most relevant aspects of his or her life, compares the experiences valued as good against the negative experiences, and compares all of them with a standard that he or she considers appropriate. Then, he or she evaluates satisfaction with his or her life. Cronbach's alpha coefficient for this scale indicated high internal consistency (α = Alpha = 0.6; $Alpha_{T1}$ = 0.60; $Alpha_{T2}$ = 0.60; $Alpha_{T3}$ = 0.72; $Alpha_{T4}$ = 0.61).

To analyze SWB, we used the Spanish adaptation of the SPANE (Diener et al., 2009) by Cassaretto and Martínez (2017). Gifted students rated the frequency of six positive experiences ("Pleasant") and six negative experiences ("Bad"). Scores were provided using a five-point Likert scale (from 1 = never to 5 = always). Cronbach's alpha coefficient indicated high internal consistency (Alpha = 0.85; $Alpha_{T1}$ = 0.85; $Alpha_{T2}$ = 0.86; $Alpha_{T3}$ = 0.83; $Alpha_{T4}$ = 0.80).

To analyze mood, we used an adaptation of the Mood Questionnaire (Rieffe et al., 2004) by Górriz et al. (2013). This scale evaluates the frequency of four moods that adolescents felt in the previous four weeks: fear (e.g., "I feel frightened"), sadness (e.g., "I feel sad"), happiness (e.g., "I feel glad"), and anger (e.g., "I feel annoyed"). This scale consists of 16 items rated on a five-point scale (1 = never, 3 = often). Cronbach's alpha coefficient for this scale was adequate (Alpha = 0.79; $Alpha_{T1}$ = 0.85; $Alpha_{T2}$ = 0.73; $Alpha_{T3}$ = 0.77; $Alpha_{T4}$ = 0.74).

To analyze school fears, we used the IME. The IME was constructed by Méndez (1988) and has three forms (see García-Fernández and Méndez, 2008 or García-Fernández et al., 2008, for a review). The items ask about school-related situations or experiences that may produce fear, discomfort, or displeasure and are scored on a five-point Likert scale (never, rarely, sometimes, often, always). It consists of 40 items distributed in six factors: fear of school failure and punishment ("Taking a written exam"), fear of physical discomfort ("Getting sick at school"), fear of social judgment ("Asking questions in class"), fear of anticipatory and separation anxiety ("Getting dressed for school"), fear of bullying ("Being hazed at school"), and fear in situations outside the classroom ("Studying in the library"). Cronbach's alpha coefficient for each factor indicated internal consistency (Alpha = 0.89; $Alpha_{T1}$ = 0.89; $Alpha_{T2}$ = 0.86; $Alpha_{T3}$ = 0.87; $Alpha_{T4}$ = 0.92).

Data Analysis

All data were analyzed with IBM SPSS Statistics 26. Cronbach's alpha coefficients were computed to establish the internal consistency of the constructs (Clark and Watson, 1995). First, we analyzed the psychosocial characteristics of the gifted students participating in the program. We carried out this description because, following Dimitrov and Rumrill (2003), the design does not use a control group and therefore does not alter the environment of the gifted students and increases the external validity. For this purpose, descriptive analyses were carried out, and the results are presented as the mean (M) and standard deviation (SD).

Second, to evaluate the effect of the enrichment program, one-way analysis of variance (ANOVA) with repeated measures (the four times) and t-tests for paired times were used (paired samples, T1-T2, T2-T3, and T3-T4) following Mishra et al. (2019).

The use of the linear statistical method allowed us to include data from all four times analyzed and to make better use of the quasi experimental design for the two interventions and four times (Brady et al., 2015). Changes are presented as the mean difference. To compare means between T1 and T2, we analyzed the changes that had been elicited with the program, although their extension over time was very small (3 months), and the scales used for the topics analyzed suggest that although they are dynamic constructs, they are quite stable over time. A comparison between T2 and T3 was carried out to analyze the maintenance of changes or their volatility during a calendar year. If the changes were maintained, the program could be considered highly effective. Thus, this analysis is very relevant for the validity of the program. Subsequently, a T3-T4 comparison was carried out to analyze the changes generated in the second phase of the enrichment program. Moreover, the effect size was calculated using Cohen's d and the f-test (ANOVA, effect size). Values of d less than 0.2 indicate a small effect size; values equal to or greater than 0.5 indicate a medium effect size; and values of 0.8 or greater indicate a high effect size. For the f-test ANOVA, values below 0.1 indicate a small effect size; values above 0.25 indicate a medium effect size, and values of 0.4 or above indicate a large effect size.

RESULTS

Descriptive Study of the Variables Under Study

A descriptive study was carried out to analyze the mood, SWB, SWL, PWB, and school fears of gifted students. Regarding mood, gifted students were characterized by relatively high scores for happiness (minimum = 1.6, maximum = 2.4; M = 2.07, SD = 0.16) and anger (minimum = 1.75, maximum = 2.25; M = 1.97, SD = 0.23) and average scores for fear (minimum = 1, maximum = 2.4; M = 1.58, SD = 0.25) and sadness (minimum = 1, maximum = 2.5; M = 1.65, SD = 0.59). With regard to subjective well-being, they had high scores for positive experiences (minimum = 3.33, maximum = 5; M = 4.25, SD = 0.61) and medium scores for negative experiences (minimum = 1, maximum = 3.83; M = 2.08, SD = 0.65). These findings are consistent with the medium level of SWL (minimum = 3.5, maximum = 4.75; M = 4, SD = 0.56). The scores for psychological well-being were also relatively high. These students were primarily characterized by a positive perception of social relationships (minimum = 2, maximum = 3; M = 2.85, SD = 0.28); self-acceptance (minimum = 1.67, maximum = 3; M = 2.56, SD = 0.49) and autonomy (minimum = 1.75, maximum = 3; M = 2.59, SD = 0.31) were also two dimensions with high scores. The score for projects was also high but lower than those above (minimum = 1.33, maximum = 3; M = 2.57, SD = 0.41). With regard to perceived fears in the school environment, the scores for fear of school failure (minimum = 0.9, maximum = 3.7; M = 2.70, SD = 0.35) and bullying (minimum = 0.4, maximum = 3.80; M = 2.43, SD = 0.83) were particularly noteworthy. Nevertheless, the scores were average for those factors and very low for the others. Accordingly, gifted adolescents are characterized by high scores for psychological well-being and a high perception of positive experiences and happiness, although they also have a medium perception of negative experiences and moods, which may be the reason for their medium level of satisfaction. However, they have practically no school fears except for failure and bullying, which received medium scores.

Evaluating the Impact of the Intervention

To analyze the effectiveness of the enrichment program, a related-group comparison study was conducted. Specifically, first, a repeated measures general linear model analysis was carried out for the program's four assessment times. Subsequently, to explore differences in each of the interventions, comparisons of T1-T2 (pre-post test of the first intervention), T2-T3 (no treatment), and T3-T4 (pre-post test of the second intervention) were carried out using the repeated measures t-test. The results obtained at the four times are presented in **Table 1**, and those obtained for each of the interventions are presented in **Table 2**. Both tables show significant and non-significant differences and the estimated effect. As a general rule, most authors present only the existence of significant differences when evaluating intervention programs. Nevertheless, some authors indicate the importance of accepting the null hypothesis. However, the lack of significant differences is relevant, for example, when the effects of an enrichment program

are maintained over time even after it has ended. They are also relevant when the group score for a factor is initially high and does not decrease over the course of the program (two school years) due to the effect of age and experiences at school. Moreover, in **Table 3**, we show the means and standard deviations for the four times.

As shown in **Table 1**, based on the multivariate test results, the enrichment program resulted in statistically significant differences in moods, i.e., happiness, fear, and sadness. Happiness increased as an effect of the program (MT1 = 2.07, SD1 = 0.16; MT2 = 2.16, SD2 = 0.23; MT3 = 2.07, SD3 = 0.35; MT4 = 2.21, SD4 = 0.25). In turn, fear (MT1 = 1.58, SD1 = 0.25; MT2 = 1.33, SD2 = 0.19; MT3 = 1.47, SD3 = 0.16; MT4 = 1.51, SD4 = 0.26) and sadness (MT1 = 1.65, SD1 = 0.59; MT2 = 1.30, SD2 = 0.43; MT3 = 1.53, SD3 = 0.30; MT4 = 1.67, SD4 = 0.34) decreased as an effect of the enrichment program. To explore differences in terms of each of the interventions undertaken in consecutive years, time-paired repeated measures t-tests were carried out (T1-T2 = first intervention; T2-T3 = no intervention; T3-T4 = second intervention; and T1-T4 = pre-post test) (**Table 2**). During the first program (T1-T2), the dimensions with significant differences between the pretest and posttest in the general sample were happiness, anger (MT1 = 1.97; MT2 = 1.92), fear, and sadness. Specifically, the means indicate that the extracurricular enrichment program increased happiness and reduced negative moods between T1 and T2 for all participants, and this effect was maintained until T3. The only exception was fear, which increased significantly between T2 and T3 when no intervention was taking place; additionally, between T3 and T4, no significant increase was observed, indicating that the enrichment program did not significantly change the fear score. The effect on fear can be interpreted as no increase in fear or fear control. Happiness increased significantly between the pretest and the end of the second intervention. The results also show that the effects of the first enrichment program on happiness were maintained over time, i.e., between the end of the first intervention and the beginning of the second intervention, as no significant differences were observed.

With regard to subjective well-being, the results show significant differences in negative experiences (MT1 = 2.08, SD1 = 0.65; MT2 = 1.53, SD2 = 0.40; MT3 = 2.09, SD3 = 0.57; MT4 = 2.16, SD4 = 0.64), although positive experiences and SWL did not significantly increase. The results show the effectiveness of the program, as negative experiences decreased between T1 and T2. However, the results also indicate an increase in negative experiences between T2 and T3 when the intervention stopped; however, they did not increase during the second intervention. With regard to satisfaction, both interventions generated significant effects (MT1 = 4.00, SD1 = 0.56; MT2 = 4.12, SD2 = 0.55; MT3 = 4.06, SD3 = 0.55; MT4 = 4.18, SD4 = 0.48). Specifically, SWL increased during both interventions, and the changes produced during the first intervention were maintained at the beginning of the second intervention, as the differences were not significant.

With regard to psychological well-being, the results show significant differences in autonomy (MT1 = 2.59, SD1 = 0.31; MT2 = 2.76, SD2 = 0.34; MT3 = 2.71, SD3 = 0.38; MT4 = 2.80,

TABLE 1 | General linear model repeated-measures ANOVA results at four times.

	Pillai test	ρ	Mauchly's W	ρ	F	Sig	Greenhouse-Geisser	ρ	Huynh-Feldt	ρ	f-test effect size
PWB											
Autonomy	3.46	0.04	0.55	0.08	3.94	0.01					0.18
Relationships	4.06	0.02	0.64	0.23	2.44	0.07					0.12
Projects	2.10	0.13	0.90	0.88	2.16	0.10					0.10
Self-acceptance	0.76	0.53	0.92	0.93	0.73	0.53					0.03
SWB											
SWL	2.20	0.12	0.55	0.08	1.13	0.34					0.05
Negative experiences	11.53	0.00	0.62	0.16	6.55	0.00					0.26
Positive experiences	0.23	0.86	0.74	0.45	0.24	0.86					0.04
MOOD											
Happiness	3.09	0.05	0.58	0.14	2.55	0.06					0.13
Anger	2.55	0.09	0.89	0.86	2.46	0.07					0.12
Sadness	4.92	0.01	0.29	0.00	3.55	0.02					0.17
Fear	4.68	0.01	0.76	0.51	5.24	0.00					0.24
SCHOOL FEARS OF...											
Physical discomfort	4.04	0.02	0.48	0.03	3.33	0.02	3.33	0.04	3.33	0.03	0.15
Failure	1.70	0.20	0.58	0.13	1.23	0.30					0.06
Social evaluation	0.39	0.75	0.63	0.18	0.31	0.81					0.01
Bullying	1.74	0.19	0.46	0.02	0.58	0.62	0.58	0.57	0.58	0.59	0.03
Anxiety	2.05	0.14	0.21	0.00	0.46	0.70	0.46	0.59	0.46	0.60	0.05
External situations	1.26	0.31	0.55	0.08	1.74	0.16	1.74	0.18	1.74	0.17	0.08

TABLE 2 | Intervention effects at four times before and after the two interventions.

	T1-T2 (Pre-post first intervention)			T2-T3 (No intervention)			T3-T4 (Pre-post second intervention)		
	t	ρ	Cohen's d	t	ρ	Cohen's d	t	ρ	Cohen's d
PWB									
Autonomy	−2.27	0.02	0.33	1.16	0.25		−1.43	0.16	
Relationships	2.02	0.04	0.30	0.56	0.57		−2.32	0.02	0.44
Projects	−1.17	0.24		1.57	0.13		−1.72	0.09	
Self-acceptance	1.04	0.30		0.64	0.52		−1.18	0.24	
SWB									
SWL	−3.16	0.00	0.43	0.53	0.59		−2.58	0.01	0.47
Negative experiences	3.92	0.00	0.52	−4.74	0.00	0.75	0.20	0.84	
Positive experiences	−0.88	0.38		1.10	0.28		−0.59	0.55	
MOOD									
Happiness	−2.07	0.04	0.30	1.57	0.13		−1.80	0.08	
Anger	2.43	0.01	0.35	−1.16	0.26		−1.23	0.23	
Sadness	2.81	0.00	0.40	−1.59	0.12		−0.46	0.64	
Fear	2.04	0.04	0.3	−2.55	0.01	0.5	−0.66	0.51	
SCHOOL FEARS OF...									
Physical discomfort	3.58	0.00	0.48	−0.76	0.45		0.94	0.35	
Failure	0.97	0.33		−1.33	0.19		3.33	0.00	0.56
Social evaluation	0.29	0.77		−0.22	0.82		2.25	0.03	0.42
Bullying	1.54	0.13		−1.20	0.24		2.24	0.03	0.42
Anxiety	0.51	0.61		−0.50	0.61		1.87	0.07	
External situations	0.33	0.74		−1.68	0.10		1.90	0.06	

SD4 = 0.31) and social relationships (MT1 = 2.85, SD1 = 0.28; MT2 = 2.79, SD2 = 0.20; MT3 = 2.74, SD3 = 0.31; MT4 = 2.88, SD4 = 0.19) due to implementation of the program. **Table 2** shows significant differences in autonomy as a result of the first

enrichment program and that the effects were maintained after the intervention ended until T3 and T4. Significant differences were also noted between the two interventions in terms of social relationships. In this case, during the first intervention, a decrease

TABLE 3 | The means and standard deviations at the four different times.

	T1 (N = 47)		T2 (N = 47)		T3 (N = 27)		T4 (N = 27)	
	M	SD	M	SD	M	SD	M	SD
PWB								
Autonomy	2.59	0.31	2.76	0.34	2.71	0.38	2.80	0.31
Relationships	2.85	0.28	2.79	0.20	2.74	0.31	2.88	0.19
Projects	2.57	0.41	2.73	0.28	2.59	0.40	2.70	0.41
Self-acceptance	2.56	0.49	2.68	0.47	2.61	0.52	2.61	0.38
SWB								
SWL	4.00	0.56	4.12	0.55	4.06	0.55	4.18	0.48
Negative experiences	2.08	0.65	1.53	0.40	2.09	0.57	2.16	0.64
Positive experiences	4.24	0.60	4.33	0.72	4.22	0.70	4.29	0.70
MOOD								
Happiness	2.07	0.16	2.16	0.23	2.07	0.35	2.21	0.25
Anger	1.97	0.23	1.92	0.18	2.01	0.32	2.10	0.28
Sadness	1.65	0.59	1.30	0.43	1.53	0.30	1.67	0.34
Fear	1.58	0.25	1.33	0.19	1.47	0.16	1.51	0.26
SCHOOL FEARS OF...								
Physical discomfort	0.61	0.61	0.37	0.43	0.48	0.75	0.32	0.50
Failure	2.70	0.35	2.53	0.52	2.78	0.67	2.26	0.87
Social evaluation	1.19	0.95	1.17	0.79	1.20	0.74	1.06	0.85
Bullying	2.43	0.83	2.48	0.92	2.63	1.20	2.31	1.38
Anxiety	0.37	0.51	0.34	0.48	0.37	0.41	0.25	0.33
External situations	0.24	0.27	0.27	0.35	0.44	0.42	0.29	0.40

in psychological well-being resulting from social relationships was observed, which was maintained until T3. However, with the second intervention, an increase was observed.

With regard to school fears, participation in the enrichment program led to significant differences in the fear of physical discomfort (MT1 = 0.61, SD1 = 0.61; MT2 = 0.37, SD2 = 0.43; MT3 = 0.48, SD3 = 0.75; MT4 = 0.32, SD4 = 0.50) (**Table 2**). For the first intervention, fear of physical discomfort was statistically significant, with a decrease that was maintained between T2-T3 and no increase during T3-T4. For the second intervention, decreases in fear of failure (MT3 = 2.78, SD3 = 0.67; MT4 = 2.26, SD4 = 0.87), bullying (MT3 = 2.63, SD3 = 1.20; MT4 = 2.31, SD4 = 1.38) and social judgment (MT3 = 1.20, SD3 = 0.74; MT4 = 1.06, SD4 = 0.85) were observed.

The effect sizes (dCohen) of the different pairs of means ranged from small to large (0.30-0.75) following the parameters established by Cohen (1988). Regarding the *f*-test, the effect size ranged from small to medium (0.12-0.26).

DISCUSSION

This paper analyzed the impact of an extracurricular enrichment program on the well-being of gifted students. The results obtained show the effectiveness of the enrichment program. In the first course of the program in relation to psychological well-being, the autonomy of the participants improved. Subjective well-being, life satisfaction, and affective balance also improved. Negative experiences decreased, happiness increased, and negative moods (fear, anger, and sadness)

were significantly reduced. Therefore, we can claim that the subjective well-being of the participants improves after the first moment of the intervention. Regarding the perception of school fears, a significant decrease in the fear of physical discomfort was observed.

During the time when no intervention was taking place, regarding psychological well-being, improvements in autonomy were maintained. Regarding subjective well-being, the level of SWL was maintained, although an increase in negative experiences was identified for the 19 students who repeated participation. The improvement in mood states was maintained except for fear, which increased significantly. However, the decrease in fear of physical discomfort was maintained.

In the second course of the program, psychological well-being derived from social relationships increases. Participants' life satisfaction also increases. At the affective level, the program improves the happiness of participants. Therefore, we can affirm that psychological and subjective well-being improves with the enrichment program. With respect to school fears, significant decreases in the fears of failure, bullying, and social judgment were observed.

The contribution of this study is that, from a holistic view of the student, it extends the areas of analysis of the intervention to psychological and subjective well-being, moods, and school fears. The results obtained, which are in line with those of Gomez-Arizaga et al. (2020), show that learning different material in a different way and in a different context contributes to improving the well-being of gifted students. Specifically, the students' psychological well-being increased, their sense of mastery and self-competence improved, and their perception of the quality

of their personal relationships with other people improved. They also experienced an increase in their subjective well-being overall, although the results must be qualified. Their SWL increased during the first intervention (T1-T2) and again increased significantly during the second intervention (T3-T4), with the results being maintained between the two interventions (T2-T3). However, negative experiences significantly decreased only during the first intervention and increased at the end of the program. In general, happiness increased, and sadness and fear decreased.

One possible explanation for the increase in their psychological well-being, in line with Kroesbergen et al. (2016), was that teachers became aware of their students' ability. Two of the schools did not previously have students identified as gifted, and the program helped these students to be recognized. All of them were selected at their respective schools by their teachers after the teachers had received training. Gubbels et al. (2014) also found improvements in the self-concept and motivation of participants in their enrichment program; even though they were primary school children, the students were selected by their teachers, as in our study. However, those authors did not observe any changes in well-being. The researchers attribute the lack of improvement to two specific facts: children with emotional and behavioral problems were excluded from the program, and most of the students were already participating in enrichment activities elsewhere, which was not true in our case; we did not exclude anyone. Indeed, we are aware that several students were referred for disruptive and challenging behaviors in class, which did not occur during the program. Our students had also not received any type of support prior to the study, nor were they participating in other enrichment programs. A developmental difference was also noted between the participants in the program: Gubbels et al. (2014) worked with primary school students, and we worked with secondary school students.

The fact that so many professionals from so many different fields participated in the program may have contributed to improved well-being. The students were able to listen to their experiences, ask them about their profession, work with them, and learn more about the academic world. Furthermore, students discovered the professional lives of their teachers; they learned that their teachers painted or conducted research outside of class hours, for example. At this age, they must begin to make decisions about their future studies, and the need for vocational guidance in adolescence, particularly in this group, has been identified in a number of studies (Yoo and Moon, 2006; Jen et al., 2016).

Another possible explanation is that all the activities had the objective of making the world a better place and finding meaning in life. In line with Vötter and Schnell (2019), a sense of meaningfulness can predict subjective well-being. Emotional education experts recommend including exercises that address the meaning of life and other existential concerns in interventions with gifted students, as these are topics that worry them (Turanzas et al., 2020).

Similarly, this program assigns a great deal of importance to emotions, sharing feelings, assessing feelings, talking about feelings when discussing reading passages or preparing activities, and seeing mistakes as opportunities. Along these lines, our

results show that talking about how one feels can indeed contribute to improving the well-being of these students during adolescence (Jen et al., 2016).

Finally, in a meta-analysis performed by Kim (2016), the largest effect size was observed in terms of socioemotional development for summer programs combined with those during the school year. The fact that the extracurricular program was organized by the university but involved the participation of teachers, guidance counselors, and, to a certain extent, their classmates may have had a similar influence, which would support the importance of the program being integrated into the school's educational curriculum and having the full support of the administration as well as all stakeholders in the learning community (Renzulli and Reis, 2016).

One of the key aspects to note in our study was the lasting improvement in SWL over time. Levels of SWL were maintained during the seven months when the program was not offered. Stake and Mares (2005) stress the need to follow up on enrichment programs and assess their effects after several months. The fact that a significant percentage of students returned the following year enabled an assessment at 7-8 months after the first intervention. However, such attrition may be the reason why students who returned did not improve as much between T3 and T4; the program was more effective at the beginning. Additionally, when starting from higher levels of well-being, differences are not significant.

In comparison, although negative experiences significantly decreased during the first intervention, they increased in the months between the first and second interventions and remained the same during the second intervention. Nevertheless, these negative experiences did not affect satisfaction. This result conflicts with the detailed analysis of school fears. During those two school years, the fear of physical discomfort decreased significantly. In other words, children experienced negative feelings, but their increased autonomy and strength of relationships protected them such that negative feelings did not affect their SWL, which continued to improve, or their fears. Another explanation is that during the second program, the school teachers took turns and were not present for all sessions as they had been during the first year; perhaps not having continuous support from their teachers resulted in the lack of a reduction in scores for negative experiences. However, during the second intervention, fear of failure, fear of social judgment, and fear of bullying decreased significantly. Notably, the students did not present the projects at their respective schools on this second occasion, although they faced demanding audiences in unfamiliar environments, such as conferences.

As in the program by Sastre i Riba et al. (2015), making friends, learning concepts that are not taught at school, and acquiring knowledge in a different manner are the reasons most frequently given by students to explain their satisfaction with a program.

Theoretical and Practical Implications

At a theoretical level, our results confirm the hypothesis that the well-being of gifted students depends on the appropriateness of the educational response (Neihart, 1999). In line with Kim (2016), our study reveals the contribution of enrichment programs to the

socioemotional development of gifted students, an educational level (secondary school) with little research, in specific areas, such as psychological well-being, SWL, emotional well-being, mood, or school fears. Additionally, analyses of the effects were conducted several months after the intervention, as suggested by Stake and Mares (2005).

Our results indicate that extracurricular enrichment programs in collaboration with community and higher education institutions provide an appropriate opportunity for these students (Ireland et al., 2020) and can help prevent socioemotional health problems (Blaas, 2014; Eren et al., 2018). The program also supports teacher training (Aperribai and Garamendi, 2020), contributing to their empowerment.

Limitations and Future Research

One limitation of this study is associated with using a checklist to select participants. Furthermore, only the opinions of the teachers and guidance counselors at the schools were considered; the comments of families, peers, or the students themselves (self-nomination) were not requested. This tool was selected because it is used by the school administration to enable teachers to detect gifted students at schools and guidance counselors to initiate social, psychological, and educational assessments of those students to evaluate their possible needs. Teachers were able to collectively select students in a timely manner, and the screening scale allowed teachers—who had received only limited training—to choose students with the aforementioned characteristics. Additionally, the instruments included aspects that were not only cognitive or academic but also subjective, such as "Shows a subtle sense of humor" or "Expresses and controls their emotions."

The assessment could have been completed with other instruments. Children who were not assessed were not given any psychometric test of intelligence or creativity nor were their school marks considered. Controlling for these variables in future studies would be desirable.

The sample was representative of the percentage of the school population with giftedness, but its size was small compared to the standard procedures for achieving statistical adequacy. As such, further research involving a larger sample of students and the participation of more schools are necessary. Training more teachers and measuring their beliefs about self-efficacy, their level of engagement in the enrichment program, and the curricular differences found in regular classes are also advisable.

In terms of the results obtained, possible interactions between the contextual and intervention-specific variables are difficult to identify. Potential threats to the validity of the information should be considered. Measuring the impact of the program on the participants' involvement in the study and on their academic outcomes would be desirable. Improvements were identified when comparing adolescents' scores over time; comparing these scores with those of the adolescents' classmates who did not participate in the program likely would have been interesting.

Applying similar experiences in primary schools, particularly in the final years when the first school incidents—the first cases of bullying—begin to occur, would also be interesting.

CONCLUSION

The well-being of gifted students can be improved through group educational activities selected according to their interests that involve an emotional and cognitive challenge undertaken with students of their own age and from their own school and others in their area with whom they share interests, including—in a transversal manner—activities for the development of emotional intelligence and social skills in accordance with their needs, with the support of adults, their teachers, and other social actors in the environment, such as university professors, parents, and friends. Extracurricular enrichment programs are a valid option for improving gifted students' SWL and reducing their fears, particularly the fear of bullying. Teacher training is essential for detecting which students have potential and subsequently addressing their needs.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Research Ethics Committee of the institution Universidad Católica de Valencia (UCV2017-2018-35). Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin. Written informed consent was obtained from the individual(s), and minor(s)' legal guardian/next of kin, for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

All authors were responsible for the study design, data analysis, interpretation of the results, and writing of the manuscript.

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School Engagement and Context: A Multilevel Analysis of Adolescents in 31 Provincial-Level Regions in China

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According to ecological system theory, both the microsystem environment (home environment) and the more macrolevel environment (provincial environment) influence school engagement in adolescents. This study tests an ecological model of adolescents' school engagement with 19,084 middle school students across 31 provincial-level regions in China. Multilevel modeling is used to predict adolescents' school engagement (behavior, emotion, and cognition) at two levels, individual [gender and family socioeconomic status (SES)] and provincial (economy, public cultural facilities, technological industry and education). The school engagement of students varies significantly across provincial-level regions. SES positively affects the school engagement of students. Students benefit from the provincial environment when the economy is booming, public cultural facilities are adequate and education is flourishing. The development of the technology industry fails to boost students' school engagement. Limitations and future directions are discussed.

Keywords: adolescents, school engagement, SES, provincial environment, ecological system theory

INTRODUCTION

School engagement, which is a way to predict academic performance and student boredom, has become an increasingly important concept for education researchers (Wang and Fredricks, 2014). Fredricks et al. (2004) define school engagement in three ways. *Behavioral engagement* refers to participation in learning activities; it includes involvement in academic activities and extracurricular activities. It is considered crucial for positive academic achievement and preventing dropping out. *Emotional engagement* refers to students' emotional response in learning activities, including positive or negative reactions to teachers, classmates, academics and school. It is considered a tie linking an institution and willingness to do the work. *Cognitive engagement* refers to the willingness and effort to understand complex ideas and master difficult skills, including the use of learning strategies and self-regulating learning methods and the use of metacognitive strategies to plan and evaluate learning.

Many studies have indicated that school engagement has a close relation to students' academic achievement and academic adjustment (Lam et al., 2012; Chase et al., 2014; Galla et al., 2014; Stefansson et al., 2018; Zhu et al., 2019; Xiong et al., 2021; Zhao et al., 2021). Some researchers consider school engagement a predictor of the quality of education (Reina et al., 2014; Li, 2018). It

has been proven that school engagement is a way to ameliorate academic burnout (Duan and Li, 2008; Robayo-Tamayo et al., 2020) and dropout (Janosz et al., 2008; Wang and Fredricks, 2014).

In recent years, two gaps in the school engagement literature have been identified. First, there is a need to examine multiple layers of environmental factors regarding their role in enhancing or undermining adolescents' school engagement (Mohammadpour, 2013; Camacho and Krezmien, 2018). According to Bronfenbrenner (1989), human development occurs in a nested environmental system. Human development is directly or indirectly affected by four interacting systems (Bronfenbrenner and Morris, 2006). Microsystems are the most proximal and influential systems impacting adolescents' developmental outcomes. Adolescents continually interact with others and carry out daily activities in microsystems. The bidirectional interactions between adolescents and the microsystem context directly influence adolescents' development (Kim, 2015). Prior studies have examined individual factors (age) and microsystem factors (home environment, family environment, parenting, neighborhood context, teacher quality, and school context) that predict students' school engagement (Chiu et al., 2012; Lam et al., 2012; Wang and Eccles, 2012a; Shi et al., 2013; Wang and Chang, 2018; Harris et al., 2020). The macrosystem is the most distal and broadest context and influences adolescents' development and other contexts (including microsystems). Education outcomes and the economy, politics, culture, technology and other societal factors are interdependent and mutually restricted (Feng, 2007). A limited number of studies provide proof that school engagement differs between macrosystem environments (Lam et al., 2015; Nguyen et al., 2018) and is influenced by gross domestic product (GDP) and income inequality (GINI) (Dotterer and Lowe, 2011). Second, few studies have provided robust proof of the interaction of microsystems and macrosystems and how the interaction influences adolescents' school engagement. According to ecosystem theory, the environment influences each other. Some questions remained unclear. How did they interact with each other? Whether they compensate each other? To simplify sampling and out of consideration for research costs, most studies focus on the influence of microsystem factors on school engagement in adolescents, and only a few studies report findings about macrosystem effects. Therefore, it is difficult to draw a reliable conclusion regarding the interaction of microsystems and macrosystems.

Adolescent-Level Individual Factor: Gender

Historically, gender has been a predictor of school engagement. Several studies have investigated gender differences in school engagement. Some studies report that girls have higher school engagement than boys (Freudenthaler et al., 2008; Janosz et al., 2008; Wang and Eccles, 2012a; Wang and Fredricks, 2014). Other studies, however, have found contradictory or even no effects of gender on adolescents' school engagement (Ruban and McCoach, 2005; Janosz et al., 2008; Steinmayr and Spinath, 2008;

Wilcox et al., 2017; Zendarski et al., 2017). Participants in the studies were from different groups in different regions, which may account for the inconsistent results. For example, Wang and Fredricks (2014) recruited 7th students from an ethnically diverse county on the East Coast of the United States. Janosz et al. (2008) recruited 7th to 11th students from low socioeconomic (SES) middle and high schools in Canada.

Adolescent-Level Microsystem Factor: Family Socioeconomic Status

According to ecological system theory (Bronfenbrenner and Ceci, 1994), microsystems are the most proximal and influential systems impacting children's developmental outcomes. Adolescents continually interact with others and carry out daily activities in microsystems. The bidirectional interactions between adolescents and the microsystem context directly influence adolescents' development. Microsystems, such as family context, have typically been proven to influence adolescents' academic activities (Sağkal, 2019).

The associations between student school engagement and the home microsystem have been examined extensively. Some studies have reported consistent results that students from higher SES homes exhibit more engagement in school work than those from lower SES homes (Ruban and McCoach, 2005; Janosz et al., 2008; Ni and Wu, 2011; Wang and Eccles, 2012b; Akiva et al., 2013; Shi et al., 2013; Wang and Chang, 2018). Adolescents from high-SES families have more access to resources (e.g., extracurricular activities and books) and less pressure. Adolescents from low-SES families have less access to resources and often have to take on additional responsibilities and pressures because of working parents (Duan et al., 2018).

Province-Level Macrosystem Factors

According to Bronfenbrenner (1994), the macrosystem is the most distal context in adolescents' environment, but it can have imperceptible effects on other contexts (including microsystems) and adolescents' development. The macrosystem includes the economy, politics, culture, technology, education, and other aspects of the environment in which adolescents grow up. A limited number of studies have provided evidence for the impact of macrosystems on adolescent school engagement. Lam et al. (2015) found that the school engagement of students was significantly different across 12 countries. They examined how regional differences in the environment affect adolescents' school engagement. Two other studies found that GDP and the GINI coefficient can significantly affect reading performance (Dotterer and Lowe, 2011; Chiu et al., 2017). According to the significant relationship between school engagement and academic achievement (Kasehagen et al., 2018; Xiong et al., 2021), GDP and the GINI coefficient were potential factors affecting school engagement.

The relationship between the microsystem environment (family, class, and school) and the development of youth has been examined widely (Dotterer and Lowe, 2011; Vanwynsberghe et al., 2017; Harris et al., 2020). However, few studies have focused on the association of macrosystems (such as the urban

environment) with the academic development of adolescents. Although effects of the economic and wealth gap on the academic performance of adolescents have been found, the impact of other environmental factors on adolescent development is unclear. Moreover, the interaction between the macrosystem and microsystem needs to be examined (Lam et al., 2015).

This study obtained the school engagement scores and family SES of middle school students from 31 provincial regions in China and collected the economic, public cultural service, scientific and technological development and education indicators of the 31 provincial-level regions. A multilevel analysis model was used to explore the influence of SES and provincial index on the school engagement of middle school students and the interaction between the province environment and family environment. The following research questions were used to guide this study:

Question 1. Did individual factors (gender and SES) influence adolescents' school engagement?

Question 2. What was the influence of provincial-level factors on adolescents' school engagement?

Question 3. Was there an interaction between individual factors and provincial-level factors on adolescents' school engagement?

MATERIALS AND METHODS

Participants

Participants for the current study were from the Adolescent Purpose of Life Project, which was designed to test the relationship between adolescents' purpose and development outcome. We recruited schools with cooperation intentions on the website. We promised to provide the analysis and report of the current development of their students and lectures on mental health for free. We recruited 183 middle schools in 31 provincial-level regions in China. The provincial-level regions include 22 provinces (all provinces except Taiwan), 5 autonomous regions and 4 municipalities. Teachers of partner school recruited students and obtained the consent of the students and their parents.

Two methods were used to collect the data. First, teachers posted the questionnaire to a website, and the students responded online. Second, teachers distributed a paper questionnaire, and students wrote their answers. All the data were collected in August 2019. The original sample consisted of 22,469 adolescents. The data was preprocessed in three steps. First, we selected participants with high social expectations. Five questions were used to test social expectations. They were "I never cry," "I never break an appointment," "I never swear," "I never eat snacks" and "I never lie." The response formats of the items ranged from 1 = strongly disagree to 5 = strongly agree. We removed the participants who scored more than four points on these five items. We removed 2,982 participants at this step. Second, we selected the participants with a blank question rate of more than 15%. We removed 212 participants at this step. Third, we removed the data with extreme values. Some data were collected as a pencil and paper study. Later, the study found extreme values above the maximum values of the Likert scale (4), because of a

mistake in data entry. We removed 91 participants at this step. The final sample consisted of 19,084 adolescents (boys = 9,593 and girls = 9,421; Mage = 13.96; SD = 0.82). Detailed information on the participant distribution is provided in Appendix.

Measures

School Engagement Questionnaire

School engagement was measured using the School Engagement Questionnaire (Liu et al., Submitted[1]). This questionnaire consisted of three subscales: behavioral, emotional and cognitive. The behavioral engagement subscale consisted of 5 items that measure adolescents' effort in learning (e.g., "I work hard at school"). The cognitive engagement subscale consisted of 7 items that measure the use of metacognition strategies in learning (e.g., "I always check my homework"). The emotional engagement subscale consisted of 6 items that measure adolescents' feelings of learning and school (e.g., "I feel boring in class"). The questionnaire was based on a 4-point Likert-type scale (strongly disagree to strongly agree). Cronbach's alphas were 0.85 (cognitive), 0.85 (emotional) and 0.82 (behavioral) in the current study. Confirmatory factor analysis showed that the factor load of all items ranged from 0.58 to 0.87, and the model had good fit, as shown in **Table 1**.

Family Socioeconomic Status

Parents' occupation and education level together represent SES in the current study (Bradley and Corwyn, 2002). According to the occupational classification (Lin and Bian, 1991; Shi and Shen, 2007), we classified occupations into nine categories as in the following example: In terms of occupation, is your father (if not one of the following, please choose the most relevant option) unemployed, a service worker or manual laborer (e.g., farmer or waiter), a transactional worker (e.g., secretary, clerk), self-employed with no or a few employees, the owner of a large or medium-sized enterprise, a corporate middle manager, military or police personnel, professional or technical personnel (e.g., doctor, designer, teacher, engineer, accountant, lawyer), or a national public official (e.g., civil servant)? Is your father's education level elementary school and junior middle school, high school or technical secondary school, college, university, or graduate and above? The first four parental occupation categories were coded 1, and the last five were coded 2; the education degree was coded 1, 2, 3, 4, 5, or 6. SES was calculated by adding education level and occupation of parents Z-transformed scores together.

Province-level variables. Six indicators reflecting the provincial environment in terms of the economy, culture, education, and science and technology were constructed

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TABLE 1 | School engagement model fitting index.

χ^2	df	χ^2/df	RMSEA	CFI	TLI	SRMR
387.09	130	2.98	0.06	0.94	0.93	0.04

with data from the National Bureau of Statistics and the Ministry of Education.

Economy

We used real GDP per capita (GDP_{pc}) in 2019 as an indicator of the state of the economy. This index is calculated as the province's GDP divided by the province's total population.

Public Cultural Service System

We used the number of public library books per capita (PB_{pc}) in 2011 as an indicator of culture. This index is calculated as the total number of books held by public libraries in the province divided by the total number of people in the province.

Education

Three indicators were used to indicate the development of education: percentage of the population who had received higher education (PHE), educational appropriations per student (EA_{ps}) and student-teacher ratio (STR). PHE, EA_{ps} and STR were collected in 2019.

Scientific and Technological Development

The per capita technology market transaction amount ($TMTA_{pc}$) in 2019 was used as the science and technology indicator. This index is calculated as the total transaction number of registered contracts in the province divided by the total number of people in the province.

Model-Building Approach

We ran a series of two-level hierarchical linear models (HLMs) using mixed models in SPSS 23 to address all the research questions. The model-building approach began with an intercept-only model to serve as a baseline and provide the intraclass correlation (ICC). Subsequently, the level-1 predictors (SES and gender), the level-2 predictors (i.e., GDP_{pc}, PB_{pc}, PHE, EA_{ps}, STR, $TMTA_{pc}$), and finally, the predictors of slopes (i.e., the slope of SES regressed on GDP_{pc}) were added. We did not perform centering in our multilevel analyses.

The model was built by adding gender (male = 0, female = 1) and SES as adolescent-level predictors and GDP_{pc}, PB_{pc}, PHE, EA_{ps}, STR, and $TMTA_{pc}$ as province-level predictors. Considering the significant correlation between provincial indicators, we analyzed provincial indicators one by one in order to reduce the spurious correlation caused by collinearity. The correlation of provincial indicators was in **Supplementary Material**.

Level 1 (adolescent): $Y_{ij} = \beta_{oi} + \beta_{1i}X_{ij} + \beta_{1i} S_{ij} + \varepsilon_{ij}$
Level 2 (province): $\beta oi = \gamma_{00} + \gamma_{01} W_{1i} + \mu_{oi}$
$\beta_{1i} = \gamma_{10} + \gamma_{1i} W_{1i} + \mu_{1i}$

The school engagement score of adolescent i in province j (Y_{ij}) was modeled as a function of the mean school engagement score for province j (βoi). X_{ij} is the gender of adolescent i in province j. S_{ij} is the SES of adolescent i in province j. W_{1i} represents the level-2 variables, and X is a vector of the province variables. ε_{ij} and μoi are residual terms signaling individual adolescent and province differences.

RESULTS

We specified a null parameter that is used to calculate the ICC, which estimates how much variation in school engagement exists between level-2 (province-level) units. The ICCs related to behavioral, emotional, and cognitive engagement, $\tau 00/(\tau 00 + \sigma 2)$, were 0.06, 0.06, and 0.05, respectively. According to Peugh (2010), ICC values ranging from.05 to.20 are *common* in cross-sectional multilevel modeling studies. Thus, multilevel modeling was suitable for this study. Behavioral, emotional, and cognitive engagement varied significantly across provincial-level regions (β = 2.98, t = 105.25, p = 0.00, 95% CI = 2.92~3.04; β = 3.04, t = 106.21, p = 0.00, 95% CI = 2.98~3.10; β = 2.91, t = 116.33, p = 0.00, 95% CI = 2.86~2.97) (see **Tables 2–4**). SES significantly predicted behavioral, emotional, and cognitive engagement (β = 0.11, t = 19.29, p = 0.00, 95% CI = 0.10~0.13, R^2_{SES} = 1.78%; β = 0.10, t = 8.47, p = 0.00, 95% CI = 0.08~0.13, R^2_{SES} = 1.57%; β = 0.11, t = 9.31, p = 0.00, 95% CI = 0.08~0.13, R^2_{SES} = 1.77%). Gender failed to predict behavioral, emotional, and cognitive engagement (β = 0.01, t = 0.50, p = 0.62; β = 0.03, t = 2.13, p = 0.60; β = −0.02, t = −1.56, p = 0.18).

We added provincial factors as level-2 predictor. PB_{pc} and STR significantly predicted behavioral engagement (β = 0.11, t = 2.72, p = 0.01, 95% CI = 0.03~0.19, R^2_{PBpc} = 0.91%; β = −0.04, t = −4.50, p = 0.00, 95% CI = −0.06~−0.02, R^2_{STR} = 0.91%), emotional engagement (β = 0.10, t = 2.24, p = 0.03, 95% CI = 0.01~0.18, R^2_{PBpc} = 1.27%; β = −0.03, t = −3.14, p = 0.00, 95% CI = −0.05~−0.01, R^2_{STR} = 1.28%), and cognitive engagement (β = 0.11, t = 3.53, p = 0.00, 95% CI = 0.05~0.16, R^2_{PBpc} = 0.70%; β = −0.03, t = −4.20, p = 0.00, 95% CI = −0.05 to 0.02). PHE and EA_{ps} significantly predicted behavioral engagement (β = 0.11, t = 3.04, p = 0.00, 95% CI = 0.04~0.19, R^2_{PHE} = 0.90%; β = 0.00000008, t = 2.88, p = 0.01, 95% CI = 0.00~0.00, R^2_{EAps} = 0.91%) and cognitive engagement (β = 0.09, t = 3.10, p = 0.00, 95% CI = 0.03~0.16, R^2_{PHE} = 0.70%; β = 0.000005, t = 2.93, p = 0.01, 95% CI = 0.00~0.00, R^2_{EAps} = 0.70%). GDP_{pc} significantly predicted cognitive engagement (β = 0.000001, t = 2.12, p = 0.04, 95% CI = 0.00~0.00, R^2_{GDPpc} = 0.70%). $TMTA_{pc}$ could not predict behavioral, emotional, and cognitive engagement (β = 0.09, t = 1.71, p = 0.09; β = 0.04, t = 0.66, p = 0.51; β = 0.08, t = 1.81, p = 0.08). No interaction function was found. Detail information was in Appendix.

DISCUSSION

In this study, we used a multilevel model to test an ecological model of school engagement among adolescents from 31 provincial-level regions in China. Large-scale data were used to test a multilevel model predicting the school engagement of adolescents based on individual (gender), microsystem factors (SES), and provincial-level macrosystem factors (economy, public cultural facilities, technological industry, and education). The current study addressed important gaps in the literature concerning the effect of the macrosystem environment and

TABLE 2 | The effect of gender, SES and provincial factors on behavioral engagement.

	Model 1		Model 2		Model 3		Model 4	
	β	t	β	t	β	t	β	t
Intercept	2.98	105.25***	2.97	127.36***	2.89	64.89***		
SES			0.12	9.62***	0.10	9.85***		
Gender			0.01	0.50	0.02	1.28		
GDP_{pc}					0.00000002	1.73		
R^2		0.06		0.04		0.05		
Intercept	2.98	105.25***	2.97	127.36***	2.88	78.15***	2.87	77.96***
SES			0.12	9.62***	0.10	9.92***	0.10	4.91***
Gender			0.01	0.50	0.02	1.32	0.02	1.32
PB_{pc}					0.11	2.72**	0.11	2.71**
SES* PB_{pc}							−0.002	−0.12
R^2		0.06		0.04		0.05		0.05
Intercept	2.98	105.25***	2.97	127.36***	2.83	63.60***	2.84	63.52***
SES			0.12	9.62***	0.10	9.78***	0.11	4.78***
Gender			0.01	0.50	0.02	1.30	0.02	1.29
PHE					0.11	3.04***	0.11	2.99***
SES* PHE							−0.01	−0.53
R^2		0.06		0.04		0.04		0.04
Intercept	2.98	105.25***	2.97	127.36***	2.84	64.59***	2.85	64.61***
SES			0.12	9.62***	0.10	9.77***	0.11	5.20***
Gender			0.01	0.50	0.02	1.3	0.02	1.29
EA_{ps}					0.00000008	2.88***	0.000006	2.80**
SES* EA_{ps}							−0.0000007	−0.72
R^2		0.06		0.04		0.05		0.05
Intercept	2.98	105.25***	2.97	127.36***	3.45	31.08***	3.47	30.66***
SES			0.12	9.62***	0.10	10.15***	0.16	2.46*
Gender			0.01	0.50	0.02	1.34	0.02	1.39
STR					−0.04	−4.50***	−0.04	−4.54***
SES* STR							−0.00	−0.72
R^2		0.06		0.04		0.04		0.04
Intercept	2.98	105.25***	2.97	127.36***	2.94	147.23***		
SES			0.12	9.62***	0.10	9.90***		
Gender			0.01	0.50	0.02	1.28		
$TMTA_{pc}$					0.09	1.71		
R^2		0.06		0.04		0.05		

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

the interaction between the microsystem and macrosystem on adolescents' school engagement.

The current study overcame the deficit that a few studies concerned the relationship between adolescents and the macrosystem (Lam et al., 2015) and the interaction between the microsystem and macrosystem. This study examined the factors of microsystem factors and individual factors in relating to adolescents' school engagement. Additionally, the study examined provincial-level macrosystems that may differentially relate to adolescents' engagement in school.

Consistent with prior studies, no gender difference was found in adolescents' school engagement. According to Bronfenbrenner's theory, processes, including the interaction of individuals and context, affect adolescents' development. Sex differences in the way of interaction might cause the same development outcome. Girls perceived more social support

than boys (Rueger et al., 2009). Social support was a significant predictor of school engagement (Wang and Eccles, 2012b). Boys' engagement was significantly predicted by grade, while girls' engagement was significantly predicted by anxiety classification (Wilcox et al., 2017). However, there was no significant gender difference in school engagement (Janosz et al., 2008; Steinmayr and Spinath, 2008; Zendarski et al., 2017).

Consistent with prior studies, the microsystem factor (SES) positively predicted school engagement. According to Bronfenbrenner's (1989) theory, as a microsystem factor, the family environment is the most proximal context and continually influences adolescents' development. Adolescents from low-SES families always face more stresses and challenges, such as fewer educational resources and low parental involvement (Duan et al., 2018). Educational resources and parental involvement were positive predictors of engagement (Xiong et al., 2021).

TABLE 3 | The effect of gender, SES and provincial factors on emotional engagement.

	Model 1		Model 2		Model 3		Model 4	
	β	t	β	t	β	t	β	t
Intercept	3.04	106.21***	3.02	118.68***	2.93	61.43***		
SES			0.11	8.91***	0.08	8.15***		
Gender			0.03	2.13	0.04	2.87**		
GDP_{pc}					0.000001	1.75		
R^2		0.06		0.06		0.06		
Intercept	3.04	106.21***	3.02	118.68***	2.93	72.44***	2.92	71.70***
SES			0.11	8.91***	0.08	8.23***	0.07	3.52***
Gender			0.03	2.13	0.04	2.88**	0.04	2.88**
PB_{pc}					0.10	2.24*	0.10	2.26*
SES* PB_{pc}							0.01	0.47
R^2		0.06		0.06		0.06		0.06
Intercept	3.04	106.21***	3.02	118.68***	2.92	58.48***		
SES			0.11	8.91***	0.08	8.16***		
Gender			0.03	2.13	0.04	2.88***		
PHE					0.07	1.77		
R^2		0.06		0.06		0.06		
Intercept	3.04	106.21***	3.02	118.68***	2.93	60.23***		
SES			0.11	8.91***	0.08	8.23***		
Gender			0.03	2.13	0.04	2.89**		
EA_{ps}					0.0001	1.69		
R^2		0.06		0.06		0.06		
Intercept	3.04	106.21***	3.02	118.68***	3.40	26.77***	3.42	26.13***
SES			0.11	8.91***	0.09	8.26***	0.15	2.14*
Gender			0.03	2.13	0.04	2.83**	0.04	2.85**
STR					−0.03	−3.14**	−0.03	−3.23***
SES* STR							−0.01	−0.93
R^2		0.06		0.06		0.06		0.06
Intercept	3.04	106.21***	3.02	118.68***	3.00	130.31***		
SES			0.11	8.91***	0.08	8.23***		
Gender			0.03	2.13	0.04	2.89**		
$TMTA_{pc}$					0.04	0.66		
R^2		0.06		0.06		0.06		

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

The influence of provincial-level factors on school engagement was examined. The bioecological model suggested that adolescents were influenced by unrecognized macrosystems. The current study provided evidence that the macrosystem environment influenced behavioral, emotional, and cognitive engagement in different ways. They were all influenced by the PB_{pc} and STR. GDP_{pc} only predicted cognitive engagement but not behavioral engagement and emotional engagement. PHA and EA_{ps} predicted behavioral engagement and cognitional engagement, but not emotional engagement. The results revealed the interaction between adolescents and the macrosystem.

Conceptual frameworks explaining the effects of economic development on adolescents' development include three potential pathways. First, economic growth and recession affect parents' job stability and income, which in turn affects the development of children and adolescents. In the United States, during economic depressions, children show more academic disorders and behavioral problems (Weiland and Yoshikawa, 2012). Second, education funding was unlikely to be cut back on in a rich region. An investigation of education development (educational opportunities, educational facilities, teacher resources and educational output) of 31 provincial regions in China found that regions with flourishing economies had higher levels of educational development (Wang et al., 2013). Third, Adolescents living in low-income area were at higher risk for development. Low-income area and high-income area were different in institutional resources, such as grocery stores with healthy food, out-of-school programs, public services and transportation (Huston and Bentley, 2010). Parenting warmth and discipline was influenced by the stresses of living in a low-income neighborhood (Pinderhughes et al., 2001).

The improvement of the public cultural service system was conducive to school engagement for adolescents. Public cultural services include non-profit public cultural products and services,

TABLE 4 | The effect of gender, SES and provincial factors on cognition engagement.

	Model 1		Model 2		Model 3		Model 4	
	β	t	β	t	β	t	β	t
Intercept	2.91	116.33***	2.92	155.07***	2.83	75.48***	2.83	75.33***
SES			0.11	8.77***	0.09	10.42***	0.10	4.59
Gender			−0.02	−1.56	−0.01	−0.73	−0.01	−0.74
GDP$_{pc}$					0.000001	2.12*	0.000001	2.10*
SES* GDP$_{pc}$							−0.00000006	−0.22
R^2		0.05		0.05		0.03		0.03
Intercept	2.91	116.33***	2.92	155.07***	2.81	93.19***	2.81	92.62***
SES			0.11	8.77***	0.09	10.66***	0.09	4.76***
Gender			−0.02	−1.56	−0.01	−0.64	−0.01	−0.63
PB$_{pc}$					0.11	3.53***	0.11	3.47***
SES* PB$_{pc}$							0.01	0.31
R^2		0.05		0.05		0.03		0.03
Intercept	2.91	116.33***	2.92	155.07***	2.80	74.74***	2.80	74.40***
SES			0.11	8.77***	0.09	10.41***	0.09	10.41***
Gender			−0.02	−1.56	−0.01	−0.68	−0.01	−0.68
PHE					0.09	3.10***	0.09	3.10***
SES* PHE							0.0004	0.03
R^2		0.05		0.05		0.03		0.03
Intercept	2.91	116.33***	2.92	155.07***	2.81	75.99***	2.81	75.92***
SES			0.11	8.77***	0.09	10.36***	0.10	5.01***
Gender			−0.02	−1.56	−0.01	−0.70	-0.01	−0.71
EA$_{ps}$					0.000005	2.93**	0.000001	2.94**
SES* EA$_{ps}$							−0.00000006	−0.24
R^2		0.05		0.05		0.03		0.03
Intercept	2.91	116.33***	2.92	155.07***	3.30	34.53***	3.31	34.05***
SES			0.11	8.77***	0.10	10.85***	0.17	2.94**
Gender			−0.02	−1.56	−0.01	−0.74	−0.01	−0.75
STR					−0.03	−4.20***	−0.03	−4.17***
SES* STR							−0.01	−1.33
R^2		0.05		0.05		0.03		0.03
Intercept	2.91	116.33***	2.92	155.07***	2.89	167.24***		
SES			0.11	8.77***	0.09	10.44***		
Gender			−0.02	−1.56	−0.01	−0.74		
TMTA$_{pc}$					0.08	1.81		
		0.05		0.05		0.03		

***p < 0.001, **p < 0.01, *p < 0.05.

such as libraries and museums. Public cultural services provide various and rich learning resources for adolescents, such as different kinds of books and historical relics. No influence of scientific and technological industry development on school engagement was found. Science and technology institutions are the end users and consumers of the education system and do not participate in the education process in which adolescents acquire knowledge and skills (Kapitzke and Hay, 2011). Therefore, there was no connection between technology and what adolescents were learning, and it could not improve their awareness of knowledge instrumentality. Gratifyingly, education investment significantly predicted adolescents' school engagement. Educational appropriations were an indispensable financial condition for improving school hardware facilities and improving the number of teachers. Teachers were the

primary interlocutors for adolescents in school. Their importance is self-evident. The education degree of residents was the way for adolescents to realize the results of education. A higher education degree was always accompanied by higher social status and income (Bradley and Corwyn, 2002). It provided an external stimulus for adolescents engaging in school activities.

There was little difference between the microsystem environment (SES) and the macrosystem environment (provincial factors) on the effect of adolescents' school engagement. This revealed that the macrosystem environment influenced adolescents' school engagement in an indirect and powerful way. Macrosystem factors should be considered in future studies about adolescents' school engagement. This study also provided potential policies for the government to

enhance students' academic development, including increasing the volume of books in public libraries and setting up more teachers' positions.

There were three limitations in this study. First, the variations in the sample size across provincial-level regions were great, and the grades of sampled schools were not balanced. These factors might lead to errors caused by sampling bias. Second, the use of a cross-sectional research design in the present study limited any causal conclusions about the findings and does not allow for "change over time" effects to be examined. A repeated measured longitudinal study would be useful for examining time effects on school engagement. Third, the province-level indicators in this study reflected the average development level of the whole province, which vaguely reflects the regional environment of the subjects. This might be why this study failed to find an interaction between the provincial environment and SES. A smaller range of regional development indicators (such as city and town) could more accurately reflect the characteristics of the environment. In future studies, selecting a smaller range of regional development indicators would be helpful in exploring the effect of the interaction between the regional environment and family environment on school engagement. Fourth, there were several items about adolescents' feelings of teachers and classes in the questionnaire. When conducting the survey, there was no special provision for teachers and classrooms. That cause they might be thinking about different teachers and classes when the adolescents answer the questionnaire.

CONCLUSION

This study had important implications for understanding adolescents' perceptions of their microsystem and school engagement within and between macrosystems. The ecological model of adolescents was supported in the current study. The ecological model provided a potential framework for future studies assessing adolescents' school engagement in a variety of environments. The results revealed the possibility of using ecological models to understand adolescent development.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR CONTRIBUTIONS

FUNDING

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2021.724819/full#supplementary-material

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Fostering Teachers' Multicultural Competence for Chinese Ethnic Minority Education: An Analysis of Teacher Education Programmes, Syllabuses and Teacher Educator Perceptions

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The multicultural characteristics of students belonging to ethnic minorities in China pose challenges for teachers. Teacher competence in dealing with culturally diverse students has been extensively discussed in international scholarship and referenced by Chinese researchers, but there is limited empirical research on how teacher education programmes in China respond to this challenge and theoretical discussions. Based on content analysis on teacher education programmes and syllabuses, as well as expert interviews with four teacher educators at two teacher education institutions, this study investigates how the cultivation of multicultural competence is incorporated into teacher education programmes, and the external forces that shape it. Drawing on international scholarship on teachers' multicultural competence and Cochran-Smith's framework on external forces influencing multicultural teacher education practices, I argue that the cultivation of teachers' multicultural competence for their future work in ethnic minority education is, to a great extent, missing from teacher education programmes. Furthermore, what pre-service teachers' competence covers, and the external forces that influence how teacher education plays out in practice, are influenced and somewhat determined by the large social, economic and political context as well as the agenda for educational reform in China.

Keywords: multicultural competence, ethnic minority education, teacher education programme, syllabus, educational governance, China

INTRODUCTION

When it comes to emotional expression, the students from the Dai [ethnic group] are gentle and, by contrast, the ones from Bulang and Hani are stubborn. As a teacher, I must use differential treatment in my teaching and management strategies.

(Teacher Hu, Xishuangbanna, Yunnan, 2017-5-9)

Last year, a teachers' team from Shanghai came to our school to help us enhance teaching quality. [...] It was interesting that the average score of the class taught teach was lower than those our teachers taught in the semester of the final examinations. I know. [...] Even if they have rich knowledge and advanced teaching skills, in our area they also need to understand students' cultural psychological characteristics

and change their teaching and management style to adapt to our ethnic minority students. Otherwise, students will dislike and resist these teachers and be unable to concentrate on their studies.
(Teacher Liu, Xishuangbanna, Yunnan, 2017-5-17)

These are the voices of two teachers working in a junior secondary school located in Xishuangbanna Dai Autonomous Prefecture in China's Yunnan Province, where my earlier fieldwork took place. As these teachers' narratives show, the distinct cultural characteristics of diverse ethnic minority students can pose challenges to teachers.

Building teachers' competence in coping with diverse students has been discussed by many scholars in the field of multicultural education (e.g., Mushi, 2004; Seeberg and Minick, 2012). Training pre-service teachers to build multicultural competence, including cultural knowledge, multicultural pedagogical knowledge and skills, is perceived as a vital mission of teacher education programmes in the twenty-first century (Gay and Howard, 2000). Drawing on this scholarship (Banks, 1993), since the turn of the millennium a group of Chinese educational researchers has discussed the importance of multicultural competence for teachers who work in multicultural or multi-ethnic areas of China (e.g., Te, 2007; Bai, 2008; Ni, 2014). One central claim is that teacher education programmes in China should take into consideration the demographic situations of ethnic minority areas and enable pre-service teachers to facilitate culturally diverse students through the practice of ethnic minority education. However, by comparison with international scholarship which has a large body of work examining teacher education on multicultural education at a practical level in different countries (Gorski, 2009; Egne, 2014), in Chinese academia empirical studies are, unfortunately, underrepresented (Wang, 2018).

To examine how multicultural competence is reflected in existing teacher education programmes in China, I collected and analysed two syllabuses from teacher education programmes and the perceptions of four teacher educators working at the two institutions from which the syllabuses were drawn. In addition, drawing on the conceptualisation framework for multicultural teacher education developed by Cochran-Smith (2003) which elaborates how external forces shape teacher preparation practices, I will clarify the external forces that influence teacher education programmes in China. In connecting these research aims, I seek to answer the following research questions: (1) To what extent do teacher education programmes for pre-service teachers in China incorporate training to build multicultural competence? (2) What are the underlying external forces that influence the extent to which teacher training fosters competence in providing ethnic minority education?

The contributions of this study are twofold. By examining teacher education syllabuses, the study explores current teacher education programmes and how they build teachers' multicultural competence, thereby bridging the gap between theoretical discussions and empirical research mentioned above. Secondly, through interviews with teacher educators, this study summarises the external forces that shape teacher education practices in China. Thus, this study can provide references for future academic research and policymaking in reforming teacher education programmes to be inclusive in serving ethnic minority education.

THE CHINESE CONTEXT: THE DEMOGRAPHIC SITUATION IN SCHOOLS IN ETHNIC MINORITY REGIONS

The People's Republic of China was established in 1949 by the Chinese Communist Party as a multi-ethnic, multicultural and multilingual state (Lee, 2016). The central government currently recognises 56 ethnic groups: the majority Han and 55 ethnic minority groups. These 55 ethnic minority groups comprise slightly less than 10% of the population, yet only ten countries in the world have populations larger than Chinese ethnic minorities (Postiglione, 2009, p. 501). The reality of Chinese society is multilingual: there is one official language, Standard Chinese (*putong hua*), and more than 80 ethnic minority languages (Wei et al., 2021). In addition, the number of foreign language learners/users within China reached 415.95 million by 2,000 (Kong and Wei, 2019).

Briefly speaking, these 55 ethnic minorities were identified on account of their distinct culture and differences from the majority Han and one another, particularly in terms of customs, languages, religions, and so on (Lee, 2016). "Ethnic minority education" can be envisaged as education for a homogenous classroom consisting of students from a single ethnic minority group. However, in China, the reality is different, to a great extent. Ethnic minorities exist in "an extensive dispersion with localised concentrations" (*dazajü xiaojüjü*), meaning that their populations are mixed into the broader population in provinces and cities. Meanwhile, individual ethnic minority groups are concentrated in smaller administration units such as villages. However, since 2001 a "merged school" (*chedian binxiao*) education policy has been implemented, closing small village schools and concentrating student into centralised schools in urban areas (Cai and Kong, 2014). This initiative aims to solve the problem of imbalanced distribution in education resources and to promote education equality, but in ethnic minority areas the move from village schools serving single ethnic minority groups to multicultural schools in towns and cities has created a demographic situation for ethnic minorities that is, in essence, heterogeneous. This multicultural reality inevitably challenges teachers working in ethnic minority education and increases the need for teacher competence in dealing with culturally diverse students. Thus, developing multicultural competence amongst teachers should be a concern of teacher education programmes.

THEORETICAL FRAMEWORK

The primary focus of this study is to examine how Chinese teacher education programmes foster pre-service teachers' multicultural competence and the underlying influential factors on such programmes. The study will discuss the extent to which

teacher education programmes incorporate pre-service training in multicultural competence. In addition, I will analyse pre-service programmes using the Cochran-Smith (2003) framework for multicultural teacher education, part of which focuses on how teacher education programmes are influenced by external forces.

Conceptualisation of Teachers' Multicultural Competence

Awareness of the necessity of teachers' competence in teaching culturally diverse students has grown in the field of multicultural education, as has scholarship on multicultural education and its related area of teacher education. Within this field there are different concepts, such as multicultural competence (Banks, 2014), cross-cultural competence (McAllister and Irvine, 2000) as well as intercultural competence (Mushi, 2004), but these share notions of teachers' competence for effectively teaching culturally diverse students and can largely be used interchangeably. For example, Mushi (2004) argues that teachers engaged in a well-planned multicultural classroom should grasp intercultural competence for effective teaching. In the rest of this article, I will use the term multicultural competence for these concepts. To answer the first research question in this study and examine the practices of teacher education programmes in China, I examine the related literature on conceptualising teachers' multicultural competence.

Multicultural competence is regarded as the essential quality and ability of teachers to effectively engage with diverse students. Many multicultural education researchers, such as Gay and Howard (2000), Villegas and Lucas (2002), Mushi (2004), and Seeberg and Minick (2012) etc., discuss teachers' multicultural competence in three dimensions:

1. *Awareness*: Multicultural awareness is widely regarded as preceding the other two dimensions (Cherng and Davis, 2019). It requires teachers to have the cultural sensitivity to recognise that students' ways of thinking and behaving are profoundly influenced by their cultural backgrounds, by demonstrating an acceptance of difference, anti-racist perspectives etc. (Villegas and Lucas, 2002). The teacher should respect and eliminate prejudice against different cultures, developing a positive attitude to facilitate students from culturally diverse backgrounds (Mushi, 2004).

2. *Knowledge:* The teacher should have factual knowledge of minority cultures and cultural diversity to bring them into educational activities, help reduce prejudice, create cross-cultural awareness and avoid stereotyping culturally diverse students. The teacher should also understand the principles and ideology of multicultural teaching and theories in multicultural education (Melnick and Zeichner, 1997; Banks, 2014; Yuan, 2018).

3. *Skills:* As the opposite of cultural deficit (or cultural deprivation) theory which attributes lower academic performance to students' cultures and recommends compensatory interventions, cultural difference theory recommends that the teacher should have a grasp of culturally relevant content and pedagogical strategies to create classroom interventions that facilitate effective

learning for diverse students (Ladson-Billings, 1995; Gay, 2002). Culturally responsive teaching helps teachers respect and care for students' diverse cultural backgrounds and develop effective skills to translate multicultural knowledge into classroom instruction and curriculum design, making education inclusive for culturally diverse students (Gay, 2018; Abacioglu et al., 2020).

However, these conceptions of teachers' multicultural competence are not changeless, but evolving and expanding (Grant and Agosto, 2008). For example, critical multiculturalism, which relates to challenging the power relations with a given society, requires teachers to stand in a broader socio-political context to consider their work in schools (Gorski, 2009). Critical multiculturalism shapes an ideology which guides teachers to develop the competence "to confront and engage the world critically and challenge power relations" (Sleeter and McLaren, 1995, p. 7). Therefore, teachers should be conscious of how various biases are produced economically, politically and institutionally, and how students' identities are shaped in unequal power relationships, and to act accordingly (Kim and Choi, 2020). Critical consciousness enriches the three dimensions of multicultural consciousness described above rather than being an independent strand, and can help teachers develop critical reflexivity toward underlying inequality in curricula, school culture and society to promote education equality (May, 2009; Forrest et al., 2016).

External Factors Influencing Multicultural Teacher Education

Teacher education, which is responsible for training teachers in multicultural competence, is shaped by many external forces. Cochran-Smith (2003) identifies three such forces.

The first external force, *institutional capacity and mission* relates to how teacher education institutions can implement approaches to teacher preparation and training in the context of the broader mission. Second, *relations with local communities and schools* describes the importance of interacting with the authentic multicultural context in teacher preparation programmes. Finally, *governmental/non-governmental regulation* refers to how teacher education programmes are regulated and influenced by agencies with authority over them. On top of this framework is the *larger context* including the political, social, economic, and historical domains as well as the educational reform agenda which has implications for all three external forces as well as teacher education. This framework is significant to this study as it enables an examination of the external forces that influence the effectiveness of teacher education institutions in cultivating teachers' multicultural competence in their programmes, as well as the broader reform agenda in China.

Given the high degree of centralisation of educational governance in China, I slightly modify Cochran-Smith's (2003) framework. I merge the third force, governmental/non-governmental regulations, into the larger context, as in Chinese teacher education these normally relate to political governance (Wang, 2022). The modified framework is presented in **Figure 1**. I use arrows in the modified framework to indicate the direction

FIGURE 1 | Multicultural competence training and the external forces that affect it.
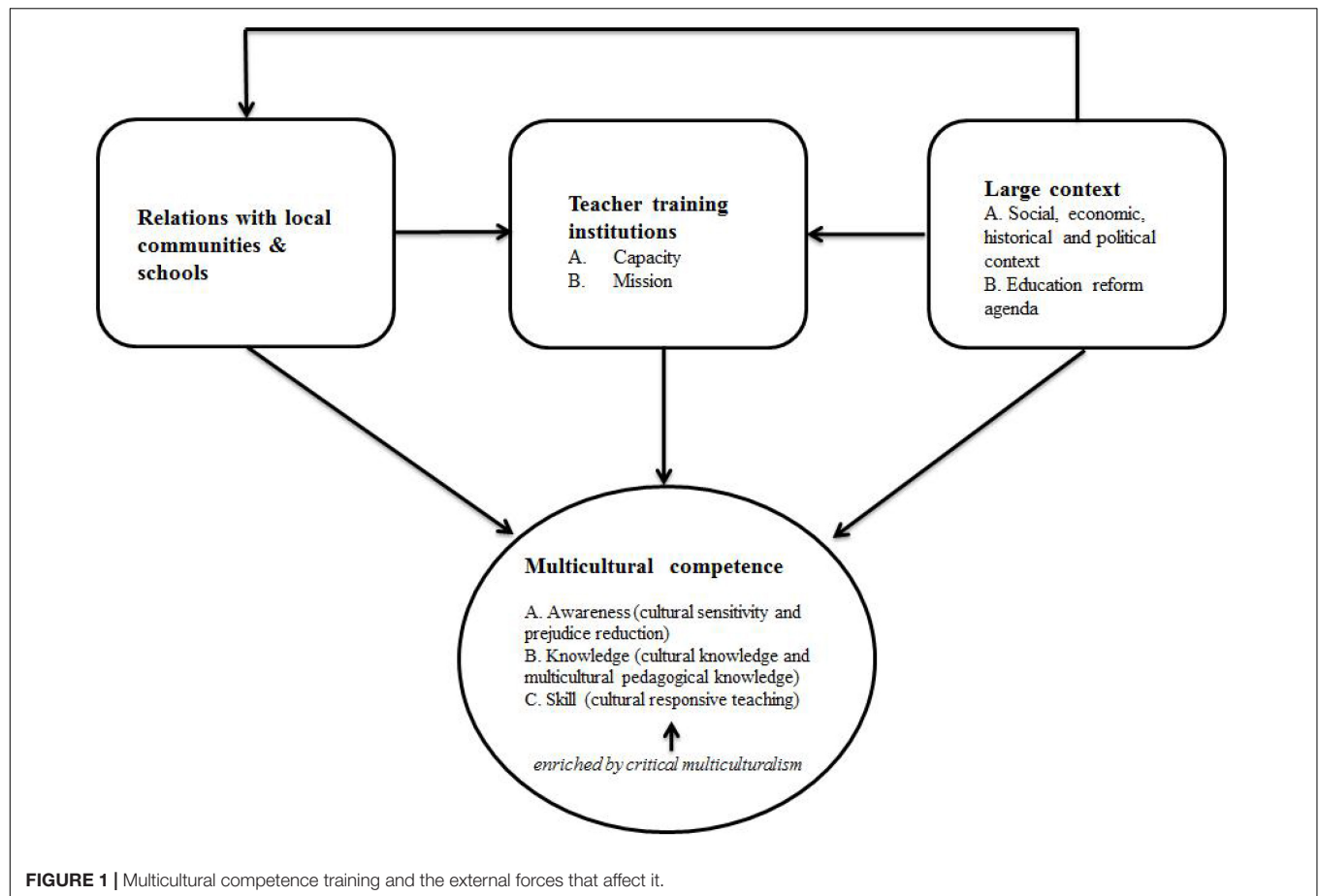
of influence. All in all, I do not change Cochran-Smith's (2003) original meaning: in the modified framework, the *larger context* retains its influence on *external factors* and on teacher education practices.

METHODOLOGY

The study aims to investigate how teachers' multicultural competence is fostered by existing pre-service teacher education programmes and external influences on these programmes. The analysed data includes two syllabuses for current teacher education programmes and four interviews with teacher educators from two teacher education institutions. These are Liangxiang Teacher Education Institution (LTEI) in Chongqing municipality and Tianxiang Teacher Education Institution (TTEI) in Yunnan province which has the most complex ethnic minority demographics in China. Both LTEI and TTEI offer teacher education programmes at the bachelor level, covering all subjects offered in K–12 schools.

Data Collection, Participants, and Methods

After obtaining the permissions from the deans of the respective Faculties of Education (Teacher Education) at LTEI and TTEI, I obtained the syllabuses of their teacher education programmes. These generally consist of the mission of the course, a curriculum framework and descriptions of a part of the curriculum, as well as a list of reference textbooks for mandatory courses.[2]

The second source of data comprises expert interviews with teacher educators. The participants (teacher educators) had provided written informed consent to participate in this study. All the four teacher educators interviewed had five or more years' experience working and researching in teacher training and, with more than 6,000 pre-service teachers graduating from each institution annually, may be considered experts in the field. Their perspectives can be as surrogates or "crystallisation points" for teacher educators as a group, which makes data collection efficient (Bogner et al., 2009, p. 2). The similarity in interests (i.e., teacher training, ethnic minority education) between teacher educators and my own research was also considered a factor that would increase their motivation to participate in interviews and share their opinions (Bogner et al., 2009). Informed consent was elicited before each interview. Profiles of the four interviewees are given in **Table 1**. Based on the two theoretical frameworks presented above, the interview protocols were formulated to investigate teachers' perceptions of the *status quo*, and further possibilities of, and obstacles to, incorporating the cultivation of multicultural competence into teacher education programmes (see **Table 2**).

TABLE 1 | Interviewee profiles.

Institution	Name	Years as teacher educator	Degree and academic position	Research focus
LTEI	Lin	5–10 years	Ph.D.; Associate Professor	Teacher education
	Bai	More than 15 years	Ph.D.; Full Professor	Teacher education and ethnic minority education
TTEI	Cao	11–15 years	Ph.D.; Full Professor	Teacher education and ethnic minority education
	Ding	Less than 5 years	Ph.D.; Senior Lecturer	Teacher education and educational policy

TABLE 2 | Interview protocol.

Question Number	Interview questions
Question 1	In your perspective, are there any differences between the competence of teachers who work in ethnic minority schools and those working in mainstream Han schools?
Question 2	In your university, is there a curriculum that provides knowledge and training for student teachers working in ethnic minority schools after their graduation? What is it?
Question 3	How is the students' teaching practicum designed and carried out? Do students have opportunities to participate in teaching practicums in ethnic minority schools? Why?
Question 4	What kinds of internal or external factors influence whether and how teacher education institutions and teacher educators incorporate the cultivation of multicultural competence into teacher education programmes?

Data Analysis

Content analysis was conducted on the teacher education syllabuses collected from LTEI and TTEI. Data were analysed using focus coding (Bryman, 2016). Some pre-set codes were used to sort the data, such as overall mission, curriculum structure and focus. As no searchable version of reference textbooks exists (and, collectively, they are more than 1,500 pages long), I chose to read the tables of contents first and then carefully read the section that are, explicitly or implicitly, related to multicultural competence.

The interview transcripts were analysed using the thematic analysis approach. I first read the transcripts line by line and labelled any points of interest with open codes. Then, following the thematic network approach of Attride-Stirling (2001), open codes were generated, combined and categorised to produce more abstract, organised and global codes and themes.

EMPIRICAL FINDINGS

The findings from this study are presented in two parts, based on the data source. I begin by discussing the content analysis of the teacher education programme syllabuses and continue with a discussion of the semi-structured expert interviews.

Findings From the Content Analysis

Content analysis was conducted on the syllabuses of two teacher education programmes to find out how these programmes provide training in pre-service teacher multicultural competence. Based on the structures of the syllabuses, an inductive approach was used to examine mission categories and the curricula.

Missions: Loyalty to the Agenda of Educational Reform

The mission of a teacher education programme describes its overall aim of teacher preparation. A review of the mission statements from both institutions reveals a high degree of similarity (see **Table 3**). Aside from some fundamental

requirements for teachers including basic knowledge, skills and theory in teaching and teaching ethics, it is evident that the New Curriculum Reform (NCR) in 2001, is the keystone of the mission statements of both programmes. LTEI's mission statement mentions teacher education reform, but the goal is still to accommodate NCR priorities and the development of basic education. In a nutshell, the overall agenda of educational reform during the past two decades determines the contents and transformation directions of teacher education. Although the nationwide NCR is also implemented in ethnic minority education, ignorance of the needs of ethnic minorities is noticeable in both mission statements.

TABLE 3 | Mission statements of teacher education programmes.

Institution	Mission	Comparison
LTEI	[. . .] Promoting reform of teacher education and adapting ***basic education development and need of new curriculum reform***, teacher education programme aims to cultivate future teachers with wholesome personalities, deep knowledge, advanced ideas and proficiency in skills. [. . .]	Basic education curriculum reform leads the missions of the teacher education programmes in both LTEI and TTEI
TTEI	[. . .] master solid basic theories, basic knowledge and basic skills of pedagogy and subject teaching. Students should have good teachers' ethics, literacy in the humanities and science as well as good mental health and wholesome personality in order to be competent teachers who are enthusiastic about a teaching career, good teaching and research to adapt to the needs of the ***new curriculum reform and development in basic education.***	

Curriculum Structures: Centralised, With Limited Flexibility

The syllabuses provide curriculum frameworks for both teacher education programmes, with lists of mandatory and elective courses offered to pre-service teachers.

A review of the mandatory courses reveals that though there are some differences in the two institutions, there is no course that trains teachers in multicultural competence for ethnic minority education, whether explicitly or implicitly. The mandatory courses are primarily concerned with training teachers in teaching and problem-solving. This setting of the curriculum is in complete accord with the "pedagogical knowledge and abilities" section in China's National Teacher Education Standard (NTES) which emphasises training teachers on fundamental theories and skills in teaching, understanding students, and professional development. However, the requirements of the NTES do not include the particular needs of ethnic minority education. Indeed, the universality of mandatory courses does not refer to the challenges posed by the particularities of ethnic minority education, which are beyond universality.

Textbooks are the main reading and teaching materials in Chinese teacher education programmes. The textbooks collected for this study were used at TTEI for six mandatory courses: education laws and regulations; information and computer technology for education; classroom management; teacher accomplishment; effective teaching; and student cognition and learning. Of these, the first three focus on an introduction to the relevant laws, a specific teaching technology and classroom organisation, respectively. Though the remaining three are also inclined to provide a theoretical introduction, they each contain at least one chapter reflecting dimensions that are similar to the multicultural competence framework (see **Table 4**), such as recommending that teachers change their teaching strategies to adapt to their students. Students' different characteristics (e.g., mental or cognitive) are regarded as resources that teachers need to be aware of and to respond in a way that is coherent with the propositions of the multicultural competence framework. However, these do not place a focused emphasis on the needs of ethnic minority students for their teachers to demonstrate multicultural competence, nor do they provide supporting examples or materials related to ethnic minority education.

The elective courses, in both cases, show a little more flexibility. For example, TTEI has made attempts to address ethnic minorities in teacher education programmes. Thus, there are some electives on subjects relevant to ethnic minorities such as "ethnic minority music," "ethnic minority sport," "ethnic minority psychology" and "ethnic minority education in Yunnan." In LTEI, an elective course entitled "educational equality" has been included. One might expect this course to provide opportunities to train teachers to master the pedagogical strategies to promote educational equality in classroom teaching and management of ethnic minority education. Nonetheless, content analysis shows that this course dwells on policy issues across local and global contexts, and the universal micro-issues of teaching, rather than ethnic minority education specifically.

Findings From Interviews

In this section, I report the relevant results from a thematic analysis of interviews with teacher educators at TTEI and LTEI. Three themes emerge from the analysis: teacher quality is a priority over teachers' competence in dealing with diverse students; there is a divergence between teacher educators' beliefs and practices; and a disjoint exists between teaching practicum and authentic multicultural settings.

Enhancing Teachers' Basic Quality Is Given Higher Priority Than Their Competence in Dealing With Culturally Diverse Students

Two of the four teacher educators interviewed expressed their belief that enhancing teachers' quality is a priority over developing teachers' competence in dealing with culturally diverse students. To illustrate this viewpoint Ding, a teacher educator from TTEI, described the unbalanced distribution of qualified teachers among Han and ethnic minority areas, and urban and rural areas:

> Take Yunnan province as an example; when recruiting new teachers, the schools in urban areas usually require teachers should at least have a bachelor's degree, but the requirement declines to a College Graduation Diploma (*dazhuan*) in rural and ethnic minority areas. Indeed, there are many teachers holding only a high school diploma in some remote mountainous areas. I think this is only a way to compromise with present social reality, but as a teacher education institution, we need to develop a balance of teacher quality step by step. Promoting the equality of teachers' basic quality is most important in current situation.
>
> (Teacher educator Ding, TTEI, 2017-6-2)

Similarly, teacher educator Bai from LTEI remarked that it is essential that educational initiatives adapt to the actual level of socioeconomic development.

> Enhancing the quality of teacher teams in ethnic minority areas, such as their degrees, disciplinary knowledge and teaching skills, are urgent concerns at the present level of socioeconomic development. Indeed, in some ethnic minority areas, the number of teachers cannot be assured either.
>
> (Teacher educator Bai, LTEI, 2017-6-21)

TABLE 4 | The points of multicultural competence reflected in teacher education textbooks.

Textbook topics (Curriculum)	Point correlated to multicultural competence framework
Teacher accomplishment	Teacher should possess basic pedagogical knowledge and consider different students' mental characteristics to guide active student learning.
Effective teaching	Teachers should motivate student learning according to different students' characteristics and needs.
Students' cognition and learning	Teachers should know the cognitive characteristics of students at different levels, and their relations with learning.

The Divergence Between Teacher Educators' Beliefs and Agency

By contrast, two other teacher educators said that they were aware of the differences in teachers' competence in majority Han and ethnic minority areas and identified these differences in terms of ethnic minority students' cultural characteristics and the challenge these pose to teachers' competence.

> I think the teachers for ethnic minorities and majority Han areas are somewhat different. The cultural characteristics of students in ethnic minority areas require teachers have related abilities and skills. I think it is similar to the multicultural education and related course "teaching for diverse students" that I experienced during my study visit to the United States 5 years ago. Our ethnic minorities basically have their own ethnic cultural characteristics, so I think our pre-service teachers should be taught a curriculum like "multicultural education" or a similar course at least.
>
> (Teacher educator Cao, TTEI, 2017-6-3)

It is evident that the teacher educators in this study believe that teachers' competence in coping with culturally diverse students in ethnic minority education is of value. However, when asked about the concrete practices designed and implemented to develop this competence, it is striking that all four teacher educators indicated that these were limited. Indeed, there was limited institutional space for teacher educators' agency, as teacher educator Lin said:

> I do not think we, as teacher educators, can do too much to transform the ongoing teacher education programme. This power should be in the hand of the central education authorities. Our institution must follow the framework of national education initiatives (board policies and guidelines) to set mandatory and elective curriculums and implement teaching practice, otherwise the authorities will hold our university accountable. Therefore, autonomy is really limited for universities and our teacher educators.
>
> (Teacher educator Lin, LTEI, 2017-6-4)

Corroborating this study's analysis of the teacher education syllabuses, teacher educators said there is some space for introducing multicultural competence in existing curriculum frameworks, such as educational equality, rural education etc. However, this is entirely dependent on the knowledge, research merit and consciousness of teacher educators to transform general content into specialised materials for ethnic minority education. Thus, for instance, teacher educators who conduct research on ethnic minority education could share their research experience with pre-service teachers in related courses, as teacher educator Cao said:

> I think some of the existing courses can provide a platform to teach pre-service teachers multicultural knowledge, competence, and awareness, such as [courses on] general trends in basic education reform, or ethnic minority education in Yunnan. We can teach them related knowledge and even guide them toward ethnic minority areas for social investigation, but it depends on the experiences, consciousness and ability of teacher educators. But no policy regulates us to do that. If we want to do this in a systematic way, it really requires policy assurances from central government.
>
> (Teacher educator Cao, TTEI, 2017-6-3)

Disjoint Between Teaching Practicum and Multicultural Settings

The practicum is an important component of teacher education, giving pre-service teachers the opportunity to enter real classrooms for real teaching practice. LTEI and TTEI require pre-service teachers to attend teaching practicums and apply the knowledge and skills learned in their institutions to actual classroom situations for 16 and 24 weeks, respectively. When asked the possibilities of conducting teaching practicums in multi-ethnic and multicultural contexts, teacher educator Lin from LTEI said that the schools where practicums are conducted rarely have multicultural characteristics.

> The teaching practicums of our college are usually carried out in Chongqing municipality and some will be in nearby districts including the ethnic minority areas in the southeast part of Chongqing. But, as you know, these areas have been assimilated by Han and the students there have few ethnic minority characteristics.
>
> (Teacher educator Lin, LTEI, 2017-6-4)

By contrast, teacher educator Ding from TTEI emphasised that Yunnan is a multi-ethnic border province and has the opportunity to implement teacher practicums in actual classrooms with students from different cultural groups. However, under the Regulation of NTES, teaching practicums have little involvement in the multicultural characteristics of ethnic minority areas.

> There is a group of students choosing to do their teaching practicums in schools located in ethnic minority areas. However, [speaking] as a tutor and assessor, classroom management, lesson plan design and teaching design are prioritised [rather than multicultural competence], according to related national documents.
>
> (Teacher educator Ding, TTEI, 2017-6-2)

DISCUSSION AND CONCLUSION

The content analysis shows that the mission and curriculum formulation of these two teacher education programmes do not provide enough academic preparation to enhance teachers' competence in teaching diverse students. Instead, they focus on the universal knowledge and skills that every teacher should have. Simply put, the need for teachers' multicultural competence in ethnic minority education is unrecognised in both teacher education programmes. The findings from the interviews with teacher educators also expose several external forces that influence the extent to which teacher education institutions can foster teachers' multicultural competence. In this section, I will first discuss the findings from a content analysis of syllabuses to see the extent to which teacher education programmes take consideration of the particular needs of teachers providing minority education. I will then use Cochran-Smith's framework to discuss how teacher education practices are influenced by external factors, and how both the practices and the framework are embedded within, and influenced by, the larger context (i.e., education reform agenda in China).

Lack of Consideration of Fostering Multicultural Competence for Future Teaching

"The missions of teacher education programmes play important roles in shaping teacher candidates' learning experiences and outcomes" (Yuan, 2018, p. 50). This study reveals that teacher competence, which is a need under the NCR, determines the mission and core content of teacher education programmes. The NCR raised the requirements for teachers in class design and teaching skills to guide explorative learning and develop problem-solving abilities. This, in turn is reflected and prioritised in teacher education programmes.

The elective courses at TTEI provide richer knowledge of ethnic minorities to pre-service teachers than the mandatory courses. In addition, a course on "ethnic minority psychology" provides a good platform for pre-service teachers to understand the culturally determined needs and characteristics of different ethnic minorities. These courses are coherent with the dimension of knowledge in the multicultural competence framework and can be further connected to teachers' multicultural awareness and skills. However, the subordinate position and fewer class sessions given to the elective curriculum within existing programmes make this competence difficult for pre-service teachers to transform into teaching strategies (Yuan, 2018).

Overall, though the teacher education programmes in LTEI and TTEI take notice of awareness, knowledge and skills in dealing with students' diverse characteristics, the invisibility of ethnic minority contexts or multicultural contexts in curriculums and teaching materials inevitably limits the feasibility of developing teachers' multicultural competence for ethnic minority education.

External Influential Forces on the Practice of Multicultural Teacher Education in China

The interviews with teacher educators verify the findings of the content analysis. The cultivation of multicultural competence for future work in ethnic minority education is, to a great extent, missing from teacher education programmes. The interviews also reveal the existence of external forces that influence teacher education practices which are coherent with the findings of Cochran-Smith (2003).

First, all four teacher educators who participated in this study identified the importance of fostering pre-service teachers' competence in coping with diverse students in ethnic minority education. However, it was striking that they subsequently emphasised that there is limited autonomy at the lower end of the policy stream for their institutions and themselves to apply this belief to practice, and that they are constrained by the regulations laid down by the authorities (e.g., Ministry of Education). Simply put, this divergence between the beliefs and practices of teacher educators reveals that institutional capacity (including teacher educators' own agency) to implement multicultural teacher education practices is inadequate within the current centralised governance structure for teacher education.

Since 2001, the role of the Department of Teacher Education at the Ministry of Education has gradually been transformed from being entirely government-controlled to a body that sets professional standards. Teacher education institutions have, in this process, been endowed with a certain degree of autonomy (Zhu and Han, 2006). Although governance has moved away from absolute power domination toward a certain degree of decentralisation, the power of setting professional standards for teacher education remains in the hand of the central authorities (Wang, 2022). This centralised decentralisation is consistent with this study's finding that teacher education institutions are required to set up and implement mandatory and elective curriculums within the framework of the NTES and similar regulations. The NTES, which guides teacher education for K–12 education in China, ignores teachers' multicultural competence in ethnic minority education. This type of governmental regulation acts as an external force that constrains the institutional capacity to facilitate pre-service teachers' multicultural competence for ethnic minority education.

Secondly, China's broad educational reform agenda greatly influences the missions of teacher education programmes. These missions as this study shows, articulate loyalty to education reform. Missions can undoubtedly constrain or enhance the institutional capacity of teacher education institutes in addressing cultural and diversity in their teacher education programmes (Cochran-Smith, 2003). The NCR, which has prevailed since the early 2000s, strongly emphasises student learning rather than teaching. Pre-service teacher training institutions are required to prepare teachers in accordance with the NCR's requirements for teacher competence. As a broader reform agenda, the NCE influences how teacher education plays out in practice. Therefore, teachers' multicultural competence, which is excluded from the reform agenda, cannot be emphasised in teacher education programmes, and institution capacity in this area is restricted.

Thirdly, interviews with teacher educators show that the locations of teaching practicums are, to a large extent, disconnected from multicultural settings. This may be related to the social context in China and the distribution of ethnic minorities within the country. Though China has 55 ethnic minorities, more than 80% live in the western border provinces and autonomous prefectures. The rest are mingled with the majority Han in the east and central provinces and have largely been assimilated by the mainstream culture. Therefore, provinces where there is a lack of communities and schools with diverse ethnic minorities face challenges in providing teacher education institutions with authentic multicultural settings for teacher practicums. Moreover, provinces where cultural diversity is lacking do not feel an urgency to foster this transformation. Therefore, if a corresponding reform in teacher education programmes is to be carried out, it must be regional, not nationwide.

Finally, the current ideology of educational equality, which derives from a recognition of the uneven socioeconomic development in China, focuses on distributive equality of teacher quality and quantity. Teaching for social justice which is extensively discussed in multicultural education scholarship

requires teachers to recognise culture as foundation of learning for facilitate diverse students' academic performance, to teach key concepts through different cultural groups' contents and examples, to guide equal inter-ethnic communication between students from different cultural groups for eliminating discrimination (Sleeter, 2013; Cho, 2017; Darling-Hammond, 2017). However, it should be noted here that a prerequisite of social justice is distributive equality in resources and rights (Miller, 1997). In China, though ethnic minorities have been granted equal civil rights in political domains, their subordinate position in many domains, like economic development and education, has stagnated or worsened in the past four decades. As teacher educators' perceptions have shown, the urgent concern in teacher education for ethnic minorities is to cultivate adequate and qualified teachers.

In conclusion, the capacity of Chinese teacher education institutions in fostering pre-service multicultural competence is constrained by several external forces such as educational governance and, as reflected in the locations of teaching practicums, relations with community and schools. Furthermore, what pre-service teachers' competence covers, and the external forces that influence how teacher education plays out in practice, are influenced and somewhat determined by the larger social, economic and political context as well as the agenda for educational reform in China.

TOWARD AN INCLUSIVE TEACHER EDUCATION

China is still in the process of bridging the differences in developmental level between different areas and social domains, such as rural-urban or majority-minority populations. This study reveals that teacher education programmes in China lack consideration of the particular needs of teachers providing ethnic minority education, as well as how external forces and the larger context shaping teacher preparation create distance from

multicultural competence. Yet, there remains a possibility— one that may be an advantage, or even a necessity—for some teacher education institutions, especially those in provinces with culturally diverse ethnic minorities, to include multicultural competence training in their teacher education programmes. Therefore, future research directions may include exploring rational ways of intervening between external forces and teacher education practices to help teacher education institutions effectively train pre-service teachers in multicultural competence, and transform their teaching to become more inclusive.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent to participate in this study was provided by the participants.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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Does It Matter If Students (Dis)like School? Associations Between School Liking, Teacher and School Connectedness, and Exclusionary Discipline

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School liking is an important factor in student engagement, well-being, and academic achievement, but it is also potentially influenced by factors external to the individual, such as school culture, teacher support, and approaches to discipline. The present study employed a survey methodology to investigate the associations between school liking and disliking, teacher and school connectedness, and experiences of exclusionary discipline from the perspective of students themselves. Participants included 1,002 students (Grades 7–10) from three secondary schools serving disadvantaged communities. Results indicated clear differences between students who like and dislike school in terms of their preferred school activities and school disciplinary history, with students who disliked school experiencing overall lower school connectedness. Moreover, students who disliked school experienced less positive relationships with their teachers, and this was even more pronounced for students who had been previously suspended. The findings reveal key differences between students who do and do not like school, differences that may be masked by typical research approaches. This research indicates the need for more nuanced, student-informed approaches to inclusive school reform.

Keywords: disadvantage, teacher-student relationships, school connectedness, dis/engagement, suspension and exclusion

INTRODUCTION

"School liking" is a term used to describe when students' perceptions of, and feelings about school are positive—at least, most of the time. Liking for school has been found to play an important role in children's adjustment to school (Ladd and Burgess, 2001; Walker and Graham, 2019), and is related to both student engagement and scholastic achievement more broadly (Ladd et al., 2000; Riglin et al., 2013). Although most children and young people will dislike some aspects of school, at some point in time, this type of dislike tends to be transient and constrained to certain subjects, issues, or individuals. Dislike for school, however, can become pervasive, such that some students who dislike school, dislike it completely. This *pervasive* form of dislike can result from academic difficulties, which can induce a self-perception of academic failure/incompetence (Murray and Mitchell, 2013;

Graham et al., 2016), and is associated with classroom disruption (King et al., 2006; Graham et al., 2016; Walker and Graham, 2019) and truancy (Attwood and Croll, 2015). Disliking school is strongly related to the students' perceptions of their school's psychological climate (Frazier et al., 2015), with prior research detecting a positive association between secondary school students' dislike for school and experiences of peer harassment, including regular teasing, name calling, and exclusion (Eisenberg et al., 2003). There are potentially other factors related to school climate and culture that affect school liking; however, the literature on school liking is limited.

Students' (dis)like for school is often incorporated into broader measures of student adjustment or attitudes. For instance, one relatively well-known measure of school adjustment is the *School Liking and Avoidance Questionnaire* (SLAQ; Ladd and Price, 1987), which is considered to provide an overall measure of how well students are adjusting to school. The SLAQ, however, is principally used with students in the primary (or elementary) phase of schooling and is not appropriate for use with adolescents. For this group of young people, school liking may be measured effectively by asking students whether they like school, and their history of liking or disliking a school (e.g., Graham et al., 2016). Previous research using this approach for adolescents with and without a history of disruptive behavior has found reliable differences between students who do and do not like school with the use of just one item: "Do you like school?" (Graham et al., 2016). The most common reasons students provided for disliking school in Graham et al.'s (2016) study were "schoolwork" and "teachers," with most students who dislike school reporting that they most commonly get in trouble with teachers for "not following instructions" and "not doing work" (Graham et al., 2016). These students were also significantly less likely to remember any teachers with whom they had a positive relationship (Van Bergen et al., 2020), and had experienced many difficulties with learning, as well as multiple long suspensions of up to 20 days per suspension, eventually resulting in exclusion/expulsion from school (Graham and Buckley, 2014). Such evidence suggests that students who dislike school may be more likely to experience conflict and have poorer quality relationships with teachers, feel less connected to school, and be subject to higher rates of exclusionary discipline, which is precisely the opposite of what these students need to stay in and succeed at school (McGrath and Van Bergen, 2015).

Teacher–Student Relationships, School Connectedness, and Exclusionary Discipline

Given the frequency of students' interactions with teachers, it is perhaps not surprising that close and supportive student–teacher relationships predict students' liking for a school (Roorda et al., 2011). When a student feels personally respected and cared for by their teacher, they tend to like school more (Hallinan, 2008). They also become more engaged in learning and experience greater academic gains (Hughes and Kwok, 2007; Roorda et al., 2017). In contrast, teacher–student relationships high in conflict are associated with lower levels of school-liking

(Ladd and Burgess, 2001). He et al. (2019), for example, found a relationship between teachers' use of emotional punishments, higher depression, and lower school connectedness. Teacher–student relationship quality also strongly predicts students' connectedness to school, which is itself linked to positive student outcomes and acts as a buffer against other risks (Monahan et al., 2010).

School connectedness encompasses a student's sense of school belonging, their acceptance in the social environment of their school, and the degree to which they feel personally respected and supported (Goodenow, 1993). It therefore includes, but extends, beyond the teacher–student relationship, with other contextual and systemic factors also implicated (e.g., school policies related to inclusion and discipline, peer acceptance and support, and pedagogical practices that support students' autonomous decision-making, learning, and success). Being connected to school is positively associated with educational achievement (Niehaus et al., 2012; Pate et al., 2017) and school progression, including the likelihood of completing secondary school (Bond et al., 2007). It is also positively associated with emotional wellbeing and negatively associated with mental health problems, such as depression (Shochet et al., 2006; Bond et al., 2007). Longitudinal research shows that higher school connectedness buffers against poor mental health (Foster et al., 2017), later conduct problems (Loukas et al., 2010), risk-taking behaviors (Resnick et al., 1997; Chapman et al., 2011), and adverse health behaviors, such as cigarette smoking (Bonny et al., 2000).

Research shows that school suspension and exclusion can have a negative impact upon students' sense of social belonging and on their trust in school authority figures (Pyne, 2019; Jacobsen, 2020). For example, drawing on the National Longitudinal Study of Adolescent Health with more than 75,000 students, McNeely et al. (2002) found that school connectedness was reduced in schools with poor classroom management and those which "temporarily expel" students for minor infractions, in comparison to schools with positive classroom management and more tolerant disciplinary approaches. Findings that relate exclusionary school discipline to lower school connectedness are not simply a reflection of challenging student behavior. While the comorbid effects of behavior and discipline can be difficult to disentangle, emerging research highlights the positive impact of programs that focus on improving the school climate and reducing the use of exclusionary discipline. Huang and Cornell's (2018) comprehensive study of 310 middle schools in Virginia showed that schools that were authoritative, rather than authoritarian, and which had strict *but fair* discipline and a focus on positive student–teacher relationships, had fewer out of school suspensions, and a stronger sense from students that their teachers care about them.

Importantly, school connectedness and positive teacher–student relationships are not dependent on funding or whole-of-system reform, but can instead be enhanced through inclusive school reform at both local and regional levels. It is rare, however, that student–teacher relationships or students' connectedness to and liking for school is the focus of reform, despite their strong association with student engagement, learning, and behavior. This is surprising given the implications for inclusive

School ID	Enrollments Year 7–12	LBOTE (%)	Indigenous (%)	ICSEA range (2017)	% cohort in lowest SEA quartile (%)	Student survey Grades 7–10 (n = 1,002)
School A	700+	2	11	900–949	58	273
School B	1,500+	12	16	900–949	52	531
School C	500+	23	8	1,000–1,049	23	198

LBOTE, language background other than English.

All schools in Australia are given an ICSEA score: a calculation of the relative affluence of the school community (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2020). ICSEA has a mean of 1,000 and a standard deviation of 100. Note, as geographic information or single ICSEA scores could reveal the identity of the schools, only ICSEA ranges have been provided here. Socio-economic advantage (SEA) scores represent the socio-economic distribution of students in the school.

school reform decisions. *If* what is working for some students in terms of school culture and climate is not working for *all*, it makes sense to pay attention to *who* is not liking and connecting to school, *why*, and whether improving key elements of school culture and climate, such as teacher–student relationships and school connectedness, may help improve students' liking for school, decrease conflict with teachers, and reduce exclusionary discipline.

The aim of this study was to better understand factors driving classroom disruption, disengagement from school, and exclusionary discipline in complex secondary schools serving disadvantaged communities. In this manuscript, we investigate associations between school liking, teacher–student relationship quality, connectedness to school, and students' experience of detention, suspension, and exclusion. Central to the initiation of the project was the aim of reducing teacher–student conflict due to an altercation between a student and a teacher in one of the participating schools, which resulted in a student being permanently excluded and a principal seeking more just solutions. The project was expanded to include two additional high-need secondary schools serving disadvantaged communities with the support of the respective region and funding from the Queensland Government. The research focused on Grades 7–10 (junior secondary school) as these grades have been found to record the highest number of suspensions, exclusions, and enrollment cancelations (Graham, 2018). Consistent with the philosophy of inclusive education, student voice was paramount to the project ethos. The final design reflected this with a large-scale survey aimed at gauging differences in experiences and perspectives between students across cohorts, followed by individual interviews using purposeful sampling to represent students with a history of behavioral incidents. This manuscript reports on the findings from the student survey which was administered to 1,002 students in Grades 7–10 across the three participating schools.

MATERIALS AND METHODS

Participants

All students in Grades 7–10 for whom parent consent had been confirmed were invited to participate in an electronic survey by the respective school principal or their delegate (e.g., Head of Grade or Project Liaison). Responses were received from 1,002 students in Grades 7–10. Two of the schools had an Index of

Community Socio-Educational Advantage (ICSEA) 1 standard deviation below the national mean of 1,000, and the third school was on the mean (**Table 1**).

In Queensland, students in Grade 7 are aged between 12 and 13 years; Grade 8 are 13–14 years; Grade 9 are 14–15 years; and Grade 10 are 15–16 years. **Table 2** contains demographic details about the participants in the sample.

There were no significant differences in student characteristics between the three schools: the gender distribution (male, female, or other) did not vary, $\chi^2(4) = 8.48$, $p = 0.075$, nor did the number of students who liked or disliked school, $\chi^2(2) = 3.89$, $p = 0.143$. Neither detentions [$\chi^2(2) = 0.26$, $p = 0.880$] nor expulsions [$\chi^2(2) = 0.46$, $p = 0.796$] differed among the three schools, but prior suspensions did, $\chi^2(2) = 21.31$, $p < 0.001$, Cramer's $V = 0.15$, as follow-up z tests (Bonferroni-adjusted) indicated that one of the schools had a significantly lower proportion of students who had received suspensions ($p < 0.05$).

Materials and Procedure

The research was conducted according to the ethical standards of the institutional and national research committees. The study was approved by the Queensland University of Technology (QUT) Human Research Ethics Committee, and approval to conduct the research was obtained from the Queensland Department of Education.

Participants completed the survey between April 1 and September 25, 2017 within class time and under the supervision of their classroom teacher. The survey included demographic questions about age, gender, and grade. Using yes/no response options, students were asked whether they liked school, whether they had always liked school (for those who responded yes, they liked school), when their dislike began (for those who responded no, they did not like school), and whether they had ever received

TABLE 2 | Descriptive characteristics of students grade level, age, and gender.

		n	%	M_{age} (SD)
Grade level	7	314	31.3	12.6 (1.1)
	8	226	22.6	13.5 (0.9)
	9	260	25.9	14.5 (0.8)
	10	202	20.2	15.2 (1.1)
Gender	Male	463	46.2	
	Female	503	50.2	
	Other	36	3.6	

a detention or been suspended or excluded. To indicate what they liked most and least about the school, students were also asked to select their most liked aspect of the school from a list of seven options arranged in alphabetical order: Breaktime, Friends, Learning, Homework, Music/Art/Drama, Sport, and Teachers. They were then asked to select their least liked aspect of school from a list of six options: Schoolwork, Teachers, Uniform, Peers, Homework, and Discipline policy (e.g., school rules). These questions were drawn from a previous study investigating severely disruptive school behavior with 96 students aged 8–17 years in New South Wales, Australia (Graham et al., 2016).

Finally, the survey instrument also included two validated scales that have been used in the research literature to measure students' connectedness to their teachers and to school. The first of these is the 6-item School Support Scale (Hanson and Kim, 2007), which was adapted from the National Longitudinal Study of Adolescent to Adult Health Study (Hanson and Kim, 2007) and taps caring adult relationships by "directly ask[ing] students about caring adults at their school" (Furlong et al., 2011, p. 995) with statements like "My teacher really cares for me" (**Table 3**). The responses were made on a 5-point Likert scale ranging from never (1) to always (5), and high scores indicate higher connectedness to teachers. The scale has good reliability (Cronbach's α = 0.83). One additional item, "My teacher has time for me," was added to the school support scale items based on common responses to an interview question in previous research probing student's perspectives on what makes positive teacher–student relationships (Graham et al., 2016). This item was significantly correlated with all other items on the scale (r = 0.37–0.64).

The second scale used is the 16-item Connection to School Scale (Brown, 1999), which measures how connected a student feels to their school and includes items such as "Adults at this school LISTEN to students' concerns" (**Table 3**). Responses are given on a 4-point Likert scale ranging from strongly disagree (1) to strongly agree (4). The overall scale has good reliability (Cronbach's α = 0.86). It has three subscales – belief/power[1] (α = 0.81; 10 items), commitment (α = 0.85; three items), and belonging (α = 0.51; three items). High scores on this measure indicate high levels of school connection.

Analytical Strategy

No items on the survey had more than 1% missing values. Quantitative analyses were conducted for participants with complete data on all relevant variables, excluding two participants who provided incongruous responses to some questions (n = 993). We first conducted analyses that assess the association between liking school vs. disliking and (i) grade level, (ii) gender, (iii) most- and least-enjoyed aspects of school, and (iv) exclusionary discipline (suspensions, exclusions, or detentions). Given the categorical nature of these variables, we employed Chi-square tests of independence for analysis and used Cramer's

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[1]Originally, Brown (1999) constructed items to represent four theorized factors (Belief, Power, Commitment, and Belonging). However, subsequent factor analysis (Brown et al., 2000) indicated that items relating to Belief and Power loaded onto the same factor, as did one of the original Belonging items (item 5). We therefore collapse these items into one subscale in the present study.

TABLE 3 | Connectedness to teacher and connection to school scale items.

School support scale (Hanson and Kim, 2007)	Connection to school scale (Brown, 1999)
My teacher… (1) Really cares about me (2) Tells me when I do a good job (3) Notices when I'm not there (4) Always wants me to do my best (5) Listens to me when I have something to say (6) Believes that I will be a success (7) Has time for me*	*Belief/Power subscale* (1) Adults at this school listen to students' concerns (2) Adults at this school act on students' concerns (3) I have many opportunities to make decisions at my school (4) The principal at this school asks students about their ideas (5) I am comfortable talking to teachers at this school about problems (6) The rules at my school are fair (7) We do not waste time in my classes (8) Students of all racial and ethnic groups are respected at my school (9) When students have an emergency, someone is there to help (10) It pays to follow the rules at my school *Commitment subscale* (11) I can be a success at this school (12) My schoolwork helps in things that I do outside of school (13) I can reach my goals through this school *Belonging subscale* (14) I can be myself at this school (15) I feel like I belong at this school (16) I have friends at this school

This item was added to the scale by the researchers.

V to indicate effect size. For the analysis of most-liked aspects of school, a Fisher–Freeman–Halton exact test was applied, as the expected cell counts were below 5. Significant Chi-square tests with more than two categories per variable were further investigated with z tests for comparing two proportions (applying a Bonferroni correction for multiple comparisons).

We next conducted analyses that compared students' perceptions of school support and school connectedness according to school liking and their experience of exclusionary discipline. As the dependent variables were continuous in nature (means scores on the school support and school connectedness scales and subscales), we employed both mixed design and between-groups univariate analyses of variance (ANOVA), adopting a multivariate approach for the analysis of repeated measures variables. Cohen's d and partial eta square (η_p^2) were used to indicate effect size. Where follow-up comparisons have been conducted, a Bonferroni correction was applied. Means and bivariate correlations for all scales are provided in **Appendix Table 1**.

RESULTS

School Liking

Although most students indicated that they liked school (66.5%), approximately one-third (33.5%) did not. School-liking varied by grade level, χ^2(3) = 9.10, p = 0.028, Cramer's V = 0.10. Follow-up

TABLE 4 | Grade level when students (%) began to dislike school, split according to current grade level.

	Grade level when school dislike began			
Current grade	K - Grade 2	Grade 3–6	Grade 7 and 8	Grade 9 and 10
Grade 7 (n = 85)	35.3	47.1	17.6	
Grade 8 (n = 76)	21.1	27.6	51.3	
Grade 9 (n = 99)	14.1	21.2	53.5	11.1
Grade 10 (n = 73)	23.3	26.0	35.6	15.1

z tests showed that Grade 7 (72.8%) had a significantly higher percentage of school-likers than Grade 9 (61.8%), indicating a decline in school liking over time. Grade 8 (66.1%) and Grade 10 (63.1%) did not differ significantly from other groups. School-liking was significantly associated with gender, $\chi^2(2) = 18.28$, $p < 0.001$, Cramer's $V = 0.14$, such that a lower proportion of students identifying as "Other" (35.3%) indicated that they liked school, compared to those who were male (64.9%) or female (70.1%; $p < 0.05$).

History of School-Liking

Of the students who liked school, approximately half (46.1%) reported that they had always liked school. Students who disliked school were asked at what point they started disliking school, where the options provided were "Kindy–Grade 2," "Grades 3–6," "Grades 7 and 8," or "Grades 9 and 10." For students in Grades 8, 9, and 10, the highest percentage of students indicated Grades 7 and 8 as the starting point, followed by Grades 3–6, and Kindergarten–Grade 2 (**Table 4**). Grade 7 students predominantly indicated Grade 3–6 as the point where they began to dislike school. We note that Grade 8 was the first year of high school in Queensland until 2015 when Grade 7 transferred to the secondary phase of schooling (Graham, 2018). Therefore, Grade 9 and 10 students who nominated Grade 8 as the point at which they began disliking school had also commenced high school that year.

Most- and Least-Liked Aspects of School

Students' responses regarding their most- and least-liked aspects of school are displayed separately for school likers and school dislikers, respectively. For students' most-liked aspect of school, "Friends" was the most selected category and "Homework" the least selected category for both groups (**Figure 1**). Nonetheless, significant differences in students' most-liked aspects of school emerged, Fisher–Freeman–Halton test, $p < 0.001$. To determine the nature of these differences, we conducted follow-up z tests with a Bonferroni adjustment. "Learning" was selected as the most-liked element by a significantly higher percentage of school likers than dislikers ($p < 0.05$), whereas "Break-time" was preferred by a significantly higher percentage of school dislikers than likers ($p < 0.05$). No other categories significantly differed based on school liking.

There were also distinct patterns of response to the "least-liked" elements of school (**Figure 2**) based on overall school-liking, $\chi^2(5) = 61.34$, $p < 0.001$, Cramer's $V = 0.25$. Follow-up z tests indicated that a higher percentage of school dislikers
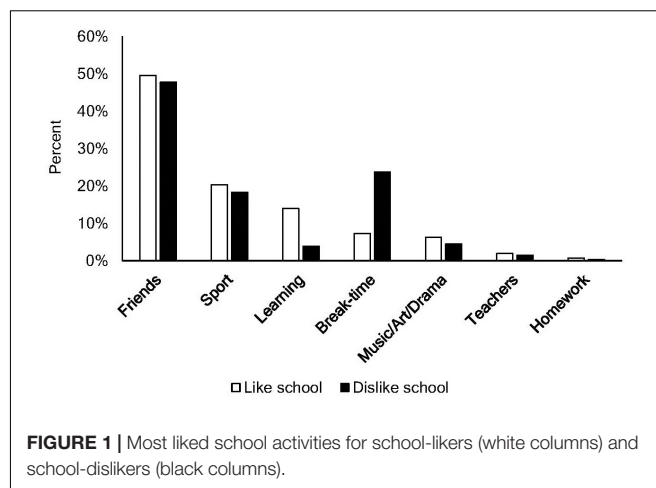
FIGURE 1 | Most liked school activities for school-likers (white columns) and school-dislikers (black columns).
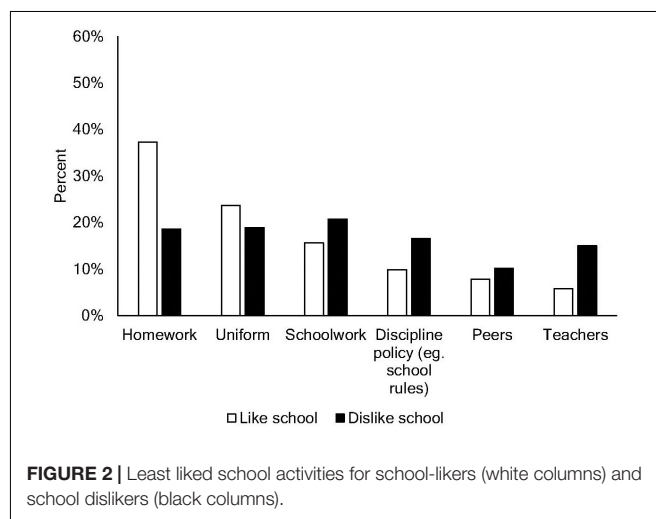
FIGURE 2 | Least liked school activities for school-likers (white columns) and school dislikers (black columns).

than likers selected "Schoolwork," "Teachers," and "Discipline Policy" ($ps < 0.05$) as their least-liked aspect of school. School-likers most frequently selected "Homework" as their least-liked school element, and this proportion significantly exceeded the proportion of school dislikers selecting the same category ($p < 0.05$).

Differences in Connection to Teachers and School Liking

Students who liked school had a mean response of 3.67 (SD = 0.93) on the 6-item student support scale, and those who did not like school had a mean of 2.9 (SD = 1.04). Individual items on the scale were of particular theoretical interest when considering differences among school likers and dislikers. Therefore, students' responses on each scale item are displayed in **Figure 3**, according to whether they like or dislike school. A 2 × 7 mixed ANOVA was conducted to investigate differences in each of the items among school likers and dislikers. There were significant main effects of school liking, $F(1, 991) = 140.45$, $p < 0.001$, $\eta_p^2 = 0.124$, and the student support scale items, Wilks' $\lambda = 0.57$, $F(6, 986) = 122.25$, $p < 0.001$,
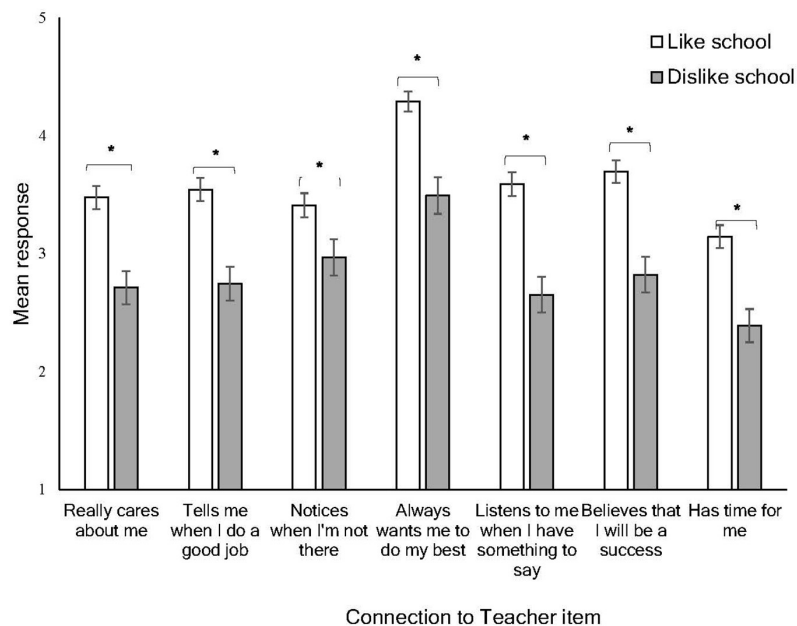
FIGURE 3 | Mean responses to the school support scale items according to whether students like or dislike school. Error bars indicate 95% CIs. *Statistical significance.

$\eta_p^2 = 0.427$. There was also a significant interaction, Wilks' $\lambda = 0.98$, $F(6, 986) = 4.15$, $p < 0.001$, $\eta_p^2 = 0.025$, indicating that responses to the scale items varied as a function of whether or not students liked school.

To follow up this interaction, Bonferroni-adjusted *post hoc* comparisons were conducted, which revealed that students who dislike school rated each item significantly lower than those who like school ($ps < 0.001$). The significant interaction may therefore be explained by the fact that the degree of difference between school-likers and dislikers in their rating varied based on each item, as depicted visually in **Figure 3**. The magnitude of the difference between groups was smallest for the item "Notices when I'm not there" ($d = 0.32$), which represents a small effect (Cohen, 1988). All other items had medium effect sizes ($d = 0.58$–0.69), with the largest observed for the item "Listens to me" ($d = 0.69$). The highest-rated item for both groups was "Always wants me to do my best," while the lowest, again for both groups, was "Has time for me." It is notable that on every item except "Always wants me to do my best," the average ratings of students who dislike school fell below the midpoint of the response scale (3).

School Liking and School Disciplinary Experiences

Not liking school was associated with detentions, $\chi^2(1) = 56.28$, $p < 0.001$, Cramer's $V = 0.24$. Of the students who reported not liking school, 71.2% had received a detention in the past 12 months. For students who did like school, only 46.1% had received a detention. Not liking school was also associated with suspension, $\chi^2(1) = 91.45$, $p < 0.001$, Cramer's $V = 0.30$, with 41.4% of students who disliked school having previously received a suspension, compared to only 14.2% of school likers. School

liking was also related to previous expulsions, $\chi^2(1) = 18.72$, $p < 0.001$, Cramer's $V = 0.14$, with 8.4% of school dislikers reporting that they had previously been expelled, compared to only 2.4% of school likers.
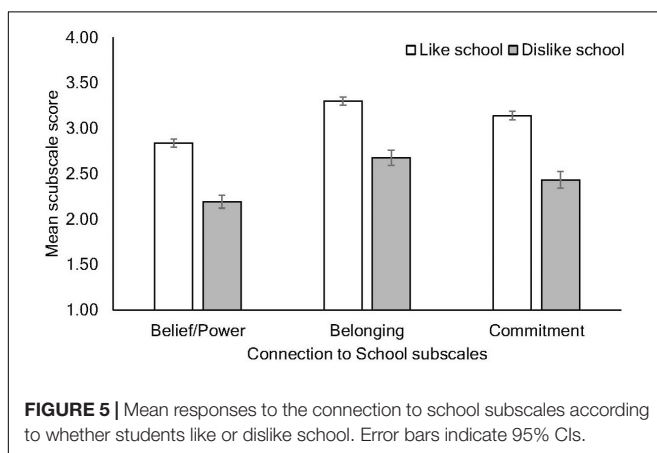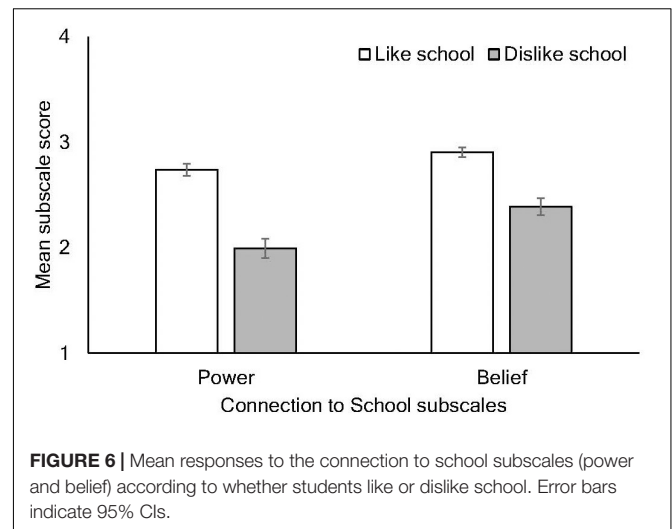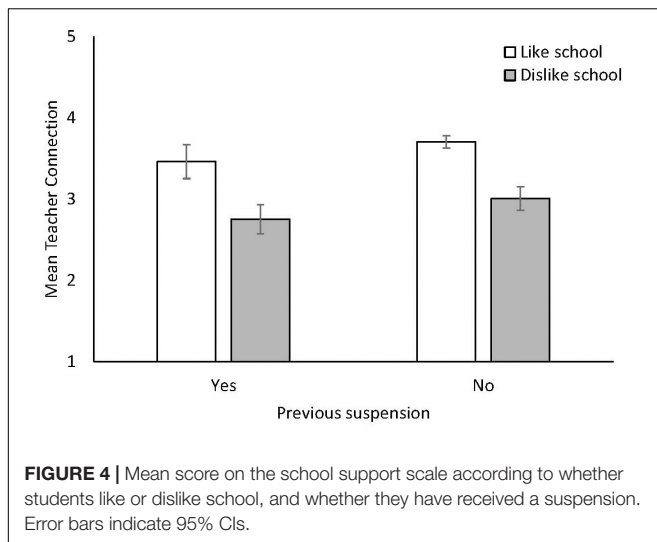
Does Connection to Teachers Vary Based on School Discipline History and School Liking?

A 2 × 2 between-groups ANOVA was conducted to examine whether teacher connectedness, as measured by the school support scale (using the 6-item mean score[2]), varied as a function of either school liking or suspension history (**Figure 4**). There were significant main effects of both suspension, $F(1, 989) = 10.02$, $p = 0.001$, $\eta_p^2 = 0.011$ and school liking, $F(1, 989) = 85.85$, $p < 0.001$, $\eta_p^2 = 0.080$, but no significant interaction, $F(1, 989) < 1$, $p = 0.958$, $\eta_p^2 = 0.000$. Both a dislike of school and a history of suspensions are linked to reduced connectedness to teachers, and these negative effects are additive, such as students experience lower connection to their teachers when they dislike school, and even more so when they have experienced suspension.

Connection to School and School Liking

Figure 5 displays mean scores on the three connection to school subscales (belief/power, belonging, and commitment) according to school liking. To determine whether these components of school connection varied according to school liking, a mixed 2 × 3 ANOVA was conducted, with school liking as the between-subjects factor and connection to school subscales as

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[2]The same pattern of significant results was observed in a secondary analysis which used as its dependent variable the 7-item mean (including the additional Teacher Connection item in the calculation of the subscale).

FIGURE 4 | Mean score on the school support scale according to whether students like or dislike school, and whether they have received a suspension. Error bars indicate 95% CIs.

FIGURE 6 | Mean responses to the connection to school subscales (power and belief) according to whether students like or dislike school. Error bars indicate 95% CIs.

FIGURE 5 | Mean responses to the connection to school subscales according to whether students like or dislike school. Error bars indicate 95% CIs.

the within-groups factor. There was a significant main effect of school liking, $F(1, 991) = 320.06$, $p < 0.001$, $\eta_p^2 = 0.244$, indicating that school-likers rated all subscales significantly higher than dislikers. There was also a significant effect of school connection subscale, Wilks' $\lambda = 0.64$, $F(2, 990) = 280.01$, $p < 0.001$, $\eta_p^2 = 0.361$, and no interaction, Wilks' $\lambda = 0.97$, $F(2, 990) = 1.89$, $p = 0.151$, $\eta_p^2 = 0.004$. Follow-up pairwise comparisons of the school connection's main effect revealed significant differences between each subscale ($ps < 0.001$) where scores were highest on the belonging subscale, followed by the commitment subscale, and then the belief/power subscale.

Although items related to belief and power are loaded onto one factor in the analysis reported by Brown et al. (2000), they represent conceptually distinct and potentially meaningful constructs that are of a particular interest when considering differences among students who like or dislike school. Hence, a supplementary analysis was performed to see whether school liking influenced responses to items that were theorized to align with "Power" and "Belief." Separate subscale means were calculated using the four items aligning to each theorized factor (see Brown et al., 2000), and a 2 × 2 mixed ANOVA was

conducted, with subscale (power, belief) as the within-subjects factor and school liking as the between-subjects variable. There were significant main effects of both subscale, Wilks' $\lambda = 0.88$, $F(1, 991) = 133.45$, $p < 0.001$, $\eta_p^2 = 0.119$ and school liking, $F(1, 991) = 223.38$, $p < 0.001$, $\eta_p^2 = 0.184$, indicating that scores on the power subscale were significantly lower than on the belief subscale, and that school dislikers had significantly lower scores than likers on both. There was also a significant interaction, Wilks' $\lambda = 0.98$, $F(1, 991) = 22.21$, $p < 0.001$, $\eta_p^2 = 0.022$.

To follow up the significant interaction, separate univariate ANOVAs were conducted to investigate group differences for the power and belief scales separately. There were significant differences between school likers and dislikers on both subscales, with the larger effect observed for the power subscale [power: $F(1, 991) = 198.08$, $p < 0.001$, $\eta_p^2 = 0.167$; belief: $F(1, 991) = 136.23$, $p < 0.001$, $\eta_p^2 = 0.121$]. Hence, school likers and dislikers diverged to a greater extent on items related to power compared to those related to belief (see **Figure 6**).

DISCUSSION

The present study examined associations between school liking, teacher–student relationships, school connectedness, and experience of exclusionary school discipline through a survey of 1,002 junior secondary school students from Grades 7–10 to better understand factors driving classroom disruption and disengagement from school. Findings revealed stark differences between students who like and dislike school. While some of these differences might be expected, in that, students who dislike school may be more likely to engage in conflict with teachers and might, therefore, experience higher rates of exclusionary discipline, our findings present a more nuanced account.

Approximately two-thirds of the students reported liking school overall, and one-third reported disliking school. While the percentage of school likers decreased between Grades 7 and 9, dislike is also reported by most students as a relatively recent phenomenon. Older students most commonly reported

beginning to dislike school in Grade 7 and 8, raising questions about the transition to secondary school, whereas younger Grade 7 students most commonly reported onset in the upper primary years. Taken together with evidence that only half the school likers group have always liked school, school liking and disliking appear variable across the school years, with negative attitudes more prominent during or after periods of transition.

The shift from primary to secondary school is a time of significant adjustment for young people, both interpersonally and academically (Evans et al., 2018), representing a pivotal developmental window during which students require greater support (Lester et al., 2013). Secure student–teacher relationships have been shown to be protective against the potential psychological and academic impacts of these transitions (Longobardi et al., 2016, 2019). This potential was recognized in Queensland when Grade 7 transitioned from the primary to the secondary phase of schooling in 2015, and a junior secondary model with core subject teachers was implemented to ensure Grade 7s had fewer teachers to navigate (Pendergast et al., 2015). While the decline in school liking from a high point in Grade 7 through Grades 8–10, with the lowest point in Grade 9, may provide some evidence of the relative success of this approach, it is important to note that more than one-quarter (27.2%) of Grade 7s still did not like school. Our findings suggest that school disliking increases over time and, like out-of-school suspensions and exclusions (Graham, 2018) may peak in Grade 9.

To better understand the factors that drive school (dis)liking, we mapped students' most-liked and least-liked aspects of school. Students who like and dislike school were consistent in their response that "friends" were one of the most-liked aspects of school, with approximately half of each group choosing this option. For students who did not select friends as their most-liked aspect, however, differences between school likers and dislikers emerged: more school likers reported "learning" as their most-liked aspect of school, whereas more school dislikers reported "break-time." This finding is perhaps not surprising as break-time offers an escape from regular school activities. Consistent with previous research (Graham, 2016), schoolwork and teachers are also mentioned frequently by school dislikers who also report disliking discipline policy significantly more than school likers.

School dislikers were more likely than school likers to have received detention in the past 12 months and were also more likely to have previously received a suspension or expulsion from school. This finding is consistent with prior research which indicates an association between negative perceptions of school and experience with exclusionary discipline (Huang and Anyon, 2020). A growing body of evidence attests the harmful impacts of out-of-school suspension on student outcomes, negatively affecting relationships with peers (Jacobsen, 2020) and teachers (Quin, 2019), and academic achievement (Noltemeyer et al., 2015; Hwang, 2018). Moreover, suspension is known to exacerbate rather than remediate the behaviors for which it is issued (Quin and Hemphill, 2014; Amemiya et al., 2020; Wiley et al., 2020). It is worth noting that not all students who disliked school in the present study had prior experiences of school suspension or exclusion. Likewise, while school likers were less likely than school dislikers to have experienced these disciplinary

practices, there remained nevertheless a substantial proportion of students who liked school but also had a history of detention or suspension. Other non-disciplinary factors are therefore also likely to be relevant to school liking but, in combination, it appears that relationship building and school belonging have substantive impacts on students' enjoyment of school.

We therefore also examined students' perceptions of their connectedness to teachers and school, and how these related to their overall school-liking. School dislikers provided significantly lower ratings to every aspect of teacher–student relationships in comparison to likers, although notably, there were some items on which both likers and dislikers appeared to provide lower responses, namely, their perception of the teacher having time for them. This important link between perceived teacher support and adolescents' attitudes toward school has been identified in a recent meta-analysis, where teacher support was identified as one of the strongest predictors of a student's sense of belonging at school (Allen et al., 2018). Connectedness to teachers overall was lowest for those students who had previously been suspended and who disliked school. While the directionality of this relationship cannot be inferred in a cross-sectional design, existing research highlights the detrimental effect that suspension can have on student–teacher relationships (Quin and Hemphill, 2014), with school disciplinary practices serving to erode student trust in school authority figures (Pyne, 2019). Positive teacher–student relationships, in contrast, have been associated with reduced risk of suspension and school disengagement (Quin, 2017), and schools which have sought to improve student–teacher relationships through targeted intervention have seen suspension rates halved (Okonofua et al., 2016). Lastly, higher ratings on some individual items should not necessarily be interpreted as positive. For example, the second highest-rated item by school dislikers was that their teacher "Notices when I'm not there;" however, this may not be desirable from the perspective of a student who dislikes school and who actively avoids attending.

In terms of school connectedness, school dislikers provided significantly lower ratings than likers overall; all students, regardless of whether they liked school, provided the highest ratings for school belonging, followed by commitment, and finally the belief/power subscale. In previous research using this scale, Brown et al. (2000) found that each subscale was negatively correlated with substance use, with the strongest association evidenced for belief/power. All subscales were positively correlated with school participation, with the strongest association shown for the belonging subscale. Finally, school grades significantly correlated with the commitment subscale. These different components of school connectedness therefore provide an important insight into students' school-related experiences and outcomes. Importantly, the belief/power subscale includes items that tap students' perception of their power to influence adult decision-making, a key factor in the development of a school's culture and climate (Cohen et al., 2009).

The present study included a supplementary analysis of this subscale, separating items related to belief and power, indicated that students provided lower responses on the power subscale,

and the disparity between likers and dislikers was even more pronounced. It is fascinating that the students in this study who reported disliking school, and who may engage in behavior that disrupts the school environment potentially resulting in conflict with teachers, appear to perceive themselves as having less power than school likers do, or perhaps cannot see the relative influence of their actions on their school's climate. Importantly, our analyses found no significant differences on any measure between the three schools, suggesting that the identified differences between school likers and dislikers are stable across schools. These differences may therefore reflect systemic, as opposed to idiosyncratic, issues affecting school liking and, with it, students' connectedness to both school and teachers.

Our findings suggest that inclusive school reform should include specific measures to improve school cultures and specifically enable teachers with more time to connect with their students. We note that this time needs to be well spent on building rapport and trust, as well as providing more individualized support to students who experience difficulties with schoolwork, rather than simply "checking in" with or monitoring students' whereabouts. Interventions targeting relationship-building have been found to have a positive impact upon school liking, as well as academic achievement (Miller et al., 2017); however, it is important that these types of initiatives are implemented universally to promote positive teacher–student relationships more broadly, with specific strategies to engage more intensively with specific groups. While many schools have implemented universal policies and practices to promote student engagement and wellbeing, our findings suggest that these may not address the specific concerns of individuals or distinct groups. Our findings show that the concerns of students who report a dislike for school differ from those of students who do like school but, also importantly, their specific concerns could be masked by school satisfaction and engagement surveys that aggregate results for all students. This could potentially drive lower perceptions of power, which we suggest are reflected by responses to the two power items given the lowest ratings by school dislikers: "the principal at this school asks students about their ideas" and "adults at this school act on students' concerns."

Finally, findings from this research also suggest that systemic reform to reduce schools' reliance on exclusionary discipline may help to support any gains from interventions aimed at improving school liking, teacher–student relationships and school connectedness. For policy and practice ideas, Australian schools and systems need look no further than the United States, where there has been considerable reform activity over the last decade. Strong limits have been placed on out-of-school suspension to prevent both overuse and inappropriate use due to decades of empirical evidence attesting to its harmful effects, particularly in young children for whom suspension is banned in a growing number of districts (Graham et al., 2020). Importantly, discipline reform in many public-school systems, such as Chicago Public Schools, has been coupled with systemic inclusive school reform (Graham et al., 2022). Approximately one quarter of the largest school districts in the United States have now implemented schoolwide frameworks to deliver evidence-based prevention and intervention practices and programs,

and have recorded improvements in school safety, and student connectedness and academic achievement as a result.

The limitations of the present study are that it employed survey methodology in only three secondary schools in Queensland serving students from disadvantaged communities at one time point, which may have played a part in the similarity in findings across schools. Future research involving a much larger sample of schools would allow for multilevel modeling and more fine-grained comparisons between schools to determine whether the similarities detected in this study hold between demographically and geographically distinct schools. This type of analysis is important in policy terms, as it may be that there are differences in the relational experiences of students attending disadvantaged vs. advantaged schools or metropolitan vs. regional/remote schools. Further, a cross-sectional study lacks capability to determine the direction of the associations between school liking, exclusionary discipline, and teacher/school connectedness. Future research is needed not only to disentangle this relationship but also to test whether inclusive school reform, including interventions to improve the quality of relationships between teachers and students who do not like school, has a positive impact on these students' connectedness to school, attitudes toward teachers, attendance, and classroom behavior.

CONCLUSION

This study examined associations between school liking, teacher and school connectedness, and student experiences of school discipline. Understanding more about school culture from student perspectives may improve outcomes for students and teachers, particularly for students who do not like school and who are already at risk of disengagement and/or early school leaving. This is an important pursuit given the association between school connectedness, educational achievement, and emotional wellbeing evidenced in prior studies (e.g., Niehaus et al., 2012; Pate et al., 2017). The current study found student perspectives on their school experiences are connected to the quality of their relationships with teachers, as well as school disciplinary practices. Importantly, this study found that students experience lower connection to their teachers when they dislike school, and even more so when they have experienced suspension. This finding adds to a considerable body of literature emphasizing connections among exclusionary discipline, attitudes toward school, and student–teacher relationships (Hallinan, 2008; Allen et al., 2018; Huang and Cornell, 2018; Huang and Anyon, 2020). Results from this study further highlight the role that student–teacher conflict may have in influencing these outcomes, suggesting that intervention strategies targeting student–teacher relationships may be the most beneficial in ameliorating outcomes for both students and teachers (e.g., Okonofua et al., 2016).

The study also contributes to existing research through providing a deeper understanding of when and how students may shift from transient to pervasive dislike for school, and in particular how these changing perspectives of school coincide

with key school transitions. While origins and commencement of school dis/liking differ, the transition into high school appears prominent for the participants in the current study. This finding, paired with significant differences in teacher and school connectedness for school dis/likers, points to the importance of cultivating positive relationships to support student enjoyment of school, school belonging, and student transition experiences. Understanding when students may begin to dislike school and some of the conditions surrounding this change in perception of school offers possible points for targeted teacher support strategies to mitigate these effects, with the possibility to change student trajectories and experiences at the school level as a result. For example, implementing unified, evidence-based delivery of school-wide supports through a Multi-Tiered Systems of Support (MTSS) framework may better support positive student experiences and connection with school from the outset.

Revisiting the question posed in the title of the manuscript of whether it matters if students (dis)like school, the results of the current study suggest that yes, it does matter. The nuanced account of student experiences presented through the findings in the current study offer a deeper understanding of the school experience from the perspectives of students themselves, particularly those at risk of disengaging from school, and emphasizes the need for more attention to be directed toward reform efforts focusing on student connectedness to teachers and school. Importantly, these are aspects of the school experience that can be controlled at the school level and should not require additional funding, although release from face-to-face teaching to allow teachers time to connect with and provide additional support to students at risk of disengaging would be a wise investment. Future research could test whether inclusive school reform with specific strategies to enhance student–teacher relationship quality helps to improve students' liking for, connectedness to, and behavior at school.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Queensland University of Technology Human Research Ethics Committee and the Queensland Department of Education. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

LG and JG-S conceptualized and managed the project, collected, cleaned and coded the data. CK conducted all quantitative analyses with advice from PV. All authors contributed to wrote the manuscript and approved the submitted version.

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APPENDIX

Appendix Table 1 | Means and bivariate correlations among student support and school connection scales.

	Mean (SD)	Bivariate correlations			
		(1)	**(2)**	**(3)**	**(4)**
(1) Student Support Scale (6 item mean)	3.4 (1.0)	1	0.539**	0.394**	0.515**
(2) School connection: belief	2.6 (0.7)		1	0.600**	0.712**
(3) School connection: belonging	3.1 (0.7)			1	0.574**
(4) School connection: commitment	2.9 (0.8)				1

***Correlation is significant at the 0.01 level (2-tailed).

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Teaching Multilingual Students During the COVID-19 Pandemic in Austria: Teachers' Perceptions of Barriers to Distance Learning

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Providing high-quality education for students with emergent proficiency in the language of instruction (referred to here as multilingual students) presents a challenge to inclusion for educational systems the world over. In Austria, a new German language support model was implemented in the school year 2018/19 which provides language support in separate classrooms up to 20 h a week. Since its implementation, the model has been strongly criticized for excluding multilingual students from the mainstream classroom, which is argued to reinforce the educational disadvantages that they face. The study presented here provides unprecedented qualitative insight into how schooling for students within the so-called German language support classes (GLSC) was organized during the COVID-19 pandemic. It builds on results of a previous large-scale quantitative study (n = 3,400 teachers), which was conducted during the first lockdown (spring 2020) and indicated a high risk of exclusion for marginalized students, especially for multilingual students in GLSC. To gain deeper insights into the situation of these students during school closures, 37 teachers who work in these classes at both primary and lower-secondary schools in Vienna were interviewed, of which 18 interviews were considered for analysis. The interviews focus on the situation during the first and second school closures in the city of Vienna. A thematic analysis of the interview data reveals teachers' perceptions of aspects which harmed or promoted inclusion for students in GLSC during these periods of school closure. Teachers' perceptions of the most harming factors for students included strong language barriers between teachers and students, restricted access to technical equipment and supportive learning spaces, and low parental engagement. A development that promoted inclusion of these students was the option to allow them to come to school during the second school closure. Since existing studies on the schooling of students during school closures have hardly addressed the situation of students in GLSC, this study contributes to closing this research gap.

Keywords: COVID-19 pandemic, multilingual students, barriers to distance learning, language support, teachers' perceptions, qualitative study

INTRODUCTION

According to the Eurydice Report "Integrating Students from Migrant Backgrounds into Schools in Europe" (European Commission et al., 2019), the majority of European countries consider the provision of high-quality language and learning support for students with immigrant background as the greatest challenge. Because of major international voluntary and forced immigration movements, many education systems were already struggling to meet the goals of inclusion set in the Sustainable Development Goals (United Nations, 2015). Providing high-quality language support is a fundamental aspect of including students with an immigrant background in education and ensuring equal access to learning in the European Union (European Commission et al., 2019). Different pedagogical approaches for supporting students to learn the language of instruction have been developed, not all of which necessarily follow evidence-based good practice in language education (see Erling et al., 2022). An example of this is the new model of German language support classes (GLSC) developed in Austria, which was implemented in the school year 2018/19. This model, implemented without piloting nationwide, provides language support in separate classrooms for students with beginning or emergent competences in the language of instruction for up to 20 h of the 26–34-h school week. In the public discourse, these students are often referred to as having "a non-German colloquial language" – a term that suggests that they cannot speak German. However, many of these children have acquired German skills in the course of their socialization in informal contexts and in formal pre-school education, and/or use German, among other languages in their everyday lives. We therefore refer to this population as "multilingual students," in recognition of the valuable resource of their language skills. Drawing on Collier and Thomas (2017), we also use the term "students with beginning or emerging skills in the language of instruction" or simply refer to multilingual students who attend GLSC.

When schools closed around the world in March 2020 due to the COVID-19 crisis, numerous studies (e.g., Kim and Asbury, 2020; Letzel et al., 2020; Schleicher, 2020; Helm et al., 2021) appeared in a relatively short period of time that examined the impact of distance learning on students, teachers, parents and other education stakeholders. The meta-study by Helm et al. (2021), who reviewed 97 studies on the impacts of school closures provide insight into the situation in the German-speaking world. The study confirmed that the situation of home-based learning had exacerbated existing educational inequalities and that the voices of the 'hard to reach' were often not included in research (Helm et al., 2021).

To gain more insights into home-based learning and development of students facing various types of educational disadvantage, including students in GLSC or with special education needs, Schwab and team conducted a large-scale quantitative study with teachers in Austria. Findings indicated a high risk of exclusion for students already at risk of marginalization, including those in GLSC (Schwab and Lindner, 2020; Kast et al., 2021). Moreover, many teachers in GLSC or

special classes reported that it was nearly impossible to stay in contact with their students during that time (see Kast et al., 2021).

Equipped with the quantitative evidence collected in the first stage of the pandemic, a follow-up, mixed-method study ("Inclusive Home Learning in German language support classes") was conducted to provide deeper insights into how schooling for students within GLSC was organized during the first and second school closures in Vienna, Austria. For the qualitative part of the study reported on here, 37 teachers who work in these classes at both primary and lower-secondary schools in Vienna were interviewed following the principles of problem-centered interviews (Witzel and Reiter, 2012). Thematic analysis focused on factors that were perceived as being harmful to inclusion as well as those offering potential to promote inclusion. Findings indicated that the teachers perceived the language barriers between them and their students as the strongest barriers in facilitating distance learning for multilingual students. Further, they referred to the students' restricted access to technical equipment and supportive learning spaces at home, as well as the low engagement of their parents. The change in regulations for the second school closure, namely to allow students from GLSC and students with special educational needs to come to school, was perceived as an important factor in ensuring their access to education.

The motivation to conduct this study is based on two main rationales: Firstly, the authors have been researching GLSC since their introduction and have already conducted a large-scale study (Gitschthaler et al., 2021; Resch et al., forthcoming), the results of which indicate that the separate schooling of multilingual students has negative effects on their academic, social and emotional development. Therefore, it was a particular concern to explore how these children fared during the school closures. Secondly, existing studies on the schooling of students during COVID-19 have only minimally focused on students who are still learning the language of education. This article provides unprecedented insights into how GLSC might harm or promote inclusion, how this potential was affected by the COVID-19 pandemic, and how these insights might shape the development of GLSC going forward.

German Language Support Classes in Austria

As in most European Union Member States, students in Austria with no, beginning or emergent skills in the language of instruction receive support in language support classes (cf. European Commission et al., 2019). These students should learn the national language of instruction as quickly as possible in order to participate more successfully in mainstream education (BMBWF, 2019). After many years of integrative, partly integrative or partly segregative language learning, the German language support program was reformed in the school year 2018/2019. Following this, a new, un-tested model of segregative language education that goes against "good practice" guidance (cf. European Commission et al., 2019) was rolled out across Austria. Policy stipulated that students with no or beginning German language skills were to attend separate classes for either

15 h per week (of the ca. 21-h school week) in primary school or 20 h in secondary school, which is a significant period of the ca. 35-h school week. Students with emergent German language skills attend the mainstream classroom most of the time, but get pulled out for 6 h per week to receive additional German language support. The decision of whether students have to attend GLSC is based on the results of a standardized assessment called the "MIKA-D," which was designed to measure young people's competences in German.

The recommended scenario is followed for one school year but can be extended to 2 years depending on the student's results. After the end of each semester, students are given the same standardized test, with the results determining further transitions. While students following scenario 2 who improve their scores transfer into mainstream classes, students following scenario 3 either transfer into pull-out courses or mainstream classes, depending on their results. If students' results do not improve, they remain in the specific support model for at least another semester[1]. However, if they do not transition to mainstream classes after two semesters, students have to repeat the grade.

Proponents of GLSC argue that segregated courses give students more time and space to learn the language of instruction outside the regular classroom. Teachers in GLSC can better adopt the lessons according to the learners' needs and refer to their previous knowledge and skills (Jeuk, 2015). Segregated courses are deemed particularly necessary at the secondary level, where the accelerated learning of the language of instruction is especially necessary, so that students can keep up with the increasing complexity of content (Koehler, 2017).

Despite these arguments in favor of segregated language classes, their introduction has been widely criticized by applied linguists and educational researchers in Austria, who argue that this model goes against evidence-based notions of language education as well as the promotion of inclusion and emotional wellbeing (e.g., Müller and Schweiger, 2018; Döll, 2019). Critics of GLSC point to the large number of studies that have shown that the best language support models provide integrated, sustained, language support, ideally from the pre-school to the upper-secondary level (e.g., Collier and Thomas, 2017; Crul, 2017; Erling et al., 2022). Being pulled out of mainstream courses often has adverse effects on students' progress in other academic subjects (Jeuk, 2015; Bunar, 2017; Herzog-Punzenberger et al., 2017). Moreover, in segregated language courses, learners are largely denied contact with peers who are more proficient in the language of instruction. Further concerns have been expressed regarding the social integration of these students, who often get stigmatized as being "remedial" (Ovando et al., 2005, p. 73; Karakayali et al., 2016).

While a formal evaluation of the current GLSC has yet to be undertaken, statistics about students' transition to the mainstream classroom suggests that they are ineffective. One year after introducing GLSC (at the end of the 2018/2019 school

year), only around 32% of the students made the transition to mainstream classes, while about half (48%) were transferred to pull-out courses (Scenario 2). Around 16% continued in the GLSC (Scenario 3) and 4% dropped out of the school system all together (Statistik Austria, 2019). Further evidence of the failure of GLSC to provide inclusive language education can be gleaned from a large-scale, quantitative study (including open-ended questions) that explored teachers' perceptions (n = 1,267) of the positive and negative effects of GLSC during its first year of implementation (Gitschthaler et al., 2021; Resch et al., forthcoming). The main finding of the quantitative part of the study is that a segregative language support model, like the GLSC, was rated as rather positive or positive for the academic, social and emotional development of multilingual children by about 36% of the participating teachers. In contrast, an inclusive model was rated as rather positive or positive by 55.5% of teachers, respectively (Gitschthaler et al., 2021). Within the open-ended questions, 714 teachers reported negative effects of GLSC on an organizational, didactic and social dimension: While 50% of these teachers (n = 357) reported that GLSC further enhance segregation and exclusion of multilingual students, more than one fifth stated that the classes were under-resourced and that class sizes were too large (often having between 14 and 27 students). Hence, teachers reported being overworked and overwhelmingly unable to handle the heterogeneity of groups regarding diversity of language backgrounds, German competence and literacy levels (Resch et al., forthcoming).

Given that inclusion of multilingual students and their language learning were already perceived as being severely challenged by the model of GLSC in Austria, there were valid reasons for concern when teachers and students in these courses had to adapt to home-based schooling during the COVID-19 pandemic.

Schooling During the COVID-19 Pandemic in Austria

In response to the COVID-19 pandemic, schools in Austria were closed several times, with various levels of openness depending on the severity of the pandemic, the level of schooling and the availability of testing and vaccinations. During all closures, schools remained open for children of key workers, and increasingly also as the pandemic endured, for vulnerable children. The first and most severe school closure lasted from March until May 2020, with the majority of students staying home during this time and only returning to school in shifts in mid of May 2020 until the end of the school year in July 2020 (BMBWF, 2020a). The second school closure lasted from November until December 2020, with students returning in shifts for a short period before the Christmas holidays. The third school closure was essentially a continuation of the Christmas holidays in January 2021 (BMBWF, 2021a). From February until May 2021, there was a fourth stage in which students from elementary and special schools went back to school. In secondary schools, classes were divided in half and students returned in shifts (BMBWF, 2021b). Because of evidence pointing to particularly harmful risks of school closures for students 'at risk' (e.g., those

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[1] Differences exist between German Language Support Classes (GLSC) and pull-out courses in terms of structure and length; however, the teachers and the provision in both are often the same. Therefore, for simplicity's sake, the acronym GLSC is used in the remainder of this article to refer to both.

in GLSC and/or with specific educational needs), the regulations for school closures from November 2020 were changed and they were encouraged to return to school (BMBWF, 2020b).

From the first school closure in March 2020 onwards, teaching mostly moved to home-based, digital settings. A number of researchers rapidly responded to school closures and designed studies investigating the educational experiences of students, teachers and other education stakeholders. In the German speaking world, the School Barometer monitored the school situation by collecting the perspectives of various actors (i.e., parents, students, school staff, school leadership, school authority, and school support system) and contributing a data-informed discussion about various aspects of teaching and learning (e.g., Huber and Helm, 2020; Helm et al., 2021). Furthermore, Helm et al. (2021) conducted a meta-study of 97 studies conducted in Austria, Germany and Switzerland during the COVID-19 pandemic. Overall, the study confirmed that the situation of home-based learning had exacerbated existing educational inequalities. However, it also pointed to disruptions from the 'normal' schooling routine that may have inadvertently had a positive impact on students.

With regard to the provision of online education, the findings indicated that the majority of students did not face limiting issues with regard to access to ICT and the vast majority of teachers were found to be delivering content. Both analog and digital media were used, the most common approach being using the textbooks (Albaner et al., 2021). In some schools, especially primary schools, students received weekly learning plans and materials that could be picked up at school (cf. Helm et al., 2021). Learning materials were also provided via digital tools like e-mail or learning platforms. In many contexts, online teaching was provided using video conferencing systems like Teams or Zoom.

Since home-based learning had to be implemented very quickly (e.g., Bozkurt et al., 2020; Reimers et al., 2020), it initially caused uncertainty and a lack of understanding among many teachers who received information only at the last minute through public news channels (Schwab and Lindner, 2020). As a result, teachers were required to have a high degree of flexibility, adaptability and technical knowledge (König et al., 2020; Tengler et al., 2020). Unsurprisingly, teachers in Austria felt (rather) heavily stressed during this period (Schwab and Lindner, 2020). Despite this, they were found to have coped well with the transition to home-based learning and were confident in their abilities to teach their subjects adequately (Schober and Holzer, 2020). However, findings of several studies found that home-based learning only worked well for students who did not face serious obstacles and that for a minority of students (which makes up a substantial number in real terms), education was extremely limited during the home-based learning period.

In this context, the large-scale study "INCLusive home LEArning" (INCLEA) on the consequences of home schooling during the first lockdown provides important insights in the situation of socially disadvantaged students. More than 3,400 teachers participated in the online survey and were asked for their perceptions of the effect of the situation on their students and their learning. Findings confirmed fears and indicated a high risk of exclusion for students already at risk of marginalization,

including those in GLSC (see Schwab and Lindner, 2020; Kast et al., 2021). Evidence from other studies underpin these results. Steiner et al. (2021) found that teachers were not at all able to reach 36% of socially disadvantaged students. This may be due to the often-reported lack of adequate endowments with technical equipment and digital skills. Holtgrewe et al. (2020) showed that 13% of students have difficulties using a computer, 20% have difficulties with online meeting tools, and 37% reported difficulties using learning platforms. Access to ICT was also a problem for some students from low SES backgrounds: 3% were found not to possess a computer; 6% not to have a quiet learning environment at home; 8% to have limited access to a computer; 1% not to have an internet connection; 5% only use their smartphone for home-based learning; and 25% share their computer with others (Holtgrewe et al., 2020).

Further risks arise from non-individualized 'learning packages,' which pose great difficulties for students from socially disadvantaged families in particular. Schwab et al. (2020) found that over 31% of teachers reported not individualizing 'learning packages' based on their students' knowledge. While teachers may have suspected that a large number of students did not receive the necessary support to complete assignments at home [an estimated 40% in Steiner et al. (2021)], a large number of them reported not being able to compensate for this in their teaching approaches.

Taken together, these studies conducted all allude to factors which may have contributed to the limited participation of some students, including restricted access to and competence using technology; a lack of pedagogical concept in the materials delivered, particularly with regard to students from low SES or/and multilingual backgrounds; and limited emotional and pedagogical support available at home. Thus, it seemed very likely that the particular situation of enforced home-based learning would exacerbate the risks to inclusion for students in GLSC – who were already deemed as being poorly served by this model before the pandemic.

Apart from the "Inclusive Home Learning" study (see Schwab and Lindner, 2020; Kast et al., 2021), to the best of our knowledge, no extensive studies have investigated the specific situation of multilingual students in GLSC during school closures. Furthermore, most studies have applied a quantitative approach, not giving enough space to the voices of participants. This qualitative study thus contributes to closing these research gaps and offers insights into the learning situation of these students from the perspective of teachers who teach in GLSC.

Empirical Study

Equipped with the quantitative evidence collected in the first stage of the pandemic, the study reported on here sought to provide deeper insights into the experiences of multilingual students in GLSC during school closures. Based on the findings from "Inclusive Home Learning," a spin-off, mixed-method study ("Inclusive Home Learning in German language support classes") was conceived in order to more thoroughly investigate the situation of students in GLSC. The quantitative part of the study comprises a sample of 2,651 teachers working in regular classes and in GLSC at primary, middle and special schools from all

over Austria. The items of the questionnaire referred to teachers' perceptions regarding students' burden, the provision of weekly individual coaching for students, the students' opportunities to work with digital devices; further items referred to the teachers' perception of students working actively at home and whether distance learning increases educational disadvantages. The most important findings that shaped the set-up of the qualitative aspect of the study were that almost 40% of GLSC teachers perceived their students to be less actively working on their school tasks. In contrast, this was reported by only about 9% of teachers in regular classes. With regard to digital devices, 32% of GLSC teachers perceived that their students had no opportunity at all to use a computer or a tablet for schoolwork. Again, this value was much lower for teachers in regular classes (4.6%) (Lindner et al., forthcoming). The results indicated great difficulties in implementing distance learning for students in GLSC. By giving voice to GLSC teachers, we aimed at getting deeper insights into how schooling for students within GLSC was organized during school closures: 37 GLSC teachers at both primary and lower-secondary schools in Vienna were interviewed and 18 interviews were included for analysis. The research questions driving the qualitative part of the study were:

- How did teachers provide learning opportunities for their students in GLSC during the home-based learning periods?
- What did GLSC teachers perceive as the greatest barriers to reaching their learners during this time?
- What, if any, strategies did they develop for promoting inclusion despite the significant obstacles they faced?

In exploring these questions, this article contributes unprecedented insight into how GLSC might harm or promote inclusion, and how this potential was affected by the COVID-19 pandemic.

MATERIALS AND METHODS

Semi-structured interviews were conducted with teachers in GLSC following the principles of the problem-centered interview method (Witzel, 2000; Witzel and Reiter, 2012). For this study, this meant that the researchers were orientated toward a socially relevant problem (i.e., the situation of GLSC students during home-based learning) about which they had prior knowledge. In this case, the researchers' prior knowledge was obtained through the quantitative research they were involved (see Schwab and Lindner, 2020; Kast et al., 2021), and the wealth of publications about schooling during the pandemic mentioned above. While this study sought to provide insight into students' experiences, teachers were interviewed instead, as the challenges that students faced with regard to language, access to technology, etc., made it difficult for them to take part in online research. The study sought insights into teachers subjective perspectives of how they and their students experienced home-based learning, and these teachers were considered to be "experts of their orientations and actions" (Witzel, 2000).

Results from the quantitative part of this study ("Inclusive Home Learning in German language support classes") provided

a "heuristic framework" for the development of the interview schedule. The questions were formulated in general terms to avoid determining teachers' answers. Throughout the interviews, participants were given sufficient space to express their experiences and subjective perspectives (Witzel and Reiter, 2012, p. 4). As a narrative-generating introductory question, the interviewees were asked to think back to March 2020 - the beginning of home-based learning - and how they remember this time as a teacher of GLSC. The teachers' descriptions structured the further thematic course of the interview and provided the interviewers with opportunities to address the following additional topics: Organizing students' learning; students' barriers to learning; biggest challenges in daily work; differences between the first and second school closure; effects of home-based learning on language acquisition and conditions for successful language acquisition in distance learning.

Data Collection

The data collection for this study was organized by the third author with the support of five students (see section "Acknowledgments"). The interviews took place in December 2020 (i.e., the period of the second school closure in Austria) in Vienna. The decision to focus on Vienna was based on official statistics that show that the proportion of students who have German as an additional language in primary schools is considerably higher in Vienna (58.5%) compared to the other federal states of Austria (average: 23.4%) (Statistik Austria, 2021a).

Following a purposeful sampling strategy (Patton, 2015), 37 participants were selected, based on the main criterion that they worked in GLSC during both school closures at primary schools and middle schools in Vienna. This ensured that they had specific knowledge based on their role as the teachers of these classes and therefore could be considered as information-rich cases. Contact was established through direct contact with schools by email and telephone, but also through social media platforms.

All interviews were conducted in German using video conferencing software, e.g., Zoom or MS-Teams. The interviews lasted between 45 and 149 min (M = 67.3, SD = 18.6) and were transcribed in full length by following the transcription conventions of Kuckartz (2018).

Sample

While interviews were conducted with 37 teachers, in the process of analysis, the researchers soon discovered that not all teachers interviewed worked in GLSC during both school closures. This was problematic since differences between the first and second lockdown were of key interest for this study. Therefore, these interviews were not further considered in the analyses. Further, the experiences of teachers in middle schools were mostly not comparable to those in primary schools due to differences in students' age as well as language and digital skills. To allow comparability of the data, interviews with middle school teachers were also excluded from the analysis. Consequently, 18 interviews with primary school teachers who worked in a GLSC during both lockdowns remained in the data set (see **Table 1**).

ID	f/m	Age	First language(s) spoken	Years of teaching experience	Years of teaching in GLSC	Training in teaching German as L2	Number of grade levels in GLSC	Number of students in GLSC
T_1	f	26	German	4	3	No	4	19
T_2	f	32	German	5	3	Yes	4	17
T_3	f	23	German	2	1	No	1	10
T_4	f	62	Hungarian	40	1	No	5	14
T_5	f	34	German	5	2	No	3	9
T_6	f	27	German	1	0,5	Yes	2	10
T_7	f	55	German	25	3	Yes	1	8
T_8	f	44	German	20	3	Yes	4	13
T_9	f	52	German	10	3	Yes	3	14
T_10	f	26	German	2	2	Yes	3	12
T_11	f	40	German	14	3	No	3	15
T_12	f	41	German	19	3	Yes	4	14
T_13	f	45	German	8	2	Yes	4	11
T_14	f	27	German	2	1	No	3	10
T_15	f	26	Turkish	5	3	No	1	20
T_16	f	43	German	4	3	Yes	4	8
T_17	f	59	German and English	20	3	Yes	2	12
T_18	f	25	German	1	1	No	1	18

All of the teachers were female, which is not surprising given that ca 92% of all primary teachers are female (Statistik Austria, 2021b). The mean age of the participants was 38, and the range was 23–62 years of age. The mean years of teaching experience was 10, with the range being 1–40 years. As GLSC were recently introduced, teachers' years of teaching in them varies from 1 to 3 years.

Only 3 of the 18 teachers indicated that they have another first language than German or were raised bilingually. About half of the teachers had some kind of education in Teaching German as Second or Foreign language. Since such programs have only recently been introduced, teachers show a range of teacher education opportunities, which do not always follow a standardized curriculum and are, therefore, not equally valued and recognized.

The grade levels ranged from grade 1 to grade 4 of primary school, which means that the students were between 6 and 10 years old. The classes are thus characterized by a high degree of heterogeneity in terms of students' knowledge and language abilities. The number of students in each teacher's class varied between 8 and 20.

Ethical Considerations

Permission to contact schools and conduct interviews with teachers was obtained from the Board of Education for Vienna. Once contact to teachers was established with the support of schools' head teachers or social media platforms, all participants were fully informed about the study's aims, the researchers involved and the intention to publish findings. In an official consent form, all participants were assured that their data would be kept strictly confidential and anonymized. By signing this form, participants gave their consent to use and publish the data for research purposes. To protect the anonymity of the participants and the schools, pseudonyms were developed to refer

to the teacher participants following. All data is stored exclusively on a password-protected server space to which only members of the research project have access to. Based on national laws and university statutes and guidelines, it was not necessary to obtain formal ethics approval. The study, however, adhered to the principles of the Declaration of Helsinki.

Data Preparation and Analysis

In order to maintain quality, the process of analysis was organized following requirements that are considered as 'standard' in qualitative research (Golafshani, 2003; Froschauer and Lueger, 2020). Since interviewers often have developed their own view of the course and the 'correct' interpretation of the interview, the activities of interviewing and analyzing were separated from each other. However, the interviewing author continued to support this process to check for accuracy and resonance. Following the steps recommended for typological analysis (Hatch, 2002, p. 153), the first and second authors closely read the interview transcripts and agreed on the main typological categories (as well as subcategories) in order to uncover themes and patterns. They developed an initial coding structure that guided the further analysis. The interview material was then divided between them for coding in MAXQDA 2020. Each interview transcript was coded by assigning relevant statements to the typological categories. This allowed for extracting all statements belonging to one or more categories and facilitated analysis. The typological categories aligned to a certain extent with the topics that the interview questions sought to explore. However, due to the open and broad character of the questions, additional themes and categories emerged from the data (e.g., parents' engagement).

In order to avoid or correct individual perception filters and preconceptions, the code assignment was mutually checked. For this purpose, the two authors met regularly to discuss any divergences regarding code allocation and to reflect on

whether the code structure needed to be adapted. Categories and subcategories were systemized, bundled and related to each other in a final step of analysis. Teachers' narratives were frequently repeated in their responses and mutually corroborated, indicating that data saturation was achieved and that the categories developed were structural features in the teachers' experiences rather than subjective and biased interpretations by the researchers (cf. Pyett, 2003). As also suggested by Pyett (2003), we presented the results to members of the expert staff of the Board of Education for Vienna, as an additional strategy to assure the study's validity. These experts had extensive insights into the organization of schooling during school closures and provided additional confirmation that our findings were representative of the situation as they experienced it.

The entire analysis process was accompanied by memo-writing, i.e., writing down the thoughts that occurred during the analysis.

RESULTS

This section starts with teachers' descriptions of the organization of learning for GLSC students during the first school closure and the main perceived barriers regarding ensuring these students' continued learning. The second part focuses on the second school closure and the new barriers and opportunities that emerged in this situation.

First School Closure

The first school closure started abruptly in March 2020. Teachers and school leaders received the information about the planned school closures along with the rest of the public, during a government press conference on the afternoon of Friday March 13. Although the closure was first announced as starting on Wednesday the 18th, schools were effectively closed from Monday the 16th. Our data collection sought to uncover how home-based learning was organized for students in GLSC during this time.

The Organization of Home-Based Learning for Students in German Language Support Classes

All teacher participants reported that schools were caught off guard by the abrupt decision to close schools in March and, unsurprisingly, not at all prepared to support home-based learning for GLSC students. The situation in Austria was much like everywhere else: distance learning provision primarily consisted of 'learning packages,' i.e., printed learning material in folders (Helm et al., 2021). All teachers reported that there was very little time to collect worksheets and apart from one teacher, all stated that they had no time to differentiate the learning material according to students' diverse needs. The folders were sent by mail or picked up by parents. Some teachers reported that they even delivered them to students' homes.

The teachers revealed that GLSC were more-or-less discontinued during the first school closure and that German language support was not considered as a 'priority.' The students' main classroom teachers were made responsible for providing their learning. This meant that GLSC students were no longer "pulled out" into separate courses but were expected to fully participate in distance learning with the students in their main classroom. It was these main classroom teachers – and not the GLSC teachers – who mainly corresponded with students' parents and organized the weekly schedules and worksheets for the students. The role of GLSC teachers was mainly limited to supporting the main classroom teacher in three main ways: by providing some extra materials; regularly talking conversationally to GLSC students on the mobile or via video conference; and helping GLSC work on tasks in the learning packages.

Despite not having much direct contact with their students, many GLSC teachers (14) reported that they prepared their own additional language support materials for them. These learning materials, however, were considered as extra-curricular and voluntary, so that students would not be overwhelmed with extra work beyond the main classroom work, or by an extra support person making contact with them. This is why some teachers (3) provided additional material only for students who were already more advanced German language speakers and therefore needed less support from parents or teachers to be able to do the tasks. In addition to print materials, about half of the teachers also provided online materials (e.g., audio files, YouTube videos, online games, and quizzes) with opportunities to experience German in context. The online resources were made accessible via the schools' homepage, email or a learning application.

While many teachers reported that they were engaged in supporting the main classroom teacher with distance learning to a certain extent, there were a few (5) who reported that they were hardly or not engaged at all in this process. The main explanation provided by these teachers was that they considered distance learning with students with beginner's skills in German language as not at all feasible. They argued that their students would not understand the instructions on the worksheets and their parents would not be able to help them. Thus, these teachers thought that they would not be of any use to their students, as can be seen in this extract:

> ... distance learning was absolutely irrelevant for me as a teacher of German language support classes, because I have many, many, many children from the first two basic levels in my class and we agreed in our school location that we would only prepare print material that the children can handle as well as possible on their own. And so it was clear to me that as a teacher of a German language support class I could not provide anything for the children, because I had many children there who could not read. Because I had many children in my groups where I simply knew that the parents could not help either as far as German was concerned. And since we did not do any online teaching or anything like that, I actually took myself out of the planning as far as distance learning was concerned. (Teacher_1).

Other teachers tried to provide additional support for their students by sending them online material. They, however, could

not tell whether the children worked with the materials because they had no contact with them:

And all I could really do was stand there and watch and not really provide any support, because the class teachers had the most work to do (...) I then formed a language team with my colleague who also does German language support and then we sent audio recordings by email. (...) [But] the children completely slipped away from me. (Teacher_3).

The feeling of not being able to support the children sufficiently and the worry that the school closure would have a negative impact on their further school career are described by some teachers as emotionally challenging:

... your heart just breaks because they fall behind. (Teacher_9).
So personally, as a teacher, I wasn't doing well because I knew I couldn't do what I was supposed to do as a teacher. (Teacher_3).

While the vast majority of teachers interviewed experienced it as very difficult or impossible to organize distance learning for GLSC students, with online teaching not considered an option for most of them, there was one teacher who reported that she had successfully offered online teaching to all 10 of her first grade and two second grade students in GLSC. She reported that in the second week of school closure, she started to provide individual online teaching for each student for 10 min a day, four times a week via WhatsApp or Skype. For two students who were newly arrived in Austria and who had very basic German language skills she extended the online session to a half an hour per day. The session did not only focus on conversation practice, but they also worked together on vocabulary and grammar in order to prepare the students for the MIKA-D test as well as possible.

Then I thought, well, I could actually do something and I thought about a concept and contacted my colleague who was the main classroom teacher (...) and suggested to her that I work with the children who are in the German language support classes and courses daily via WhatsApp video. I then also did that. (...) I had to prepare them for the MIKA-D test and I did grammar and vocabulary with them. I had all the material on my computer (...) so I was able to share the screen with them and ask them what it was. I made sentences with them and exactly those sentences that they needed for the test, because I knew it could come shortly afterward, yes. (Teacher_17).

There did not appear to be anything particular in this teachers' training or context that made it possible for her to reach GSLC students when the others could not; however, this teachers' motivation, ingenuity, and perseverance stand out as an exceptional case in the data.

Barriers Teachers Perceived

The way distance learning was organized for students in GLSC during the first school closure – as outlined in the previous section – was perceived to present numerous barriers and risks to these students, which are described in the following sections.

Language Barriers: Communication Between Teachers and Students

About half of the teachers interviewed reported that they regularly tried to speak briefly with their students on the phone, either by mobile phone or video conference, in order to provide them support with the learning packages, to stay in touch and to encourage the children to keep speaking German. Since most of the students have beginner-level German, communication with them was perceived as even more difficult due to the spatial separation. Communication via these means prevented the use of gestures and facial expressions to support communication ("communicating with hands and feet"), a circumstance that was perceived as a particularly strong barrier in the provision or support. The decision to organize distance learning for GLSC students in the same way as for 'regular' students resulted in a further barrier, since often they did not understand task instructions:

In my German language support class, I always explain the assignments to those who do not know German very well, using hands and feet, facial expressions and gestures, and I don't know what else. And just the worksheets alone, most of the children do not understand the instructions, that is the main problem. They do not know what they have to do. It quickly became clear that they did not understand the information. (Teacher_15).

Some teachers reported that they tried to explain the task instructions by having the students send photos of worksheets they did not understand via text message. They then either gave assistance via the chat function or explained on the phone what the students had to do, which was described as very challenging.

While this was a strategy that many of them used, one teacher reported that she stopped direct communication with students because she experienced it as too exhausting for her and the students:

And then I talked to the students on the phone, but then we quickly let that go, because for everyone, we also tried WhapsApp, but that was so unbelievably exhausting for everyone involved (...) We are at a stage of 'These are the trousers, these are the green trousers, What color are the trousers? The trousers are green.' Well, how am I supposed to do that on the phone with the kids ... (Teacher_8).

While communication with their students was considered as the main barrier for the provision of distance learning, one of the teachers interviewed reported using professional support from an external language expert who could communicate with the students and their parents in their home languages:

... at that time, I was lucky enough to have this MIKA team at the schools – I do not know if you know it? And there was someone who, thank God, knew at least two languages besides German, and that was a huge help. Without him, I would not have known how to talk to the parents, because I often told him or wrote to him to at least ask how the children were doing, how they were coping, because if I had told the parents, that would not have been possible, at least

with those parents who really did not understand anything [in German]. (Teacher_12).

This example of using external language support was the only one found in the dataset.

Access to Technology and a Supportive Learning Environment

In addition to language barriers, teachers perceived that many households lacked necessary resources, such as adequate technical equipment with laptops, tablets, mobiles, and (stable) internet. According to them, the restricted provision of technical resources was one of the main barriers for engaging students in online learning:

These children have no laptops, no tablets at home, they have mobile phones, but they do not have their own mobile phones at that age, so they use their dad's mobile phone. (Teacher_7).

Because it was recognized that some children did not have adequate access to technology at home, the Ministry of Education planned to issue laptops to students in need. However, a further issue that was raised by a few of the participants (4) was that these promised laptops were not distributed to students in GLSC:

We tried to equip the children with equipment. Again and again, we were told that there are laptops, we will get equipment, and we received nothing. We have received nothing until this day. Now in the second lockdown it was asked again and again who needs and who wants, who still needs something. Unfortunately, we have not received anything yet. (Teacher_7).

One teacher even reported that she paid with her own money toward mobile phones for some of her students:

So I paid toward the mobile phones with my personal money and gave [the students] the mobile phones. Used mobile phones, of course. I paid toward mobile phones for three to four children and installed the programs on them. (Taeacher_15).

In addition to access to technology, the students' living conditions were perceived as another barrier to home-based learning by several teachers. They reported that many of their students do not have well-equipped learning spaces. For example, there were students who did not have their own desks. One teacher reported that some of her students would work on their beds. If technical equipment was available, it often had to be shared with other siblings or parents. Furthermore, teachers reported high noise levels, as there were often many family members in a confined space, which meant that talking on the phone with the teacher was even more difficult as there was no space where the children could talk without being disturbed:

As we know, the living situation is such that the children cannot talk on the phone in peace and quiet, so we let that go. (Teacher_8).

A few teachers who personally brought the 'learning packages' to the students' home or who talked to them via video conference mentioned that they gained insight into the poor living and learning conditions of their students and that this was emotionally stressful for them:

Personally, it was a bit upsetting, because you also get to know the living conditions of the students, in what desolate living conditions they sometimes live. Personally, it was a bit of a challenge to get to know the children from a different perspective than when they only come to school. (Teacher_15).

Some teachers also reported that some students were also very inhibited or embarrassed to talk to their teacher on the phone, especially when their parents were sitting next to them and listening.

Parental Support and Engagement

Teachers reported that a further challenge was that many parents were not able to support their children's learning. The perceived reasons for this were that parents did not understand the task instructions or did not have time to support their children's school needs due to their working conditions. While support from parents was a well-known challenge for most families during this period, many of the teachers in this study perceived of their students' parents as being disengaged or not interested in the educational success of their children. This topic took up a lot of space in all the interviews, which is particularly interesting given that there were not any questions that specifically focused on the engagement of parents in the interview schedule.

The teachers' main criticism refers to the parents' insufficient knowledge of German or that they did not spend any time practicing German with their children at home.

So the parents are also very important and that the parents accept what the teachers prescribe and what they recommend. That they also have to practise with the child at home. I don't understand it either, we also have parents who have an older child and who still don't know any German (. . .) I don't understand that at all. (Teacher_2).

While it was clear that many parents did not have the German skills to support their children with their school work, teachers criticized them for a lack of ingenuity and commitment. For example, one teacher pointed out that parents did not use translation applications to understand worksheet instructions:

There is also zero support from the parents. It is not what you would expect. If the parents were extremely engaged, they could also enter the text, the information from the worksheet into Google Translator and translate it themselves into their mother tongue and explain the information to the child. But the parents are not so engaged that they do that and some of them have seven or eight children at home, so they do not do that. (Teacher_15).

Teacher participants also reported that the parents did not create a regular, structured routine for the children. The teachers reported that the children often stayed up late, playing computer games or surfing the internet. They therefore did not get up early

in the morning and did not get to their school work until late morning or early afternoon.

> It is also difficult because the schedules, the daily rhythms shift. [...] if parents do not pay attention, the entire daily routine shifts and I only notice this when the children log on to the chat at eleven. So they no longer have a real daily routine, everything shifts. They no longer do their homework and learning at the time when their attention is best, but at some point when it occurs to them. (Teacher_17).

According to the teachers, this problem continued when the students had to return to school in shifts after the first school closure. There was little understanding expressed by the teachers for the difficulties of managing this situation, particularly for the socio-economically disadvantaged in precarious living situations.

Second School Closure: Urgent Need to Change Strategy

The overall message coming from teachers was that the first school closure had a detrimental effect on GSLC students' language development. Many reported that they had the feeling that they had to start from scratch with many students when they returned to school in mid-May 2020.

> Not everyone, but many students, were starting from scratch again. So, all the everyday phrases like 'Can I go to the bathroom?' were simply no longer there. (Teacher_13).

The negative experiences during this period and its impact on students' language learning made clear that further periods of home-based learning for GLSC students should be avoided at all costs. This perspective was in line with new regulations from the Ministry of Education to encourage students who attend GLSC or who have special educational needs to stay in school if possible (BMBWF, 2020b):

> The conclusion for us at the school was that if there is another lockdown, then we will definitely have to have these students in school. And that was exactly what was planned anyway, what [the Minister of Education] said, that these children must come regardless (Teacher_7).

Thus, during the second school closure in the 2020/2021 school year, teachers reported that they invited the parents to send their children to school – an offer that was accepted by the vast majority.

The Organization of Learning for Students in German Language Support Classes

In general, the teachers perceived the second school closure as being better organized and felt they were better prepared to serve their students' needs. At that time, school was organized so that there was 'supervision' offered for 4 h a day for the students who attended school, which included those whose parents could not take care of them at home, those in GLSC and those in special needs classes. School-based time (20 h per week) was labeled 'supervision' because, officially, real 'teaching' was not supposed to be undertaken in order not to disadvantage students learning

at home. Students in school-based supervision were supposed to be supported while working on the learning packages that had been prepared by their main classroom teacher. They were not necessarily grouped with their normal classmates nor allocated to their classroom teacher (who was also in charge of providing online learning sessions for the home-based students). According to the interviews, schools were relatively autonomous with regard to how school-based supervision was organized. This autonomy also applied to how language support for GLSC students was provided. Based on teachers' accounts, two models emerged that describe the majority of cases:

1. Targeted German language support was offered within GLSC students' main classroom or in a separate room for up to 6 h per week.
2. German language support classes were created, as in pre-pandemic times, in which teachers offered language support for up to 15 h per week.

A few teachers (2) reported that students received general learning support during 'supervision time,' but no targeted German support. One teacher reported that at her school GLSC students were not encouraged to attend school.

Overall, the teachers perceived the second school closure as a positive experience for their students in terms of language learning because they could support them more intensively since there were far fewer students present at school than usual:

> For me personally, it was positive with my German language support class, because we had all the AO [extraordinary] children there, that is, all the German language support class and the pull-out course children, who were with me undisturbed for 15 h in that case, had no other work, no sports, no excursions in between. So, it was really my class for 15 h a week. The children were much more used to it, it was less disruptive, you could get through a week's material properly. So, paradoxically, I thought it was good for my children. (Teacher_6).

Barriers Teachers Perceived

Even though the teachers report that they were able to provide high individual support to GLSC students during the second school closure, Corona protection measures such as social distancing and wearing mouth-nose protection made it near-impossible to implement learning methods that the teachers consider central to language learning. For example, singing was not allowed; students could not be involved in games or group work; and the use of materials like balls and building blocks was not possible because students were not allowed to touch learning materials. Moreover, certain activities such as sports or singing not taking place meant that some students no longer had opportunities to demonstrate their talents and gain a sense of achievement:

> The fact that sports lessons and music lessons are being dropped, that is, subjects where the children could distinguish themselves, is of course also difficult for their self-confidence. Because they are the same when they play football. And if you have a beautiful voice, if you could sing beautifully, that all

falls away, which makes it even worse for the children, in my opinion. (Teacher_8).

Not only had the learning materials and activities become more limited from the teachers' perspective, external support also fell away. In particular, learning mentors and reading mentors who volunteer to support the schools were no longer allowed in school, meaning that important learning resources for the students were no longer available:

The reading mentors are not allowed to come (...) these are aids that have been very gratefully accepted by children with a non-German mother tongue. Because they can devote themselves much more to the child in individual work than the class teacher can do in the large group. (Teacher_8).

Thus, the decision to allow GLSC students to attend school throughout the school closure offered some possibilities for German language support to be continued. In a few cases, the school set up seemed to allow better individualized support for students to focus on German learning. However, other restrictions which prevented the students from engaging in activities with fluent German speakers meant that these opportunities were still highly constrained by the circumstances.

DISCUSSION

Based on the findings of this study, the implementation of home-based learning for students in German language support classes (GLSC) during the first school closure can be classified as what Hodges et al. (2020) refer to as "Emergency Remote Teaching." As indicated by other studies (e.g., Kim and Asbury, 2020; Schleicher, 2020), teachers reported that their schools were unprepared and overwhelmed by the situation. This is unsurprising given the circumstances. What was surprising was that the current study suggests that the provision of language support for GLSC students was discontinued and not perceived as a priority during the first school closure. It is not clear whether this decision was made autonomously by schools or was a top-down decision from the Board of Education or the federal Ministry. Reportedly, this strategy was chosen in order not to overwhelm students by too much work or by conflicting messages from different teachers. Ironically, however, the decision to include GLSC students in the main class – the very classes that they are pulled out of in 'normal' circumstances – seemed to contribute to the likelihood that they were under-served or overwhelmed. Because GLSC students were made the full responsibility of their main classroom teacher, they received the same, undifferentiated learning packages as their 'regular' peers. They were also put under the main responsibility of their classroom teacher, who was not as aware of their German learning needs as their GLSC teacher and, moreover, could not provide differentiated support. Teachers reported that students often could not understand task instructions, which was found in other newcomer education contexts (cf. O'Connell and Lucić, 2021).

In order to get around the challenge of providing 'tacked on' support to the main classroom teachers' work, many GLSC teachers in this study reported that they provided students with additional print and online material directed at German learning during school closures. These activities, however, were only offered as extra, non-compulsory, support, in addition to students' 'regular' class work. Moreover, these tasks were rather not aligned with mainstream classwork, and thus did not necessarily directly support students' needs. The extent to which this was the case seemed to depend on how well the GLSC was incorporated into the mainstream school environment and how well the GLSC teacher communicated with the classroom teacher.

While video conferencing was used with many students in mainstream classes during school closures, this was less likely to be used with GLSC students. With one exception, the majority of the teachers considered it as hardly or not at all possible to offer language provision via distance learning, although some teachers did contact students for regular, brief chats. Some attempted this for a while, but gave up due to the feeling of not being able to provide anything useful for their students. They reported feeling completely overwhelmed by the situation and that their efforts were futile and more likely to frustrate or inconvenience their already struggling students. The lack of strategy, support and technology provided them with too many obstacles to persevere with support on their own initiative. The data set, however, also pointed to teachers who went above and beyond the call of their duties by delivering materials to students' homes, having regular phone and video chats with students, buying students phones with their own money and engaging the support of language experts to communicate with parents. Such practices, however, were only singularly reported in the data. The majority of participants did not experience any central support or sharing of activities or materials and practices for serving these students between schools. There is also a clear need for the development and use of adaptive and contemporary digital tools, materials, videos for German language learning, and further training opportunities for teachers must be driven forward (see Ferlazzo, 2020; Sugarman and Lazarín, 2020). The ineffectiveness of distance learning during the first school closure led to most GLSC students being invited back to school during the second school closures.

This study revealed that teachers' greatest perceived barriers for providing distance learning for GLSC students during the first school closure were beyond their control and rooted in the sphere of students and their families. These barriers were their students' low language levels, insufficient access to technical devices (notebooks, tablets, smart phones, and internet connection) and the perceived disengagement of parents or lifestyle practices that are seen as obstructive. Regarding access to technology, at the system level, it is not clear why students were not provided with technical resources, as this would have surely helped them to better cope with the challenges of home-based learning (Huber and Helm, 2020, p. 56). In other studies, it was found that students from socioeconomic disadvantaged background are often viewed as being less able to participate in online learning due to inadequate digital skills (e.g.,

Bremm and Racherbäumer, 2020; Di Pietro et al., 2020; Uro et al., 2020), so this perception might have contributed to the perceived challenges reported in this context.

In contrast to the perceptions of teachers in this study, findings from the school barometer (Huber and Helm, 2020) provide important insight: additional technological equipment as well as parental support was only found to have a weak effect on students' home-based learning. What was found to be much more important for students from disadvantaged backgrounds was personalized learning support, since they often show lower metacognitive learning strategies, which are particularly necessary for self-directed learning and the organization of daily routines (see also Bremm and Racherbäumer, 2020; Uro et al., 2020). Teachers in this study rather reveal that GLSC students were not provided with sufficient personalized learning support during periods of home-based learning, due to the way that the courses were organized.

Research undertaken elsewhere found that one of the benefits of home-based learning was that teachers became more interested in the private circumstances of their students, and were better able to consider them for planning their lessons (Schwab et al., 2020). This, however, was not the case for GLSC teachers, who sometimes even reported being distressed when confronted with their students' home environments. In fact, findings suggest that teachers hold some deficit perspectives toward students and their families. It was reported that parents often could not linguistically grasp the expectations put on their children and how they could support them in fulfilling them. This is in line with other studies that have shown that teachers often perceive the parents of minority-language students as not caring about their children's education, whereas these parents often have opposing views (see also Di Pietro et al., 2020, p. 27; Gogolin, 2020, p. 180; Yilmaz, 2021). Only a few teachers interviewed seemed to recognize the socio-economically challenges that these families were facing and to express empathy with their difficult situation due to space constraints, etc. Instead of reflecting on the underlying causes of the parents' behavior, most of the teachers blamed parents and in doing so shifted the "conflict to a moral level" (Nairz-Wirth and Feldmann, 2016, p. 128). Peralta (2019) reports that teachers regularly underestimate the engagement of parents from ethnic minority backgrounds and their contribution to their children's learning due to a lack of adequate teacher education and training to be enabled to establish relationships between school, family and community.

Based on the teachers' accounts, students from GLSC were highly affected by distance learning, especially because of the high lack of contact with the German language. This continued to be a challenge during the second school closure, although some schools enabled a situation in which GLSC teachers could work directly with their learners, using much of their time in school for language-supportive teaching. This 'teaching,' however, had to be masked as 'supervision' and was hampered by Corona measures which did not allow for many active and creative learning methods.

Taken together, the way that GLSC are organized along with commonly held deficit perspectives about students' and their families might have negatively influenced teachers' self-efficacy and professional action. It may have prevented teachers and schools from overcoming the perceived 'lack of fit' between the schools' requirements and students' varied learning conditions influenced by their socioeconomic status (cf. Bremm and Racherbäumer, 2020; Schwab et al., 2020).

Interviews with GLSC teacher raise many questions about why there was not more creative, proactive support for a group of students who were clearly identified as being failed by the system: why was the use of translators only reported in one exceptional situation? Why were mother tongue teachers not drawn upon as resources to communicate with GLSC students and their families during school closures? Other potential support (e.g., tutoring) could have come from pre-service teachers as recommended by Gogolin (2020). Another example of good practice is the project "Homework Mentorships" in which students with beginning skills in the language of instruction received intensive homework support via text and online conferencing from mentors during distance learning (cf. O'Connell and Lucić, 2021).

Finally, and crucially, given the widely accepted perception that GLSC students had been further disadvantaged and excluded by school closures, with teachers in this study nearly unanimously reporting that students' competences in speaking and writing German deteriorated dramatically, why were there not more accommodations for these students? How can the Ministry's decision to demand that the MIKA-D test be implemented as usual in June 2020 be justified? This is problematic not only from a humane and pedagogical point of view, it raises also legal questions. As is the case with special education, the labeling-resource dilemma also exists in the realm of German language support: In order to be legally entitled for language support (15 h a week in primary school), students must be negatively diagnosed by MIKA-D test. Due to the first school closure and the way distance learning was organized, many GLSC students did not receive the language support they were legally entitled to. Still, they were subjected to the MIKA-D test with far-reaching consequences for their further educational career and psycho-social health (e.g., grade repetition and stigmatization).

CONCLUSION AND LIMITATIONS

Even though the pandemic affected all stakeholders involved in everyday school life, at-risk students like students with low or emergent skills of the language of instruction have been hit particularly hard (OECD, 2020). The results presented in this article underpin the statement from Schleicher (2020, p. 4) that "those from disadvantaged backgrounds often remain shut out when their schools shut down." This study shows that the organization of GLSC in Austria contributed to the failure of German support to students during the pandemic and it reveals that thought needs to be given to the development and expansion of a suitable infrastructure to facilitate equitable quality in learning for all children, whether during exceptional or 'normal' situations.

This study provides first important insights into the situation of children who attend GLSC in primary schools in Vienna. As with any empirical study, there are limitations. The population

of teachers interviewed is relatively small. However, given that participation was during a time where many teachers were experiencing high levels of stress and higher than normal workloads, the insights of 18 teachers working in this system in Vienna is valuable. Moreover, given that even with this relatively small sample, a saturation in findings was reached, it can be concluded that these teachers' reports give important insight into their experiences of trying to teach students with emergent German during school closures. Although it would have been most illustrative to capture the experiences of GLSC students during this time, restrictions due to COVID-19 made it nearly impossible to conduct interviews with these students and their parents. Moreover, given the separatist nature of the GLSC system, the views of teachers and students in the mainstream classroom might be considered in future explorations of student inclusion and development. Such work could also focus more specially on learners' language development and/or psychological factors such as wellbeing and inclusion.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author.

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

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg. 2022.805530/full#supplementary-material

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ORIGINAL RESEARCH

Why Is Murat's Achievement So Low? Causal Attributions and Implicit Attitudes Toward Ethnic Minority Students Predict Preservice Teachers' Judgments About Achievement

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In many educational systems, ethnic minority students score lower in their academic achievement, and consequently, teachers develop low expectations regarding this student group. Relatedly, teachers' implicit attitudes, explicit expectations, and causal attributions also differ between ethnic minority and ethnic majority students—all in a disadvantageous way for ethnic minority students. However, what is not known so far, is how attitudes and causal attributions contribute together to teachers' judgments. In the current study, we explored how implicit attitudes and causal attributions contribute to preservice teachers' judgments of the low educational success of an ethnic minority student. Results showed that both implicit attitudes and causal attributions predicted language proficiency and intelligence judgments. Negative implicit attitudes, assessed with the IRAP, and internal stable causal attributions led to lower judgments of language proficiency, whereas lower judgments of intelligence were predicted by positive implicit attitudes and higher judgments of intelligence by external stable attributions. Substantial differences in the prediction of judgments could be found between the IRAP and BIAT as measures of implicit attitudes.

Keywords: causal attribution, implicit attitudes, ethnic minority students, ethnic bias, teacher judgment

INTRODUCTION

Schools around the world are becoming more culturally diverse, which includes students' diversity not only in terms of cultural norms but also in terms of academic achievement and languages spoken in the classroom. Teachers are required to handle these diverse students and adapt their teaching as well as their classroom management strategies in order to successfully include ethnic minority students (Civitillo and Juang, 2020). However, ethnic minority students generally perform lower in academic achievement than their ethnic majority classmates (Musu-Gillette et al., 2016), and teachers tend to have lower expectations of ethnic minority students' performance (Wang et al., 2018) even when students' actual academic achievement is controlled for (Tenenbaum and Ruck, 2007). This judgmental bias concerning ethnic minority students

also holds in Germany (e.g., Tobisch and Dresel, 2017; Bonefeld and Dickhäuser, 2018), where the largest ethnic minority group has Turkish roots (Statistisches Bundesamt, 2021). Besides teachers' low expectations, their attitudes are potentially another major factor of this ethnic bias (Costa et al., 2021). Attitudes as evaluations of a social group (Eagly and Chaiken, 1993) can be divided into *implicit attitudes*, which occur automatically and usually outside of awareness, and *explicit attitudes*, which require conscious reasoning (Gawronski and Bodenhausen, 2006). The vast majority of studies have shown that teachers hold negative implicit attitudes toward ethnic minority students (Pit-ten Cate and Glock, 2019; Costa et al., 2021). In addition, expectations and evaluations are shaped by teachers' causal attributions—an individual's explanations for success or failure (Weiner, 2000)—for students' outcomes (Reyna, 2008). Overall, research has shown that teachers are more likely to make internal and stable judgments about students' failures, such as low ability, but teachers are significantly influenced by student ethnicity and tend to make more external attributions, such as luck for ethnic minority students' academic success (Wang and Hall, 2018). However, it is not yet clear how these two factors—teachers' implicit attitudes and causal attributions—affect teachers' judgments in combination. To our knowledge, so far only one study by Glock and Kleen (2021) focused on this connection. Hence, the aim of this study is to investigate how implicit attitudes and causal attributions contribute to preservice teachers' judgments of an ethnic minority student. The novelties of this study are an altered and extended questionnaire to assess causal attributions to get a more thorough insight into preservice teachers' causal attributions and above that, implicit attitudes were administered with three different indirect methods. Furthermore, and in contrast to the study by Glock and Kleen (2021), a student vignette was employed to evaluate possible biased judgments of those preservice teachers.

IMPLICIT ATTITUDES

Attitudes are defined as an evaluation of a social group (Eagly and Chaiken, 1993). People can develop attitudes directly through their own personal experiences (Rudman, 2004) or indirectly through observing other people's attitudes or reports in the media (Dovidio et al., 2010). Attitudes can be differentiated into implicit and explicit ones. With implicit attitudes, the evaluation is spontaneous and automatic, whereas explicit attitudes require conscious reasoning (Gawronski and Bodenhausen, 2006). However, as implicit and explicit attitudes can be considered two separable constructs, their relationships have often been found to range from no correlation to high positive correlations (Hofmann et al., 2005). Non-significant or low correlations between implicit and explicit measures can be found when assessing teachers' attitudes toward socially sensitive issues, such as attitudes toward ethnic minority students (Pit-ten Cate and Glock, 2019). Hence, (preservice) teachers' explicit attitudes toward ethnic minority students primarily tend to be positive (Glock et al., 2020). However, as the focus of attitude assessment has shifted toward the examination of

implicit evaluations (Sritharan and Gawronski, 2010), research from the educational field has indicated that teachers show more negative implicit attitudes toward ethnic minority students (Glock et al., 2020). The same results have been found for preservice teachers, who tend to exhibit less favorable implicit attitudes toward ethnic minority students than toward ethnic majority students (Costa et al., 2021). Explicit attitudes are often assessed with self-report measures (Sritharan and Gawronski, 2010); implicit attitudes, however, are calculated from response latencies on tasks involving indirect measurement methods (Wittenbrink and Schwarz, 2007). As participants are required to evaluate stimuli as quickly as possible on such measures, deliberative processing is prevented (Denessen et al., 2020). Thus, implicit measures are less confounded with social desirability and can give deeper insights into the relationships between attitudes and students' ethnicity.

The most prominent method for accessing implicit attitudes is the *Implicit Association Test* (IAT; Greenwald et al., 1998), which is used to calculate participants' reaction times as they make cognitive associations. When applied to teachers' implicit attitudes, it is assumed that teachers are quicker to assign positive attributes to ethnic majority students and negative attributes to ethnic minority students, the more strongly these concepts are cognitively linked (Costa et al., 2021). Hence, if the targets and attributes are strongly linked, the response latencies are shorter (Greenwald et al., 1998). The IAT has acceptable reliability (Hofmann et al., 2005) and validity (Greenwald et al., 2009) and has often been found to be superior to other implicit measures (Teige et al., 2004). However, despite its widespread use, the IAT has been criticized for producing measurement artifacts because it is assumed to be affected by non-associative influences, such as perceptual similarity, familiarity, or participants' task-switching abilities (see Rothermund and Wentura, 2010; Johnson et al., 2021, for detailed overviews), resulting in substantial effects even when there is a lack of cognitive association between two concepts (Rothermund and Wentura, 2010). The same fundamental problems (Rothermund and Wentura, 2010) also affect the *Brief Implicit Association Test* (BIAT; Sriram and Greenwald, 2009), which is a shortened version of the IAT but is also quite different from the original IAT. In the original version of the IAT, all four combinations of targets and attributes are explicitly combined together (i.e., ethnic minority students and pleasant; ethnic minority students and unpleasant; ethnic majority students and pleasant; and ethnic majority students and unpleasant). By contrast, on the BIAT, only two of the combinations are explicitly combined, and the corresponding items are categorized with one computer key. The other two combinations are not explicitly mentioned, and the items in these categories are sorted using the other computer key. The greatest difference is that the focal categories are displayed on the screen, whereas the other categories are not displayed at all. The reliability and validity of the BIAT are acceptable (Sriram and Greenwald, 2009; Nosek et al., 2014).

Another promising measurement method, which also relies on the association between two concepts, but considers the extent to which two concepts are related, is the *Implicit Relational*

Assessment Procedure (Barnes-Holmes et al., 2006). In the IRAP, participants are required to make congruent (e.g., ethnic minority students and good: different; ethnic minority students and bad: same) or incongruent (ethnic minority students and good: same; ethnic minority students and bad: different) responses. Results on the reliability and validity of the IRAP range from poor to moderate (Drake et al., 2015; Meissner et al., 2019; Sereno et al., 2021), but this measure is still in its infancy. Nonetheless, whereas the IAT and BIAT can access only relative attitudes (e.g., attitudes toward ethnic minority students relative to ethnic majority students), the IRAP is supposed to measure a person's absolute attitude toward a target (e.g., an ethnic minority student) as positive, negative, or neutral (O'Shea et al., 2016). Given that the IAT is usually used in the educational context, and to exclude artifacts due to the method, we employed all three implicit attitude measures—the IAT, BIAT, and IRAP— to investigate the combined effects of implicit attitudes and causal attributions on judgments.

CAUSAL ATTRIBUTIONS IN THE EDUCATIONAL CONTEXT

Causal attributions provide teachers with explanations about students' academic achievements (Reyna, 2000), and teachers' reactions are determined by what they attribute their students' successes or failures to (Reyna, 2008). According to Weiner's attributional theory, these causes can be internal or external as well as variable or stable (Weiner, 2000). For a student with successful academic achievement, an internal attribution may involve high abilities as a stable cause or effort as a variable cause (Weiner, 2000), whereas an external attribution may involve a teacher's own educational practices as a stable explanation or luck as a variable explanation (H. Wang and Hall, 2018). The attribution can differ for success and failure and can be located either in (1) internal/stable aspects, such as low or high intelligence, (2) internal/variable aspects, such as high or low effort, (3) external/stable aspects, such as students' parental support, or (4) external/variable aspects, such as task easiness or difficulty. Overall, teachers primarily attribute student failure to factors that are internal to the students, such as a lack of attention, motivation, or effort, and seldom to external/ variable aspects concerning lesson difficulty or instructional quality (Wang and Hall, 2018).

Teachers' attributions differ depending on ascriptive aspects of the students, such as students' ethnicity (Reyna, 2000, 2008; Wang and Hall, 2018). In sum, studies have provided evidence that teachers tend to attribute academic success more to internal/ variable factors (e.g., effort) for ethnic minority students in comparison to ethnic majority students. Teachers also tend to take external factors (e.g., their own teaching practices) into consideration to a greater extent when making attributions about ethnic minority students' successful performances (Wang and Hall, 2018). But when ethnic minority students perform poorly, teachers tend to attribute failure primarily to internal, mostly stable causes and often neglect external aspects (Reyna, 2008). Such causal attributions may also affect teachers' judgments

of students' performance. Likewise, if the failure of an ethnic minority student is attributed primarily to internal stable factors, the students' competence is judged less favorably by preservice teachers (Glock and Kleen, 2021).

Another important aspect seems to be teachers' assignment of high or low ability to a student (Wang and Hall, 2018). When teachers believe that a student has high ability, a failure is more likely to be attributed to external or unstable factors, such as task difficulty or low effort, whereas the failure of a low ability student would be attributed to low aptitude and thereby to internal stable factors (Reyna, 2000). Although attributions to unstable and therefore fluctuating causes should be more motivating for the students because they leave room for improvement in the future, teachers rarely attribute students' failures to difficulty with lessons or poor instructional quality (Wang and Hall, 2018). Thereby, teachers' attributions for student performance tend to be in line with teachers' pre-existing expectations about students' ability levels (Reyna, 2000), resulting in different attributions for students who are labeled high versus low achievers (Wang and Hall, 2018). The findings that ethnic minority students often perform poorly on academic tasks and are usually believed to have low ability (Reyna, 2000) reflect the fundamental attribution error (Ross, 1977) regarding ethnic minority students because teachers overestimate the role of dispositional factors and underestimate situational aspects when dealing with low performance (Wang and Hall, 2018). Indeed, previous studies have shown that teachers tend to rely on expectation-confirming information when judging ethnic minority students; that is, judgments about ethnic minority students were negatively biased when these students showed the low performance levels that were expected of them (Glock and Krolak-Schwerdt, 2013; Glock, 2016). This fundamental attribution error can have far-reaching effects on subsequent teachers' classroom behavior, such as either encouragement or criticism directed toward such students (Wang and Hall, 2018). Taken together, teachers' causal attributions reveal their beliefs regarding the reasons for their students' academic achievement in terms of success and failure and can influence teachers' expectations. When teachers make judgments about the low performance of ethnic minority students, a locus of causality on internal aspects seems to be predominant. The stability dimension plays an especially important role in expectations of future behavior (Reyna, 2008) and may therefore serve as a critical aspect for teachers, for example, when they make recommendations about which school track is appropriate for a student.

Causal attributions, implicit attitudes, and judgments can be brought together in the two-stage model of dispositional attributions (Trope, 1986), which assumes judgments as being based on an automatic process and on situational categorization. For the automatic process, the person's group membership (Gawronski and Creighton, 2013) is relevant, which is also related to attitudes. In particular, implicit attitudes are activated by a person's group membership (Fazio, 2001). During situational categorization, both internal and external causal attributions come into play, as people often infer internal causes of behavior (Uleman et al., 1996) and also consider situational constraints

(Trope, 1986). Based on this model, teachers' implicit attitudes toward ethnic minority students as well as their causal attributions regarding ethnic minority students' achievements may play an important role in ethnic minority students' disadvantages in school. Concurrent with this assumption, research showed that preservice teachers with more negative attitudes toward ethnic minority students and a tendency to attribute academic failure to internal stable factors made less favorable judgments about ethnic minority students' competence (Glock and Kleen, 2021).

Accordingly, in the present study, we assessed teachers' implicit attitudes toward ethnic minority students with three different measures, and we directly asked teachers to reflect on a particular scenario about a student's failure. We assessed their causal attributions for the student's low academic performance in the different main school subjects mathematics and German language proficiency as well as the student's failure to get recommended for the highest school track. We expected that teachers with more negative implicit attitudes and more internal attributions of the student's failures would judge the student as lower in academic achievement and lower in intelligence.

MATERIALS AND METHODS

Participants

The 73 participating preservice teachers (58 women) were all in the master of education program at the university. On average, they were 24.74 (SD = 3.85) years old and had been teaching for an average of 30.22 weeks (SD = 46.02). Most of the preservice teachers (41.10%) focused on primary school. The focus of the remaining preservice teachers was unevenly distributed across the different secondary school tracks (30.13% focused on the highest school track; 13.70% on the lower secondary school tracks; 10.96% on vocational school). We had no information about participants' ethnic minority background.

Materials

Implicit Attitudes Tests

For each of the implicit tests, we implemented the same stimuli. We used six names, which indicated no ethnic minority background (Niklas, Leonie, Tim, Jonas, Emma, Marie), and six names, which implied an ethnic minority background (Cem, Erkan, Gökhan, Salim, and Elif, Filiz). We also employed six positive (lovingly, warm, fair, honest, funny, and helpful) and six negative adjectives (harsh, toxic, lying, ruthless, two-faced, venally).

Causal Attributions

We compiled a questionnaire on causal attributions for the missing educational success of ethnic minority students. We used the classical four dimensions as proposed by Weiner (2000) and additionally separated the causal attributions for students' low achievement in Mathematics, German, and for their failure to be recommended for the highest school track (see **Table 1** for all items of the different dimensions and Cronbach's alpha for the subscales).

TABLE 1 | Items of the causal attributions questionnaire and Cronbach's alphas for the four Weiner's dimensions.

Dimension	Items	Cronbach's alpha
Internal stable attributions		0.83
	Murat is achieving low in the Mathematics because…	
	…he has low intellectual abilities	
	…he has a low numerical understanding	
	…he has a low ability for spatial reasoning	
	Murat is achieving low in German because…	
	…he has low intellectual abilities	
	…his vocabulary is limited	
	…he has a low knowledge of the grammar	
	Murat is not receiving a recommendation for the highest school track, because…	
	…he has low intellectual abilities	
	…he hast low language proficiency	
	…he has low mathematical aptitude	
Internal variable attributions		0.84
	Murat is achieving low in Mathematics because…	
	…he does not invest much effort	
	…he has not learned enough	
	…he does not participate in the lessons	
	Murat is achieving low in German because…	
	…he does not invest much effort	
	…does not have enough practice in speaking German	
	…he avoids speaking German	
	Murat is not receiving a recommendation for the highest school track because…	
	…he does not invest much effort	
	…he is not motivated	
	…he does not work thoroughly enough	
External stable attributions		0.88
	Murat is achieving low in Mathematics because…	
	…his parents deem Mathematics as less important	
	…his parents are not able to help him with his Math problems	
	…his parents cannot effort additional learning materials	
	Murat is achieving low in German because…	
	…his parents are not very fluent in German	
	…his parents deem speaking German as not important	
	…his parents cannot effort books	
	Murat is not receiving a recommendation for the highest school track because…	
	…his parents are not familiar with the German school system	
	…his parents are not able to sufficiently support him	
	…his parents are familiar with the values of the different secondary school types	

(Continued)

TABLE 1 | Continued

Dimension	Items	Cronbach's alpha
External variable attributions	*Murat is achieving low in Mathematics because…* …he cannot well understand story problems in Mathematics …if he can freely choose the tasks, he always chooses too difficult tasks …he is often underestimated because of the teachers' conceptual formulation *Murat is achieving low in German because…* …essays and dictations are difficult for him …the task selection is too one-sided …he is often underestimated because of the teachers' conceptual formulation *Murat is not receiving a recommendation for the highest school track because…* …he cannot develop adequately due to the low task difficulty …if he can freely choose the secondary school track, he chooses the lowest track …the recommendation for the secondary school track does not mirror his actual achievement	0.74

The means of the Weiner' subscales were calculated using nine items, of which three referred to the achievement in mathematics, three to the achievement in German, and three to the failure of receiving a recommendation for the highest school track.

Student Vignette

We used the same student vignette as in previous research (Glock and Kleen, 2019). Within this vignette, a student named Murat is described as low achieving, not very motivated, and showing working and learning habits which are at a low level.

Judgment Dimensions

For the judgment of language proficiency, we averaged the mean across the judgments of grammar, orthography, language, and reading comprehension (Cronbach's $\alpha = 0.89$). The other judgment dimensions were intelligence and mathematics, which were both assessed with single items.

Demographic Questionnaire

We compiled a demographic questionnaire assessing participants' age, gender, the school type they majored for, and their teaching experience in weeks.

Procedure

The study was conducted as an online study. The link was distributed in the preservice teachers' courses at the university

and *via* personal contact. The participants first gave informed consent and were informed that the study was about how preservice teachers perceive students from ethnic minorities and ethnic majorities. Then, the three different implicit attitude tests were administered in a random order. In the following, we describe one of the original orders, beginning with the description of the IRAP. First, participants were instructed that they would be presented with positive and negative adjectives as well as with names that would indicate either an ethnic minority or an ethnic majority background. They were informed that their task was to decide whether the names and adjectives were similar in valence. The valence of the names was presented as a rule for each block and changed at random. Hence, there were three blocks in which the rule was that ethnic minority names were paired with negative adjectives and ethnic majority names were paired with positive adjectives. In these blocks, the participants were asked to press the "I" button for "similar" when ethnic majority names appeared with positive words and when ethnic minority names appeared with negative words. When the other two combinations appeared (i.e., when ethnic minority names were paired with positive words and ethnic majority names were paired with negative words), participants were asked to press the "E" key for "different." In the three additional blocks, the rule was changed (please see **Figure 1** for details).

Hence, in these blocks, ethnic minority names were paired with positive adjectives and ethnic majority names with negative ones. For each combination of the blocks, a practice block of 15 trials preceded the two test blocks, which consisted of 30 trials each. For each participant, the assignment of the keys and the ordering of the blocks was randomized.

The next implicit test was the IAT. The IAT began with the categorization of the positive and negative words into the categories "pleasant" and "unpleasant" using the "E" and the "I" keys on the keyboard. After this, the participants were asked to use the same two keys to categorize the ethnic minority and majority names into the categories "ethnic minority student" and "ethnic majority student." In the compatible combination of the two tasks, the participants sorted ethnic minority names and unpleasant words using the same key (e.g., the "E" key) and ethnic majority names and pleasant words using the other key. After this combination, the categories "ethnic minority students" and "ethnic majority students" switched sides of the computer screen along with the corresponding key. With this reversed and incompatible combination, participants now sorted ethnic minority students and positive words using one key and ethnic majority students and negative words using the other key (please see **Figure 2** for details).

Overall, participants worked on 20 practice and 30 test trials for each combination. We shortened the numbers of trials in order to keep the time for the implicit tests to a minimum. For each participant, the assignment of the keys and the ordering of the compatible and incompatible blocks were randomized.

As the last implicit attitude test, the BIAT was administered. This test used the same categories as the IAT, but in each block, there were focal categories. For instance, in compatible

blocks, the focal categories were "ethnic minority students" and "unpleasant," and the non-focal categories were "ethnic majority students" and "pleasant." Hence, even though during instruction, only the focal categories were mentioned as a rule, the items from the non-focal categories also appeared and had to be sorted. In the compatible blocks, the focal categories also changed, so the categories "ethnic minority students" and "pleasant" were the focal categories, whereas the other two categories became non-focal. In the incompatible blocks, the pairing was switched so that "ethnic minority students" and "pleasant" were focal and "ethnic majority students" and "unpleasant" were non-focal. In these compatible blocks, the roles of the focal and non-focal categories were also switched. Participants used the "E" and the "I" keys to indicate the focal and non-focal categories. The assignment of the keys changed for each participant as well as the ordering of the blocks. The practice blocks consisted of 12 trials for each of the compatible and incompatible combinations and 40 test trials in each block combination (please see **Figure 3** for details).

When the participants had finished all the implicit tests, the student vignette was presented. Participants were asked to read it carefully, and afterwards, they were asked to judge the student's language proficiency, mathematics ability, and intelligence on a 7-point Likert scale ranging from 1 (*low*) to 7 (*high*). Following this, participants were given the causal attributions questionnaire. On a scale ranging from 1 (*fully disagree*) to 5 (*fully agree*), they indicated their agreement with the statements, which all related to the particular student they read about in the vignette. In the end, participants were thanked and debriefed.
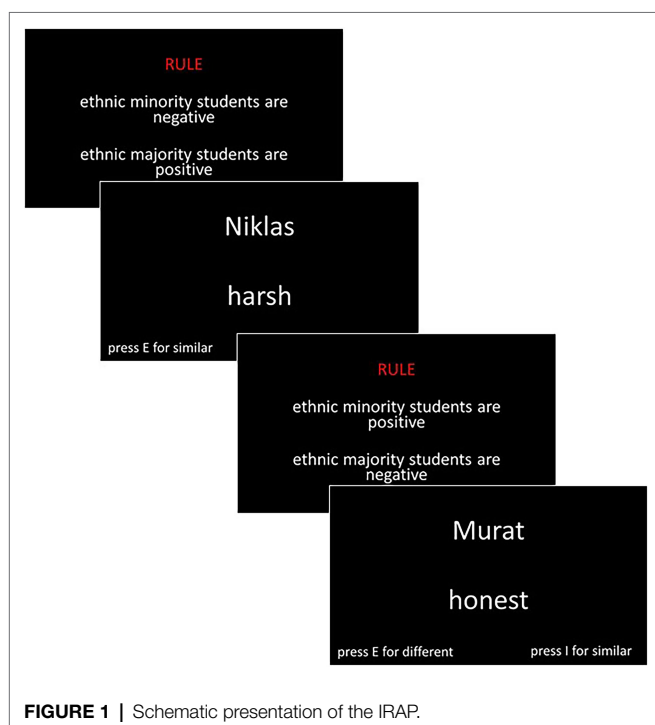

FIGURE 1 | Schematic presentation of the IRAP.
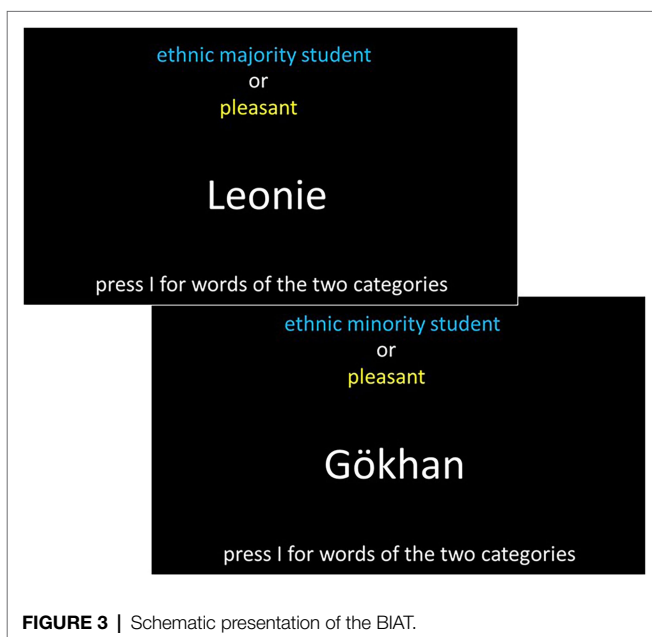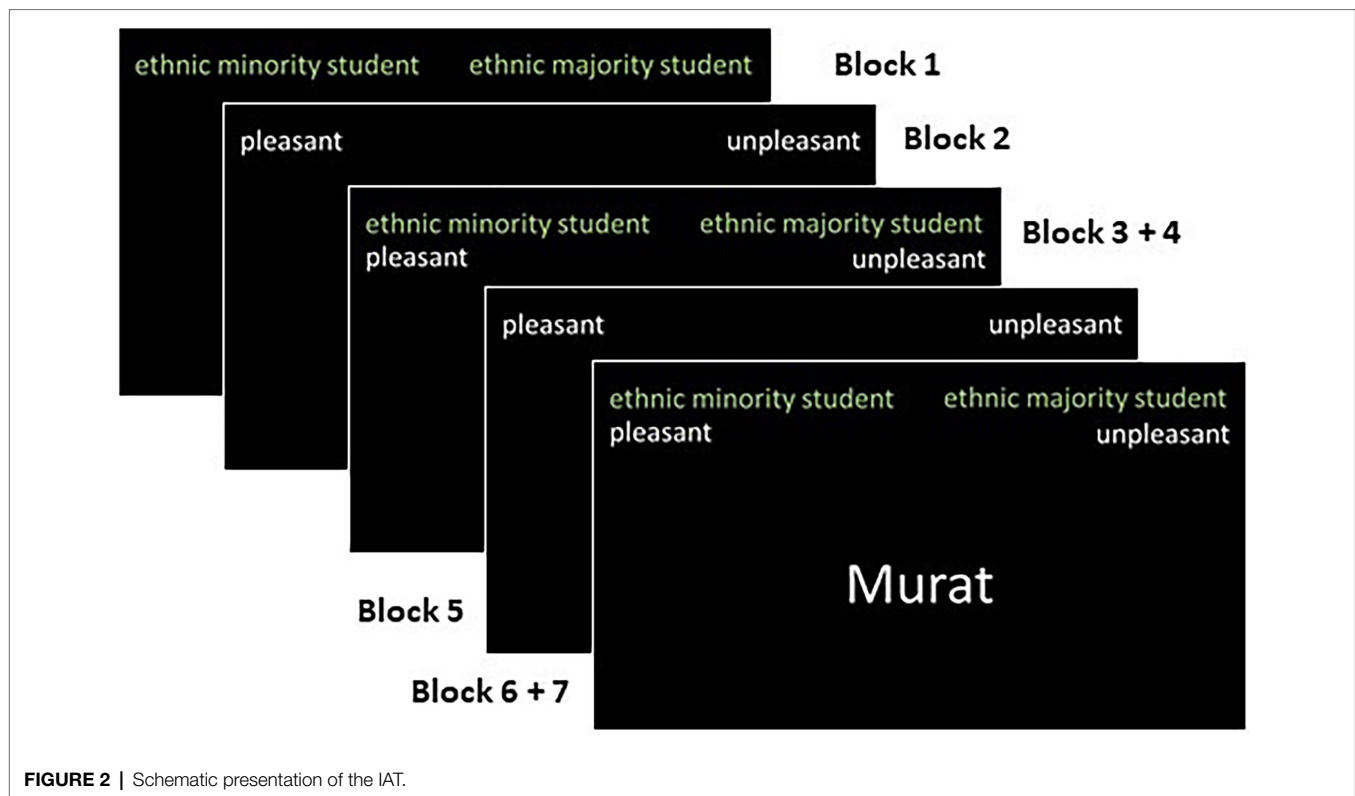
RESULTS

Statistics

For all the implicit tests, we calculated scores for the implicit attitudes according to the scoring algorithm proposed by Greenwald et al. (2003). First, extreme responses are excluded, that means responses that were longer than 10 s or shorter than 300 ms. If more than 10% of trials had to be deleted for one participant, this participant was excluded from further analysis. The error latency was replaced with the block mean of correct responses plus a penalty which was computed by the averaged standard deviation of correct responses added to the response time for the incorrect response. To obtain the D-score, the difference between the average response latencies between the two contrasted conditions, compatible and incompatible trials, was calculated including both the practice and the test trials. Those scores were then divided by their respective pooled standard deviations. The quotients for the two trials were averaged, representing the D-score, which indicates the strength and direction of participants' implicit association. The D-score is interpreted such that positive values indicate more negative implicit attitudes toward ethnic minority students. For the implicit measures, it is possible to investigate the nature of the attitudes using a one-sample t-test, in which the D-score is tested against a score of 0, which indicates neutral attitudes. In the following, the D-score, one-sample t-test statistics, and Cohen's ds effect sizes are reported.

Descriptive Results

Because of the very low reliability of the IAT, we excluded this implicit measure from further analyses. For the reliability of the three tests (BIAT, IRAP, and IAT), we calculated the correlation of each test's test and practice scores as recommended by Greenwald et al. (2003). The internal consistencies for the three measures were $r = 0.79$ for the BIAT, $r = 0.70$ for the IRAP, and $r = 0.26$ for the IAT. We first calculated the means and the standard deviations for all the dependent measures and computed the intercorrelations (see **Table 2** for the correlations).

Not surprisingly, students who received higher judgments of their mathematics ability from the preservice teachers were also rated as more intelligent. The more the participants endorsed internal stable attributions, the more they agreed with the remaining three attributional subscales. However, not each attributional dimension was correlated with the others. The two external subscales were correlated with each other but not with the internal variable dimension. Interestingly, the two implicit measures were negatively correlated, indicating that the more negative the implicit attitudes on the BIAT were, the more positive the implicit attitudes on the IRAP were.

For the BIAT, implicit attitudes were negative ($M = 0.23$, SD $= 0.34$), $t(72) = 5.82$, $p < 0.001$, $d = 0.67$, as they were for the IRAP ($M = 0.09$, SD $= 0.34$), $t(71) = 2.31$, $p = 0.024$, $d = 0.26$.

FIGURE 2 | Schematic presentation of the IAT.

FIGURE 3 | Schematic presentation of the BIAT.

We computed one-sample t-tests for the causal attributions and compared the means with 3 as the middle of the scale. The participants made lower internal stable ($M = 2.56$, SD $= 0.70$), $t(71) = 5.35$, $p < 0.001$, $d = 0.63$, and external variable attributions ($M = 2.52$, SD $= 0.80$), $t(71) = 5.03$, $p < 0.001$, $d = 0.60$. They made higher internal variable attributions ($M = 3.31$, SD $= 0.82$),

$t(71) = 3.19$, $p = 0.002$, $d = 0.38$. The external stable attributions were near the middle of the scale ($M = 2.93$, SD $= 0.62$), $t(71) = 0.92$, $p = 0.36$, $d = 0.11$.

Multiple Regression Analysis

In order to predict the judgments with attitudes and causal attributions as suggested by the two-stage model of dispositional attributions (Trope, 1986), we conducted three different multiple regression analyses (see **Table 3**). Because of the relatively high intercorrelations of the predictors, we checked for multicollinearity, which was not a problem. All VIF values were below 10 as suggested by Field (2018).

The judgments of German language proficiency were significantly predicted by internal stable causal attributions ($\beta = -0.60$, $p < 0.05$). More specifically, the more the preservice teachers thought that the ethnic minority student's lower success in school was due to the student's internal variable causes, the lower they judged the student's language proficiency. The more negative the participants' implicit attitudes toward ethnic minority students were when assessed with the IRAP, the lower the participants judged the German language proficiency of the student.

The judgments of intelligence were significantly predicted by external stable attributions ($\beta = 0.37$, $p < 0.05$). The more the preservice teachers indicated that they believed that the student's failure in the educational system was due to external stable reasons (e.g., the parents), the higher they judged the student's intelligence. Moreover, the more positive the preservice

teachers' implicit attitudes were when assessed with the IRAP, the lower they judged the student's intelligence.

The judgments of mathematics ability were not predicted by any of the independent variables.

DISCUSSION

The results of this study demonstrate that preservice teachers' implicit attitudes as well as their attributions of ethnic minority students' low success in education play a role when judging an ethnic minority student's scholastic achievements. However, this finding did not hold for all three of the judgment dimensions, and furthermore, only the IRAP, but not the BIAT, predicted preservice teachers' judgments. This is especially interesting because the two measures, even though they are implicit, do differ, which could be important for future studies and might provide some first indications of (preservice) teachers' judgment processes. The BIAT is relative in nature because, even though not every combination of categories is focal, the related stimuli still appear and still need to be sorted. This means that statements about one category (e.g., ethnic minority students) should always be viewed in relation to the other category, in this case ethnic majority students. For the IRAP, however, combinations were fixed, and participants were not required to discriminate between ethnic minority and ethnic majority students but were instead asked to react to the presented combinations. Comparing the IRAP and the BIAT in this study, participants sorted items on the BIAT, whereas they judged combinations as similar or different on the IRAP. Therefore, it has been suggested that the IRAP is a measure that is less relative than the BIAT or IAT and assesses beliefs instead of associations (Gawronski and De Houwer, 2014). Even though the lower relativity of the IRAP might not hold in this study because we also applied the scoring algorithm to the IRAP measures, the suggestion that it captures beliefs (Barnes-Holmes et al., 2006) might still have led to the different influences of the results of the two indirect measures. For example, evaluating ethnic minority students and negative adjectives as similar might even more precisely represent implicit beliefs about ethnic minority students than when participants only had to sort words, but no evaluation of similarity had to be given. This might be why the IRAP, but not the BIAT, predicted the

judgments. In this respect, the IRAP could be a promising implicit method to use in future studies on (preservice) teachers' implicit attitudes. However, these inferences are speculative and should be more deeply investigated in future research, particularly given the initial indications of only moderate reliability (Gawronski and De Houwer, 2014). Nevertheless, and despite the fact that the IAT could not be considered in the analyses, this is the first study (1) to compare the IRAP and the BIAT in relation to preservice teachers' attitudes toward ethnic minority students and (2) to use these implicit measures as predictors of preservice teachers' judgments of ethnic minority students' achievements. However, more research is needed using more than one implicit measure to investigate how these are interrelated. Often, different implicit measures do not correlate (Payne et al., 2008; Glock and Karbach, 2015), which also shows that different measures tap into different automatic constructs.

Even though the ethnic minority student was performing low in both German language proficiency and mathematics, only the judgment of German language proficiency was predicted by preservice teachers' causal attributions and implicit attitudes. Internal stable attributions of low success in school and more negative implicit attitudes led to lower language performance ratings. The internal attributions are in line with previous research (Froehlich et al., 2016; Glock and Kleen, 2021), but the separate consideration of internal variable and internal stable attributions is new and is especially interesting as previous research showed that ethnic minority students' language problems were often attributed to low effort (Agirdag et al., 2014) and thus to internal variable attributions. In the current study, the preservice teachers attributed the ethnic minority student's German language proficiency to the student's ability. Such attributions can have disadvantageous consequences for ethnic minority students; for example, when teachers adjust their feedback to the students accordingly but fail to recognize that feedback is more beneficial for students when the teacher attributes a student's achievement to internal variable reasons (Hattie and Timperley, 2007). One explanation for this result—especially because internal stable attributions predicted only German language judgments but not mathematics ability or intelligence judgments—could be that ethnic minority students are often viewed as having low levels of performance in German (e.g., Bonefeld and Dickhäuser, 2018; Kleen and Glock, 2018a)

TABLE 2 | Correlations between the different dependent variables.

S. No.	Variable	1	2	3	4	5	6	7	8	9
1.	Intelligence	1	0.23	0.41*	−0.21	−0.15	0.20	0.05	0.16	0.13
2.	Language		1	0.10	−0.43*	−0.11	0.08	−0.07	0.09	−0.26*
3.	Mathematics			1	0.03	−0.12	−0.28*	0.25*	0.16	0.11
4.	Internal stable				1	0.50*	0.34*	0.54*	−0.11	0.02
5.	Internal variable					1	0.22	0.19	−0.07	−0.01
6.	External stable						1	0.70*	0.00	−0.14
7.	External variable							1	−0.05	−0.11
8.	BIAT								1	−0.25*
9.	IRAP									1

*BIAT, Brief Implicit Association Test; IRAP, Implicit Relational Assessment Procedure. *p < 0.05.*

TABLE 3 | Summary of the multiple regression analyses with implicit attitudes, the four dimensions of causal attributions as predictors and the judgment dimensions as criteria.

Predictor	B	95% CI for B		SE B	B	R²
		LL	UL			
Language proficiency						0.30
Internal stable	−0.83*	−1.24	−0.43	0.20	−0.60*	
Internal variable	0.15	−0.14	0.447	0.15	0.13	
External stable	0.24	−0.24	0.72	0.24	0.15	
External variable	0.12	−0.30	0.53	0.21	0.10	
BIAT	−0.09	−0.73	0.54	0.32	−0.03	
IRAP	−0.65*	−1.28	−0.13	0.32	−0.22*	
Mathematical ability						0.19
Internal stable	−0.04	−0.50	0–42	0.23	−0.03	
Internal variable	−0.21	−0.54	0.12	0.17	−0.17	
External stable	0.43	−0.11	0.97	0.27	0.26	
External variable	0.18	−0.29	0.64	0.23	0.14	
BIAT	0.59	−0.13	1.30	0.36	0.19	
IRAP	0.64	−0.07	1.36	0.36	0.21	
Intelligence						0.20
Internal stable	−0.36	−0.81	0.10	0.23	−0.24*	
Internal variable	−0.11	−0.44	0.22	0.17	−0.09	
External stable	0.61*	0.07	1.15	0.27*	0.37*	
External variable	−0.06	−0.52	0.40	0.23	−0.05	
BIAT	0.57	−0.14	1.23	0.36	0.19	
IRAP	0.69+	−0.03	1.40	0.36+	0.23+	

BIAT, Brief Implicit Association Test; IRAP, Implicit Relational Assessment Procedure. *p < 0.05. +p = 0.05.

and low German language proficiency (Kahraman and Knoblich, 2000; Bonefeld and Karst, 2020). Furthermore, in past decades, German language proficiency has not increased as much for Turkish students as for other ethnic minority students (Müller and Stanat, 2006) and tends to be worse for Turkish students compared with other ethnic minority students from kindergarten to university (Olczyk et al., 2016). Hence, low language proficiency could be seen as a stable, especially for Turkish students.

In addition to the internal stable attribution, implicit attitudes predicted German language judgments in that more positive implicit attitudes predicted higher German language judgments. The correlation between German language judgments and implicit attitudes was not found in a previous study (Glock and Kleen, 2021). However, this previous study used the IAT as the implicit measure, which cannot easily be compared with the BIAT or the IRAP. Interestingly, we found a completely different pattern regarding the predictive value of implicit attitudes for the judgments of students' intelligence. More positive attitudes, as measured with the IRAP, were related to lower intelligence ratings. Additionally, ethnic minority students' intelligence was judged as higher when participants attributed school failure to external stable reasons, for example, to the parents. Even though the latter might be plausible, such a result for implicit attitudes was unexpected. Perhaps this finding was a result of justification processes (Crandall and Eshleman, 2003) in the sense that more positive implicit attitudes might lead to a lower influence of social norms, and participants might be more likely to reveal their actual opinions about the student's intelligence. Especially because information about mathematical and language proficiency was included in the

student vignette but no information was given about intelligence, participants' intelligence judgments may have been based on inferences that went beyond the given information. Therefore, the influence of implicit attitudes might have been different because the amount of information can affect the nature of the relationships between attitudes and judgments (Brewer, 1996; Gawronski and Bodenhausen, 2006). However, this is highly speculative and needs to be further validated in the future.

Furthermore, neither internal/external attributions nor implicit attitudes predicted preservice teachers' judgments of students' mathematical ability. This finding is—with the exception of external attributions—contradictory to findings from previous research (Glock and Kleen, 2021). One explanation for the diverging results could be the different ways in which preservice teachers' judgments were assessed. Whereas they were previously assessed with a semantic differential, a vignette describing the student was used in the current study. Hence, the additional information about the students' mathematical abilities might have provided the participants with data to base their judgments on. More information about a person can hinder the influence of categorical thinking (Brewer, 1996) and might explain these results. That this was only true for the judgment of mathematical ability might reflect stereotypes about ethnic minority students. Mathematics is not as strongly associated with stereotypes of ethnic minority students as German language proficiency is (Bonefeld et al., 2021), hence leaving less room for the impact of attitudes and stereotypical causal attributions.

Our results also have educational implications. The awareness of these stereotypical causal attributions and a training to incorporate more external and particularly, variable rather than

stable attribution styles might help teachers to overcome the assumptions, that low language proficiency is a stable factor for Turkish students. Experimental studies show, that people can be encouraged to see capacities, such as intelligence as modifiable instead of determined (Aronson et al., 2002) and attribute academic difficulties rather to external causes (Good et al., 2003). Even mental rotation as a facet of intelligence can be trained (Moè, 2016) and teacher motivation is one key element in the training of students (Moè and Katz, 2021). Therefore, language proficiency can be seen as a malleable ability, which can be changed by external factors, such as a more adaptive education style by teachers to Turkish students. Hence, when teachers provide different learning materials for Turkish and German students, the reason for insufficient language proficiency and therefore failure might no longer be seen as an internal stable variable. Teachers could be trained to believe that ethnic minority students can succeed and that their educational style has a higher impact than they expect it to be. The same training might be offered to the students as studies have shown that the awareness of negative stereotypes can influence the performance of students in a detrimental way, which is known as stereotype threat (Steele and Aronson, 1995). Thus, ethnic minority students might suffer in their performance when negative stereotypes about them as a group are salient.

LIMITATIONS

In the analyses, the IAT had to be excluded due to low internal consistency. One reason for the low internal consistency could be the reduced number of trials. In comparison with other studies (e.g., Glock and Kovacs, 2013; Kleen and Glock, 2018b; Glock and Kleen, 2020) in which the reliability was higher, this IAT was shortened because participants were administered three different implicit measures. In future research, it might be beneficial to employ the complete IAT because a version with a smaller number of trials seems to reduce its reliability.

Another limiting aspect could be the choice of participants, as we only asked preservice teachers for participation. Even though a meta-analysis showed that there are no differences between preservice and in-service teachers when it comes to implicit attitudes (Pit-ten Cate and Glock, 2019), it would be of interest to investigate to which extent preservice and in-service teachers differ regarding their causal attributions. This is especially important, as teachers often see internal factors of students as responsible for those students' scholastic failure instead of, for example, factors that teachers can influence (Wang and Hall, 2018). In future research, we might also differentiate between mathematics and German language as the main school subjects. This might be of particular interest as primary school teachers are required to teach both subjects, which would allow us to hold the teacher constant across the school subjects.

Furthermore, this study did not include judgments about German students. Future studies should include a vignette about a German student as a comparison. To our knowledge,

(preservice) teachers' judgments about ethnic minority versus ethnic majority students' scholastic achievements have not yet been comparatively analyzed using teachers' attributions in addition to their implicit attitudes. Another study employed a semantic differential with Turkish compared with German students as poles (Glock and Kleen, 2021), but this previous study did not use such a vignette like we did in the current study (or judgments based on a vignette). Particularly because judgments of Turkish versus German students have been shown to be different (Glock, 2016; Bonefeld and Dickhäuser, 2018; Kleen and Glock, 2018a), it would be of great interest to obtain more information about predictors of (preservice) teachers' judgments. Relatedly, the socio-economic background of the student should also be investigated, as research has shown than students from families with low socio-economic status are also vulnerable to get stereotyped (Dunkake and Schuchart, 2015; Glock and Kleen, 2020).

In line with the lack of a vignette about a German student, (preservice) teachers' attributions have also only been investigated for ethnic minority students in this kind of research to date. Future research should include ethnic majority students. As ethnic minority students are often a negatively stereotyped group (Reyna, 2008), attributions of educational success or failure can be different for ethnic minority versus ethnic majority students. Thus, such potential differences should be explored in more detail. So far, to our knowledge, no study has examined (preservice) teachers' attributions of German students' educational failures in contrast with Turkish students' educational failures. Moreover, because research has shown differences in attributions of failure and success between high- and low-achieving students (Wang and Hall, 2018), it might also be of great interest to ask preservice teachers about their causal attributions for the high academic achievement of an ethnic minority student.

Last but not least, we only focused on attitudes toward and attributions as well as judgments of Turkish students. Future research could also focus on investigations of teachers' implicit attitudes and especially their attributions of other ethnic minority students' school failure and success. As attributions are associated with stereotypes and as stereotypes differ for various social and ethnic groups (Fiske et al., 2002; Asbrock, 2010), attributions for the successes and failures of different groups might also vary. One example would be Asian students who are a high-achieving ethnic minority group (Walter, 2011) and are often viewed as hard-working (Lin et al., 2005). Hence, Asian students' success in school might be attributed to internal variable instead of internal stable attributions. Therefore, for instance, feedback could be more beneficial for this group and as a result may also contribute to their higher success in school because even though preservice teachers endorsed internal variable attributions more than they endorsed internal stable attributions for the Turkish students in the current study, the internal stable attributions predicted their judgments.

Despite these limitations, this is the first study to compare the IAT, BIAT, and IRAP as implicit measures and predictors of preservice teachers' judgments and the second to additionally

include preserve teachers' attributions of ethnic minority students' school failure. What is more, we categorized attributions into those that are internally stable and variable and those that are externally stable and variable and were therefore able to shed more light on teachers' attributional associations and judgment processes.

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Promoting Factors of Social Inclusion of Students With Special Educational Needs: Perspectives of Parents, Teachers, and Students

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The idea of inclusion in the sense of participatory access to educational opportunities is widely acknowledged and implemented within the pedagogical discourse. Nevertheless, ensuring social participation of students with and without special education needs in learning situations continues to be challenging. The present study examines promoting and hindering factors for social inclusion with a focus on students with special educational needs. Therefore, semi-structured interviews regarding students' (n = 12 students with SEN, 12 students without SEN), parents' (n = 24), and teachers' (n = 6 regular teachers, 6 special need teachers) perceptions of promoting educational characteristics that might influence students' inclusion in everyday school life are analyzed through thematic analysis. The findings provide a wide range of pedagogical interventions that have the potential to promote inclusive education processes on educational, intrapersonal, and interpersonal levels as well as regarding different actors who are involved.

Keywords: inclusive education, social inclusion, special educational needs, promoting factors, multiperspective approach

INTRODUCTION

Several researchers have pointed out that students labeled with special educational needs (SEN) experience a lack inclusion (Koster et al., 2009; Bossaert et al., 2013; Schwab, 2018b; Hassani et al., 2020). Additional studies have demonstrated that when compared to their peers, the wellbeing of students with SEN has reported being less (e.g., Skrzypiec et al., 2016; McCoy and Banks, 2017); whereas other studies could not find any evidence (e.g., Goldan et al., 2021). Nevertheless, there is a consensus that wellbeing is linked to self-esteem, happiness, and further social, emotional, and psychological outcomes (Allen et al., 2018), which are important indicators for inclusion (Gökmen, 2021). Transnational agreements (e.g., UNESCO, 1994; UN, 2006) have therefore urged policymakers to foster the inclusion of all students in mainstream schools. Yet, the concept of inclusion does not seem to be consistent or clearly defined in the literature (Nilholm and Göransson, 2017). Nilholm and Göransson (2017) conducted a review and classified different definitions of inclusion into four main types, namely, inclusion as (a) the placement of students

with SEN in mainstream classrooms; (b) meeting the social/academic needs of students with SEN; (c) meeting the social/academic needs of all students; (d) the creation of communities with specific characteristics (p. 441). For the proposes of the current paper, the concept of inclusion introduced by Felder (2018) is used, which emphasizes that inclusion consists of two interacting dimensions: the societal and the interpersonal. While the societal aspect refers to the larger social context, the interpersonal aspect refers to relationships built on interactions and emotions. Children and youth spend a considerable time of their life in school. Therefore, research and educational policy have by now acknowledged the necessity of school becoming a place where all students have the same chances (UNESCO, 2020) and feel included. Like the concept of inclusion also the concept of inclusive education, as a strategy to promote inclusion, is interpreted in various ways, thereby leading to different approaches in educational policy and practice. In the current study, inclusive education is understood as "(...) a systemic approach to education for all learners of any age; the goal is to provide all learners with meaningful, high-quality educational opportunities in their local community, alongside their friends and peers" (Watkins, 2017, p. 1). Therefore, the importance that "Inclusive schools (...) adapt the school environment to meet the needs of an individual student, rather than making the student fit in the school system" (Erten and Savage, 2012, p. 222) needs to be emphasized at this point. In Austria, where the current study was conducted, students with SEN attend so-called inclusive classes in mainstream schools or self-contained special schools. Schwab (2018a) provides an overview and notes that around 36% of students with SEN in Austria still attend the latter schools, which is a high number given the need for an inclusive approach in the school system. That said, about 64% of students with special educational needs attend inclusive classes, which in turn means that a closer look at their specific situation is needed.

A Framework for Inclusive Education

Even though past research has made considerable efforts to foster the inclusion of students with SEN, the measures to overcome these difficulties remain to be a challenge. Over the last decades, several studies have been undertaken to identify the components needed to build a framework for inclusive education to foster social inclusion. Little (2017) argues that in educational settings, it is important to offer opportunities that foster involvement and particularly encourage those students who have difficulties engaging with their peers in socially anticipated ways. These educational opportunities comprise different aspects such as social participation, students' sense of belonging to the school, and wellbeing (Hascher, 2017; Juvonen et al., 2019). Koster et al. (2009) reviewed past research and name *friendships/relationships, interactions/contacts, perception of the student with SEN,* and *acceptance by classmates* to be considered when speaking of social inclusion (see also Bossaert et al. (2013)). Previous research conducted by Janice et al. (2017) further highlights that in schools, "(a) goal setting and planning learning opportunities; (b) incorporating all young children in the classroom; (c) utilizing tiered models of support; (d) measuring and assessing inclusion;

and (e) training competent classroom teams and staff" (p. 59) play a crucial role in providing high-quality inclusion.

It is essential to note that inclusion still poses a challenge for all stakeholders in the educational system, and additional evidence is needed for the requirements for an inclusive school. These components promising a successful inclusion need to be defined by all people involved in the school system. For example, Schwab et al. (2019) conclude in their study that multiple perspectives are necessary when assessing and analyzing social participation since different actors have varying experiences and diverse views of the same situation. Hence, apart from teachers, students and their parents need to be involved in order to provide a comprehensive perspective that will allow designing a school that responds to all needs. With this understanding, the current paper takes these voices into account and asks students with and without SEN, their parents, and teachers about promoting factors of successful inclusion of students with SEN.

Conditions for Successful Inclusion: Role of Students, Parents, and Teachers

Lower social inclusion of students with SEN could take place owing to reasons ranging from educational factors such as class composition, inclusive didactics, and classroom practices to parents', teachers', and classmates' attitudes as well as individual factors such as students' wellbeing, school belonging and so forth. Allen et al. (2018), in their meta-analysis consisting of 51 studies, found evidence that individual factors such as teacher support (e.g., in learning processes), student characteristic (e.g., emotional stability and self-esteem), and micro-level factors such as peer and parent support strongly correlated with school belonging. School belonging, in turn, has an impact on psychological wellbeing (Jose et al., 2012).

Several studies have indicated that the relationships to teachers as well as classmates correlate strongly with the wellbeing domains (e.g., Moore et al., 2017). The importance of the student-teacher relationship for wellbeing was also confirmed by Littlecott et al. (2018) who conducted interviews with the teaching and support staff as well as with students and parents. In a mixed-method survey, Anderson and Graham (2016) showed that students reported that being respected, being listened to as well as having a say were linked to school wellbeing.

Peers' Role

In a systematic review Woodgate et al. (2020) state that peers named the presence of teacher assistants who spend time with students with SEN as well as dependence on parents (e.g., the necessity to accompany to e.g., leisure activities) as a barrier of inclusion. Furthermore, physical disabilities and emotional challenges of students with SEN were named as hindering factors for them to include their peers. However, also the peers' lack of knowledge in alternative communication skills and their friends influence toward students with SEN were discussed as additional barriers in building relationships with students with SEN. Following this, also the attitude of peers has to be named as an important factor. Several studies have shown its significant impact on the social inclusion of students with SEN (Vignes et al., 2009; De Boer and Pijl, 2016; Schwab, 2017). Therefore,

it is important to consider this aspect of peer relationships in inclusive classrooms, as negative attitudes displayed toward students with SEN can lead to poor social inclusion of the latter (Nowicki and Sandieson, 2002; Bossaert et al., 2011). Hellmich and Loeper (2019) also found empirical evidence that apart from contact, students' self-efficacy beliefs also predicted their attitudes. Positive attitudes can be fostered by actions such as promoting high-quality contact among students with and without SEN by engaging students in cooperative group activities (Keith et al., 2015; Schwab, 2017). This need was further highlighted in a systematic review by Garrote et al. (2017) who found empirical evidence that besides peer tutoring, interventions aiming to foster social interaction and cooperative learning, promote the social acceptance of students with SEN. Rademaker et al. (2020) further point out that in addition to contact, information on the topic of SEN is crucial to change students' attitudes.

Parents' Role

The role of parents, both those having children with or without SEN, regarding inclusive education and social inclusion must also be given attention. Past research showed that parents of students with SEN expressed ambivalent attitudes regarding inclusive education. Although they highlighted the advantages of inclusive education risks (e.g., students with SEN being excluded) were also articulated (De Boer et al., 2010; Gasteiger-Klicpera et al., 2013; Mann et al., 2016). Results of studies regarding the attitudes of parents of students without SEN were mixed. De Boer et al. (2010) conduced a review and showed that overall parents' attitudes were positive regarding the inclusion of students with SEN. Contrary, Schmidt et al. (2020) found in their study that parents of children with SEN were more inclined to inclusion and supposed more positive social effects and advantages for all students than parents of children without SEN. Albuquerque et al. (2019) showed that the latter parents indicated neutral attitudes toward inclusion. Beside these findings, also, the type of disability seems to play a role when it comes to inclusion. Studies have found that parents are more open to the inclusion of students with physical or learning disabilities than to the inclusion of those students with behavioral disorders and intellectual disabilities (see e.g., Paseka (2017), Waxmann Paseka and Schwab (2020)). These results are important since Hellmich et al. (2019) also showed that perceived parental behavior toward students with SEN also predicted peers' attitudes. Therefore the importance of parents' attitudes and behavior in the context of social inclusion has to be given attention.

Teachers' Role

In addition to peers and parents, teachers also play a crucial role in the social participation of students with SEN. In this sense, the role of classroom management also needs to be taken into consideration when aiming to include all students (Vollet et al., 2017). Farmer et al. (2019) point out that teachers need awareness and knowledge regarding classroom dynamics in order to create a classroom climate where all students help and cooperate with each other. Moreover, teacher-student relationships have been shown to impact peer relationships and students' feelings of belonging (Hendrickx et al., 2016; Henke et al., 2017; Van den Berg and Stoltz, 2018). Past research also found evidence that teachers' attitudes toward students with SEN and inclusive teaching practices also play an important role (Avramidis et al., 2019). Subsequently, teachers holding more positive attitudes are open to implement inclusive teaching practices (Hellmich et al., 2019; Wilson et al., 2019) and modify their teaching practices to ensure the inclusion of all learners (Monsen et al., 2014). Another outcome of past research is the role of feedback in social acceptance. For instance, it could be shown that positive and negative teacher feedback on both, behavior and academic performance, had an impact on peer acceptance (Bacete et al., 2017; Hendrickx et al., 2017; Wullschleger et al., 2020; Schwab et al., 2022). Teachers themselves emphasize the importance of early integration of students with SEN into kindergarten and preschool in order to foster contact and highlight that cooperation between parents and social workers is crucial. Concerning teachers, Schwab et al. (2019) state that pointing out not only similarities but also the uniqueness of students is crucial to avoid stigmatization and support participation.

Study

Given the assumption that inclusive educational processes are multifaceted and influenced by various stakeholders involved, the present study aims to highlight different perspectives related to students' inclusion in school. The main research question is as follows:

What promotes the inclusion of students with SEN into educational situations from teachers', students', and parents' perspectives who have an active relationship with inclusive educational settings (teaching in inclusive classes, attending inclusive classes, or being a parent of a student that attends an inclusive class)?

MATERIALS AND METHODS

Sample and Procedure

We conducted semi-structured face-to-face interviews with students, teachers, and parents of students in inclusive classes. The inclusion criteria for the sample were that there had to be at least two students with an official diagnosis of having SEN in class and the existing cooperation of a regular as well as a special needs teacher. Overall, six parents (mother or father) of students with SEN, six parents (mother or father) of students without special educational needs, six regular teachers, six special needs teachers, twelve students with SEN, and twelve students without SEN took part in the study. Out of the twelve students with SEN, seven students had learning disabilities (LD), three had hearing impairments (HI), and two students were diagnosed with autism (see **Table 1**).

The recruitment took place within a broader research project, ATIS STEP project (e.g., Schwab, 2018b). This project was supported by the Styrian Government [grant number: ABT08-247083/2015-34]. Ethical approval was given by the local school authority of Styria (Landesschulrat Steiermark). The interviewees have been chosen from six schools in Styria (a federal state of

TABLE 1 | Sample description.

Participant	Gender	Students' SEN (if applicable)	Participant	Gender	Students' SEN (if applicable)
Parent SEN 1	Female	autism	Student SEN 1	Male	LD
Parent SEN 2	Female	LD	Student SEN 2	Male	LD
Parent SEN 3	Male	LD	Student SEN 3	Male	LD
Parent SEN 4	Female	LD	Student SEN 4	Male	LD
Parent SEN 5	Female	HI	Student SEN 5	Male	LD
Parent SEN 6	Male	LD	Student SEN 6	Female	LD
Parent no SEN 1	Male	-	Student SEN 7	Female	LD
Parent no SEN 2	Female	-	Student SEN 8	Male	HI
Parent no SEN 3	Female	-	Student SEN 9	Male	HI
Parent no SEN 4	Male	-	Student SEN 10	Male	HI
Parent no SEN 5	Female	-	Student SEN 11	Male	autism
Parent no SEN 6	Female	-	Student SEN 12	Male	autism
Teacher special 1	Male	-	Student no SEN 1	Female	-
Teacher special 2	Male	-	Student no SEN 2	Female	-
Teacher special 3	Female	-	Student no SEN 3	Female	-
Teacher special 4	Male	-	Student no SEN 4	Male	-
Teacher special 5	Female	-	Student no SEN 5	Male	-
Teacher special 6	Female	-	Student no SEN 6	Male	-
Teacher regular 1	Female	-	Student no SEN 7	Male	-
Teacher regular 2	Female	-	Student no SEN 8	Female	-
Teacher regular 3	Female	-	Student no SEN 9	Male	-
Teacher regular 4	Female	-	Student no SEN 10	Male	-
Teacher regular 5	Female	-	Student no SEN 11	Male	-
Teacher regular 6	Female	-	Student no SEN 12	Female	-

Austria). To guarantee consent from the school board members and participants, the following procedure was performed: First, school leaders were asked for permission to choose six inclusive classes of the 4th grade from the respective schools. Subsequently, both teachers (regular and special needs teachers) of all of the six classes took part in the interviews. Second, two students with SEN as well as two students without SEN had been selected (by the research team and the teachers) to be interviewed. Additionally, for all students, one caretaker was asked to participate in the interview study. The interviews lasted for 15–90 min and had been conducted at school or other places convenient for the interviewees.

Material

Semi-structured interviews were conducted following a guideline-based approach. Interviewees were asked about their perception of conditions required for the successful inclusion of students. In addition to that, the participants were asked about educational aspects that might promote or hinder successful inclusive learning situations for students with SEN. Another focus was given to the participants' perceptions of possible opportunities for inclusive action and intervention with a particular focus on inclusion in their area of responsibility as well as considering other stakeholders involved (depending on the role students, teachers, parents). The interviews had been audio-recorded and transcribed in the course of which, personal data have been kept confidential.

Analytical Approach

Methodologically, the current study follows a multiple-case study approach, which provides the opportunity to shed light to different perspectives by carefully choosing cases that are predicted to contain similar as well as contrasting results depending on the participants role in inclusive education of students with SEN (Yin, 2013). For an analytical approach, the thematic analysis with regards to Froschauer and Lueger (2020) was chosen. In the course of this method of analysis, five steps were to be taken into account when investigating the data material: (1) identifying thematic clusters, (2) explicating the characteristics of the themes, (3) investigating differences and similarities regarding the extracted phrases within one theme, (4) elaborating a hierarchical relevance of topics if possible, and (5) integrating the themes in the context of the research question (Froschauer and Lueger, 2020). By combining the methodological approach of a multiple-case study and the analytical method of thematic analysis, the summarizing discussion can deal with the perspective related results within a cross-case synthesis after coding and analyzing each case individually.

RESULTS

Given a multi-perspective approach by including the perceptions of teachers, students and parents, the results are displayed by highlighting the promoting and hindering factors including the

respective samples in terms of self-perception and perception by the other sample groups. Therefore, the thematic clusters are firstly identified, and their general characteristics are explained and in the consequent steps. Following that, self-attributions, as well as external attributions of conducive and obstructive interventions considering students' social participation, are presented.

Regarding the results of the analyzed multi-perspective data, the inclusion of students with SEN in school can be summarized on three levels: educational, interpersonal, and intrapersonal levels. Throughout all samples, the aspects considering every level were examined.

Inclusion and Its Educational Requirements

When it comes to beneficial conditions for the promotion of inclusion on the educational level, students with SEN themselves mention that everyone involved can play a supportive role in creating inclusive learning activities. Mutual support has been formulated as particularly important, which can be provided in the context of a supportive network of educational professionals and students (see **Table 2**).

Regular teachers mention that they should focus on adjusting the difficulty of the learning material according to every student's educational needs. They also mention that special needs teachers should also be able to work alone with students when necessary. From a special needs teacher's point of view, teachers should encourage and motivate students, build a trustful relationship between teachers and students, and avoid giving strong negative ratings of school performance that might discourage students from engaging with the teaching and learning processes. They should further create a pleasant class climate in which students feel free to participate. In doing so, the goal is to communicate that, regardless of having SEN or not having SEN, students feel accepted as equals in the class.

The sample of regular teachers and special needs teachers both highlight the important role of parents in creating inclusive educational situations. Regular teachers and special needs teachers believe that parents should support their children at home. They should help their child with the learning process at home, practice with them, and convey enthusiasm for learning activities. Teachers also wish that parents take over their consultation.

The parents' perspective goes in line with that of teachers. They believe that teachers should support students with SEN individually and, in connection therewith, use an adequate speed of introduction when explaining new learning content. In addition, parents of students with SEN point out that teachers should not exclusively focus on the weaknesses of students, but rather focus on their (potential) strengths. They highlight the importance of teachers' patience, kindness, and equal treatment toward diverse students. Parents of students with SEN also highlight that the competence of the special needs teacher is crucial to the successful educational development of their child. They should individually support students and give them precise feedback on what was good and what was not good regarding schoolwork. It is important to not put students under pressure and instead focus on building motivation and a good work attitude. Their peers who have and don't have SEN should support a climate of comfort and self-confidence. In line with this, students with and without SEN mentioned that learning seems possible if they feel comfortable and self-confident.

Students without SEN highlight that parents should support their children with their learning activities. Interestingly, they mention that it is important to also promote non-performance-related activities, i.e., sports and social engagement. They argue that activities in between teaching and learning sessions, which are free from the pressure of performing, act as recovery phases that promote concentration and performance.

Inclusion and Its Intrapersonal Requirements

According to students, parents, and teachers, students' positive wellbeing, on an intrapersonal level, is considered to be a criterion when it comes to the provision of inclusive schooling situations and processes (see **Table 3**).

TABLE 3 | Inclusion and its intrapersonal requirements regarding specific stakeholders.

Students	– Invite all students to social events (e.g., birthday parties).
	– Respectful interactions among each other.
Teachers	– Providing fewer and easier tasks.
	– Solving conflicts; mediating in conflict situations.
	– Promote mutual understanding between students.
	– Support social interaction among students.
	– Support/establish an understanding of the impairment.
	– Behavior: Be fair and treat children equally; support interpersonal acceptance.
	– Creating a nice/pleasurable atmosphere, nice physical environment.
Parents	– Mediate when there are conflicts, teaching conflict resolution.
	– Teaching a change of perspective.
	– Invite students with SEN to their homes.
	– Proactively talk about SEN students; teach mutual acceptance.
	– Should take over an active role in the education of their SEN students.
	– Convey the basic value that all diverse people should be accepted.
	– Promote self-confidence.

TABLE 2 | Inclusion and its educational requirements regarding specific stakeholders.

Students	– Mutual support.
	– Support feelings of being comfortable and self-confident.
Teachers	– Individual support.
	– Relationship: trusting, motivating, kind, equal treatment.
	– Creating a pleasant climate.
Parents	– Practice at home.
	– Convey enthusiasm for learning.
	– Promote strengths of children.
	– Support non-learning activities.

When asking students with SEN about who they think can help them in building or strengthening their positive wellbeing in school they mention various actors, they mentioned friends and classmates as the most central persons, but also teachers, parents, and additional caretakers. In addition to social contact and interaction in school, spending free time together when invited to social events (i.e., birthday parties) of peers was also considered important. Students without SEN highlight that the togetherness within the class and friendships are significant when it comes to wellbeing. Students "shouldn't be mean to each other, help each other, play with each other, do not insult each other, and stand up for each other when something bad happens" (An interview with a student without SEN).

Students also highlight the role of parents. They can support the wellbeing of special education needs students: "they for example, if there is a problem with another student go to the teachers and tell them and then the teachers do something."

Parents of students with SEN mention that it is important to address problems and support children in learning to deal with conflicts. Thus, parents should discuss experiences with their children. They should also encourage their children to change their perspective in order to understand others involved in social situations. Therefore, it is necessary to be patient with the children. Teachers, on the other hand, should be willing to find solutions for problems and conflicts and promote mutual understanding between students. Teachers should be just in their behavior and treat children equally. They should also engage in creating a suitable environment for students, including creating a enjoyable classroom environment. In general, the culture or climate at school as well as a positive discussion culture is considered to be beneficial for students' wellbeing.

Parents of students without SEN highlight that parents of students with SEN should assume an active role and participate in the education of the children and also work with teachers (and not against them) to support their children. In addition, parents of students without SEN should get their children to invite both students with and without special education needs and guide their children with mutual acceptance. However, from their point of view, teachers are responsible for creating structures and rules for learning together, which is important from the beginning of the school year on. In addition, teachers should convey the basic value that people's ability to be diverse should be accepted and appreciated. In doing so they should accept children as they are and promote self-confidence. In the case of students' behavior, parents think that mutual acceptance and their interaction within the class is decisive for the positive wellbeing of students with SEN.

Special needs teachers highlight that the attitudes of students are strongly based on the attitudes of their parents. Thus, parents should support the integration process and talk with their children regarding their peers with SEN, answer their questions, and discuss difficulties. Parents should also proactively invite students with SEN to their homes. In addition, good cooperation between parents and teachers is important to support the wellbeing of students with SEN.

Regular teachers highlight that all teachers should act as a team and work together. They should create an appropriate classroom setting, set up class rules, adhere to them, demand them, and make sure that all students feel welcome within this behavioral frame. In other words, they should create conditions that are suitable for all children. Teachers should also support interaction among students by promoting collaboration and mediating their interactions. Social learning will be enabled through such interactions. Further, teachers can increase the acceptance of students among each other and that they are aware and accept that there are differences. In particular, they should explain to all children that everyone has weaknesses and strengths, and that some students learn differently than others, which is acceptable. In addition, they should establish an understanding of the students' disabilities. Teachers should invest efforts in strengthening the class community. Within their behavior to the individual students, teachers should be sensitive, take children as they are, consider all their needs, and act fair without favoring anyone or emphasizing the special feature of the student with SEN.

From the perspective of regular teachers, students with SEN should have a caregiver and friend to establish positive wellbeing. Therefore, students must play together to enable building friendships.

Inclusion and Its Interpersonal Requirements

Students with SEN often see themselves as responsible for having friends regarding the expectations of others toward them. However, when talking to parents and teachers the multi-causality is getting clearer (see **Table 4**).

The parents' perspectives of students with and without SEN highlight the perception that they feel responsible to show interest in their children's friendships and that they feel the need to support these interactions. They feel that they are expected to seek interactions with other parents. An upright interaction between parents is understood as a bridge for friendships among children. For instance, they can directly invite other children to their homes without getting their children involved in the process of rapprochement. Parents also highlight the importance of teachers regarding their children's social inclusion as an important aspect of inclusion at school. Parents of students with SEN believe that teachers should support the collaboration among students and, if necessary, mediate between students with and without SEN. Both samples of parents indicate the importance for teachers to treat all students equally. Parents of students without SEN

TABLE 4 | Inclusion and its interpersonal requirements regarding specific stakeholders.

Students	– To be open to each other.
Teachers	– Promote experiences and interactions among children. – Enable collaboration. – Mediate between children. – Strengthen the togetherness in the class (e.g., organize events or trips). – Set up rules and structures about mutual interaction.
Parents	– Show interest in friendships between students. – Create opportunities to meet.

elaborate on this issue and suggest that teachers should initiate and enable experiences and interactions among students with and without SEN and support the class community by organizing events and trips with their students. Further, to enable conflict-free situations, teachers should establish rules and structures that define how students should interact with each other. In the event of conflicts, teachers should be able to guide students in dealing with these situations. The parents of students without SEN also point out that parents should strengthen their children's self-esteem and teach them tolerance.

Regular teachers have similar opinions. They mention that they indirectly create the social foundation that allows interactions and friendships between students to develop. They enable interactions by implementing social grouping strategies or by changing the seating arrangement. Special needs teachers mention that games can also enable a feeling of togetherness. However, within these games, teachers should also be present and help when conflicting situations emerge. They should then address and discuss conflicts. In general, they point out that teachers must talk about the children in a positive way. Both teachers point out that parents are important when it comes to friendships. Parents should not work against inclusion. Instead, parents should create opportunities for children to privately meet after school and in general be open. They also point out that parents should pass on basic values and behaviors to their children that can be beneficial for building friendships. Regular teachers further highlight that parents should support their children in accepting others. This will further contribute to a good class climate. Teachers can also strengthen the class community. For instance, they can establish and enable contact among children. They should also support the interaction between students by providing them their help (e.g., during conflicts) and support interpersonal acceptance.

Summary of Results

Figure 1 presents opportunities for intervention at different personal levels that can contribute to the design and promotion of an inclusive classroom climate.

DISCUSSION

The present study describes aspects that can facilitate inclusive education for and inclusion of students with SEN. Regarding promoting factors, different perspectives of people who are somewhat involved in educational processes of students with SEN (i.e., teachers, parents, peers without SEN), as well as the perspective of students with diverse special needs (i.e., learning disabilities, hearing impairments, and autism), have been highlighted. The findings yield conditions that support inclusive educational opportunities on the following three levels of inclusion: educational, intrapersonal, and interpersonal levels. Tracing back the findings to these three levels of inclusion complements the literature presented earlier in the introduction, thereby emphasizing the need to allow interactions of students with and without SEN considering diverse pedagogical dimensions, for example, within social,

educational, but also individual contexts (Felder, 2018; UNESCO, 2020).

The outcomes resulted in a collection of desired measures and behaviors from the perspective of different stakeholders involved in the education of students with SEN to support their inclusion. The results hold practical implications for teachers and parents, but also students with and without SEN when it comes to fostering the inclusion of students with special education needs.

Regarding students' inclusion and consequent educational requirements that are needed, the prerequisites to promote adequate teaching and learning processes and to provide equal and adapted access to education for all students have been examined (Monsen et al., 2014; Vollet et al., 2017; Farmer et al., 2019; Hellmich et al., 2019; Wilson et al., 2019). The requirements for fostering intrapersonal factors of inclusion encompass prerequisites of the feeling of belonging and wellbeing regarding school and classroom processes (Hendrickx et al., 2016; Henke et al., 2017; Van den Berg and Stoltz, 2018). On the interpersonal level, basic conditions for interactions and building friendships in order to promote inclusive education are highlighted in various studies (Bossaert et al., 2009; Koster et al., 2009; Little, 2017).

Interestingly, various explicit and implicit implications for desired behaviors of specific stakeholders were mentioned in the context of external perspectives. This signifies that the interviewees addressed the need for inclusive action not (only) in themselves, but, above all, in other groups of people involved. This primary finding goes in line with previous research and theory on inclusive education that highlights the importance of taking the whole educational network and people involved into account. Therefore, an inclusive school culture needs to be considered when fostering students' inclusion.

When it comes to requirements for inclusion on an intrapersonal level, friends and classmates are considered to be the most central and important persons involved in developing a sense of belonging and wellbeing (Vignes et al., 2009; De Boer and Pijl, 2016; Schwab, 2017). Parents are deemed indirectly relevant, as attitudes of students are strongly based on the attitudes of their parents (Hellmich and Loeper, 2019). Interestingly, the factors that seem to be especially relevant for creating friendships are teachers that set the ground for friendships in the classroom (Keith et al., 2015; Garrote et al., 2017; Schwab, 2017), and parents that enable opportunities to meet other students.

For educational requirements of inclusion, the role of teachers appears to be important for all the interviewed samples. They are expected to promote individual learning opportunities and just treatment of all students (Janice et al., 2017; Watkins, 2017). The previously mentioned areas of responsibility, which the sample groups attribute to each other rather than to themselves, become particularly clear. Meanwhile, students and parents highlight the central role of teachers in the context of providing adequate educational opportunities. In light of inclusion, teachers also assign increased responsibility to another group of stakeholders involved, namely, the parents. According to the interviewed teachers, parents take over an important role regarding the educational dimension of their children's inclusion by practicing with them at home. In this context, a specific question arises: Why

FIGURE 1 | Interventions for inclusive educational practice.

are parents expected to do the pre-work or follow-up work on teachers' pedagogical decisions regarding the didactic measures in class? A possible explanation for this is that they know that their children with SEN would not be capable of keeping up with the teachers' instructions otherwise. In line with this assumption, inadequate teaching that is not adapted to the needs of individual students could create the need for at-home support by external stakeholders, namely, their parents/caregivers. Furthermore, the extent of measures promoting inclusion that can be supported by all parents or different possibilities and degrees of supporting children in learning due to individual family characteristics and situations should be discussed.

Regarding this issue, the data highlights additional factors that predict whether inclusion is successful for creating a stimulating and promoting learning environment for every student regardless of an SEN diagnosis: resources (time and staff–and their skills and competencies) and the quality of teamwork between students, teacher (special needs teachers and regular teachers) and parents (Moore et al., 2017; Allen et al., 2018; Littlecott et al., 2018; Goldan et al., 2021).

CONCLUSION

While policies for inclusive education ensure the spatial inclusion of students with and without SEN within the same classes, efforts have to be made to ensure real inclusion. Within the current study, it became evident that a sustainable inclusive development

needs support of preventive actions and interventions at the level of all involved stakeholders. Teachers need to ensure high quality learning conditions (e.g., creating a fruitful emotional and social learning environment). Moreover, parents can create opportunities for exchange (e.g., of students with and without SEN and parents of children with and without SEN). However, peers play a significant role in promoting successful inclusion, for example, through formal interactions such as cooperative learning processes or informal interactions (e.g., playing together). The study indicated clear evidence that current practices need to be improved in order to overcome inequality and exclusion and to become more inclusive for students with SEN.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by local school authority of Styria (Landesschulrat Steiermark). Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

K-TL contributed to conception and design of the study, analyzed data, revised the first draft, wrote the second draft of the manuscript, wrote sections of the manuscript, and participated in theoretical framework. SH wrote sections of the manuscript and participated in theoretical framework. SS contributed to conception and design of the study and wrote sections of the manuscript. CG contributed to conception and design of the study, analyzed data, wrote the first draft of the manuscript, and wrote sections of the manuscript. SK-S and AH contributed to conception and design of the study, analyzed data, and wrote sections of the first draft of the manuscript. All authors contributed to the article, read, and approved the submitted version.

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Empower Peers 4 Careers: Positive Peer Culture to Prepare Adolescents' Career Choices

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For youth with special needs, where cognitive difficulties, behavioral and psychosocial issues are more common, career choice is particularly challenging. The Positive Peer Culture (PPC) approach uses the resource of peer support to systematically build social–emotional competence. Important key elements are that adolescents feel safe to share their own problems and challenges with others, to overcome difficulties and challenges, to take responsibility for their lives, and to help each other. The Empower Peers 4 Careers Project aims to apply the PPC approach to the context of career choice to promote the development of important competences for the transition from school to work. The pedagogical background of the PPC approach in the setting of career choice, as well as the required learning environments for the peers are presented. The peer group meetings are organized following a defined process through which learning forms social–emotional competence, as well as the class climate can be strengthened. In addition, the role of the moderators of the peer groups – such as class teachers or special education teachers – is examined in more detail and the concept is presented of how they are trained on topics such as resilience promotion and strengths orientation in the context of career choice preparation. The project "Empower Peers 4 Careers" will be cientifically monitored over 2 years using a quasi-experimental control group design, which includes quantitative and qualitative methods. A total of 15 classes of the 8th grade (age group: 14-year-olds) of regular and special schools as well as 10 classes as control classes are participating. The results of the evaluation will not be available until 2023. The article presents the concept with the long-term goals, the implementation and didactics, as well as the hypotheses and the procedure for the evaluation.

Keywords: Positive Peer Culture, peer groups, social support, career choice, transition, social-emotional competence, vocational orientation lessons, secondary school

INTRODUCTION

The transition from school to work can be challenging: it is a challenging developmental task that involves many new uncertainties in an ever-changing world of work and requires decision-making and adaptability on the part of the individual (Masdonati et al., 2022). In particular, adolescents with behavior experienced as challenging and with psychosocial difficulties face special

problems when choosing a career. Problems in the social–emotional area (e.g., internalizing and externalizing problems) occur in about 20% of adolescents (Hölling et al., 2014). They often lack important social as well as emotional competence at this stage of life that are crucial for a successful career entry (Schellenberg et al., 2017; Steinebach and Gharabaghi, 2018). A lack of social–emotional competence can negatively affect the personal and professional development of troubled adolescents in the long term and cause severe health economic burdens (e.g., Greenberg et al., 2003; Ewest et al., 2013).

Interventions targeting young people in transition from school to work increasingly focus on strengthening social–emotional competence. These include self-awareness (understanding one's emotions, personal goals, and values), self-management (ability to regulate emotions and behaviors), social awareness (ability to empathize and feel compassion), interpersonal skills (competences such as communicating clearly, listening actively), and responsible decision making (knowledge, skills, and attitudes needed to make constructive choices) (Weissberg et al., 2015). These competences are crucial for adolescents to learn productively in class, to succeed in school selection processes, and to enter vocational training and employment (Neuenschwander et al., 2012). Accordingly, social–emotional competence as generic competences represent an important overarching educational goal in "Lehrplan 21" (the overall Swiss curriculum for elementary and secondary school).

For a successful transition from secondary school to upper secondary school, social support from close caregivers (parents, teachers, and peers) plays an important role (Lent et al., 2003). Social support can mitigate the negative impact of difficult starting opportunities resulting from socioeconomic disadvantages or disabilities, promoting social–emotional competence, but also positive expectations and exploration behavior in the school-to-work transition (SWT) (Buhl et al., 2018). Peers become increasingly important as role models in adolescence, and their influence on career choice has been widely demonstrated: peers, for example, play a central role in addressing career aspirations (Eberhard et al., 2009), as well as in the development of social–emotional competence (Greenberg et al., 2003). The project aims to target this source of social support from peers at school to improve transitions from school to work.

The approach of Positive Peer Culture (PPC; Steinebach et al., 2018) makes use of peer relationships by drawing on concepts of humanistic and positive psychology, focusing on the needs and strengths of adolescents to promote social–emotional competence. Establishment of a positive togetherness and mutual appreciation are in the foreground. The basic idea is to help peers in a caring and respectful way and thus strengthen themselves (Opp and Unger, 2006). The project "Empower Peers 4 Careers" aims to apply the PPC approach to the context of career choice to promote the development of important competences for the transition from school to work. Pupils meet regularly every 2 weeks during a lesson to discuss a problem related to their career choice, while teachers take on the role of group facilitators. Group meetings include examining one's own strengths/weaknesses, identifying a feasible career aspiration, a

high degree of frustration tolerance, and personal and social skills in job applications and in contact with companies, e.g., during internships (Häfeli and Schellenberg, 2009; Fröhlich-Gildhoff and Rönnau-Böse, 2020). The concept of PPC is explicitly oriented toward the needs of adolescents: like all people, they have the need to experience themselves as competent, integrated in relationships, but at the same time to be able to live self-determined lives and make decisions independently (cf. also Ryan and Deci, 2000). In particular, youth with disabilities are challenged to learn to take responsibility for their lives. For self-determined decisions, practicing and experiencing generosity by being helpful is additionally crucial (Brendtro et al., 2002; Steinebach et al., 2019).

Other stakeholders in the project include teachers and special education and/or school social work professionals. Due to school inclusion, teachers are increasingly confronted with heterogeneous performance prerequisites, which is often enough experienced as a burden (Sandmeier et al., 2017). It is known that not enough succeeds in supporting all learners according to their prerequisites (Prenzel et al., 2004). New cooperative learning forms such as PPC help to conserve these resources. This is particularly true because targeted attempts are made to use specialists from special education/school social work as facilitators of the peer groups.

In Switzerland, there are hardly any known intervention programs that use the mutual support of peers in the career choice process as a resource. Mentoring programs are an exception. However, such mentorships with young adults who already have experience in education or work and act as role models for young people in the career choice process pursue other goals. In addition, there are peer-based approaches to supporting specific target groups in the career choice process. For example, young people take on a caregiving or support role at home ("Young Careers"). In this case, therefore, a specific target group is involved. In Switzerland, there are single studies on the inclusion of peers in the career choice process. They show positive effects of peer groups on setting realistic goals and finding a suitable solution strategy (Bucher and Bolliger-Salzmann, 2004). The PPC approach was introduced and evaluated in Switzerland as a pilot project in the canton of Lucerne at two secondary schools. It was shown that PPC groups should take place over a sufficiently long period of time to be effective (Sonderegger et al., 2018). The introduction of the PPC approach with peers in career choice classes to promote social and emotional competence of the whole school class is thus innovative and fills an existing gap.

PEDAGOGICAL FRAME

Target Group

The "Empower Peers 4 Careers" approach is intended to strengthen all young people in the transition from school to work. However, young people with psychosocial difficulties and problems in the social–emotional area are likely to benefit particularly from the intervention, as the PPC groups strengthen social and emotional competence, which are especially important for the transition to a career. There is currently little robust data

on the prevalence of social–emotional problems in adolescence in Switzerland (Wyl et al., 2017). However, it can be assumed that adolescents from lower school education and special schools (where, in addition to cognitive difficulties, behavioral and psychosocial problems also occur more frequently) have poorer mental health on average than adolescents from school types with a more complex level of requirements (including Lampert et al., 2010; Abel and Keller, 2016). Young people in integrated regular schools or from special schools often face additional difficulties when choosing a career: depending on their special difficulties, they may have to abandon illusions and dream jobs to a greater extent, make compromises in their career choice and deal with setbacks (Eckhart et al., 2010). Adolescents with impairments are also often supported by a large network when choosing a career (e.g., disability insurance, job coaches, and therapists), so self-determination in a contradictory environment is not easy (Schellenberg and Hofmann, 2017). The PPC approach is designed to give adolescents the opportunity to share upcoming difficulties regarding their career choice and to support each other (Steinebach et al., 2018).

Predictors of Success in the School-to-Work Transition

Several models address influences on a successful SWT process. Depending on the model, a "successful transition" is measured differently, for example, in terms of the time it takes to find an apprenticeship, satisfaction, and working conditions such as job security or wages (Nilsson, 2019). Satisfaction with the job also depends on how well the job is perceived to fit the person's characteristics (such as personality, interests, and skills) (Eccles and Roesner, 2009; Nägele et al., 2017). Masdonati's (2010) model highlights the importance of socioeconomic factors that directly influence transition success: these include socioeconomic status, gender, migration, and family background. Thus, certain groups of people have more hurdles to overcome in transition, such as young people with lower educational backgrounds, disability, and little social support. Social support can take various forms such as emotional support, social integration, access to networks, or concrete support in the career choice process (Schultheiss et al., 2001).

Other influencing factors relate to personal factors and thus how someone deals with the challenges in transition (Masdonati, 2010). These include characteristics such as persons' self-perceptions, the persons' representation of the world of work, the persons' mastery of the competences required by a company and the person's perceptions of social support. Personal protective factors include optimism, high self-efficacy, emotion regulation, as well as communication and problem-solving skills (Bolliger-Salzmann, 2014). Such skills and others are considered social–emotional competence (Schick and Cierpka, 2010), or social and self-competences (Melzer and Al-Diban, 2001; Petermann et al., 2010). More recently, the expression of "career choice readiness" has been described as another important personal competency for a successful transition: this refers to a person's ability and willingness to successfully deal with specific developmental tasks in their career choice process

(Hirschi et al., 2018), and can be fostered through the following elements: future-oriented planning of career choice steps, active exploration (e.g., career explorations), decision-making skills training, information processing support, and reality orientation (Jungo and Egloff, 2015). Pursuing a realistic career aspiration is a key goal that adolescents must pursue for a successful transition (Schellenberg and Hofmann, 2017). Regardless of terminology, promoting personal resources has been shown to be effective with adolescents (Delgrande Jordan and Eichenberger, 2016). For example, promoting social–emotional competence is considered one of the most successful single approaches in resource-based transition support.

Positive Peer Culture Approach

Originally, the PPC approach was developed in the 1970s in the United States by Vorrath and Brendtro for delinquent youth (Steinebach et al., 2018). The concept is now also used in Germany in various schools and institutions (Opp and Teichmann, 2008). The PPC approach tries to make positive use of the special importance of peers for identity development in adolescence. This is especially true in a developmental stage in which the influence of peers becomes greater. The group has a special significance for the development of a positive identity, because social identity is formed by belonging to a certain group (Tajfel and Turner, 1986). The group influences the individual by imparting norms and teaching behaviors, for example, through model learning. In this way, the group also creates options for actions and development (Brown and Larson, 2009). Peer groups can thus contribute quite decisively to a positive and stable identity and to coping with developmental tasks. The group provides the opportunity to compare external perceptions and expectations with one's own experience and view of oneself. It also helps to design one's own actions, to practice one or the other, or to offer support in the implementation of the planned behavior. Group meetings are thus seen as a practice space in which adolescents can develop their own competences (Steinebach et al., 2012).

The person is involved in different environmental systems, which can be distinguished into micro, meso, exo, and macro systems (Bronfenbrenner, 1981). The mission is to shape different developmental environments in such a way that they are helpful for the individual development of the young person. In doing so, however, changes in one system will also bring about changes in another. It is conceivable, for example, that group discussions will not only change the class climate, but also achieve a change in the school climate (Kant-Schaps, 2013). In terms of positive youth development psychology, positive environments allow youth to display their cognitive, emotional, personal, and social skills. In these places, they encounter people who care about them and are authentic and competent. Opportunities are created together to learn, try out, and positively engage (Brendtro and Steinebach, 2012).

In the PPC approach, the focus is on a particular problem or challenge. This includes weaknesses and risks of the person and the environment. However, in the search for a solution, youth also recognize their own physical and psychological resources as well as environmental economic, environmental, and social

strengths. It is believed that PPC group discussions promote socio-emotional competence, and thus improves qualities such as interpersonal skills, self-confidence and social awareness (empathy). Mutual helpfulness leads to action in which group members experience themselves as self-efficacious (Vorrath and Brendtro, 2013). Thus, overall resilience is fostered. The experience of being helpful to others promotes self-worth, self-efficacy expectations, and one's own resilience (e.g., James, 2011). To experience the group situation in this way, it is important that the young people take responsibility for each other, for the counseling process in the group, for finding a solution to the problem as well as for implementing the solution. It is important that the accompanying professionals make it clear that success belongs to the young people. In this sense, the group discussions are a place for important positive experiences. The effects then extend into the culture of the school class as a whole as well as the culture of the school as an organization. All in all, PPC thus promotes individual, social, and organizational resilience (Steinebach and Steinebach, 2013). We define resilience "*as the positive adaptation and sustainable development of a system to respond to short- or longer-term everyday challenges or severe stress. Based on internal system processes and through dealing with the environment, the system defines new reference values and develops required competences, and the ability to cope with future stresses improves*" (Steinebach, 2015, p. 557).

Positive Peer Culture Approach and Career Choice

The project "Empower Peers 4 Careers" adapts the already established concept of PPC to the context of career choice – a central developmental task of youth. Peers have not been used systematically as a resource in career choice preparation at school, but they hold a lot of potential (Häfeli and Schellenberg, 2009). For example, various steps in the career choice process require social–emotional competence that can be practiced and experienced in the context of groups, since everyone is in the same position (Jungo and Egloff, 2015): (1) Clarify the question, who am I? (2) What is the professional world? (3) "What occupations suit me?" (4) "What career do I choose?" and (5) "How do I apply and prepare for vocational training?" Peers can share their experiences on these steps with each other.

Recognizing and using one's own resources, like for example understanding one's emotions, ability to regulate emotions and behaviors, ability to empathize, communicating clearly, and having knowledge needed to make constructive choices are among the objectives in the current curriculum. It is emphasized that the corresponding skills should also be promoted, especially for the later requirements in the working and professional world (Bildungsdirektion des Kantons Zürich, 2017). This is where PPC comes in, in that it supports the further development of social–emotional competence. The goal of vocational orientation in terms of Curriculum 21 is also the promotion of resilience: "*In the multi-year education and career choice process, special attention should be paid to securing and confirming success […] In this way, teachers support constructive development and help students to better cope with stressful life circumstances and setbacks in career*

choices (resilience)" (Bildungsdirektion des Kantons Zürich, 2017, p. 495). PPC as an intervention program to promote resilience in young people is therefore particularly well suited in career choice classes and is in line with the objectives of the Swiss curriculum.

Figure 1 summarizes once again the project's key areas: social Resources have an impact on success in the school-to-work transition (Masdonati, 2010). At the heart of the Empower Peers 4 Careers intervention is the promotion of social–emotional competence, which takes place through mutual exchange among peers (peergroup-meetings): thus, adolescents are challenged to think about their problems, communicate them, develop dialog and conflict skills as well as emotional regulation skills. All of this helps adolescents make a self-determined, goal-oriented transition (Hirschi et al., 2018; Hofmann and Schellenberg, 2019). By the term successful transitions, we mean successful entry into the post-compulsory school sector, but also satisfaction with the chosen follow-up solution. In Switzerland, after the 9th grade of compulsory education, young people choose either an apprenticeship in a basic vocational training program or a upper-secondary school ("Mittelschule"). About two-thirds of young people enter a basic vocational training program and work 3–4 days in a company and attend 1–2 days of vocational school (Stalder and Nägele, 2011).

LEARNING ENVIRONMENT

Starting With the Needs Orientation of the Young People

Positive Peer Culture is oriented toward various basic needs of adolescents. According to Ryan and Deci (2000), three human needs are initially guiding: experiencing competence, independence, and being included in relationships. Thus, we can assume that group meetings in the PPC approach address these basic needs and bring about activities that lead to the satisfaction of these needs. Thus, the experience of belonging is an important building block for one's own identity. Furthermore, the independence from the guidelines of others makes it possible to implement one's own ideas and interests, and the resulting experience of competence ensures self-worth and confidence. And those who have been able to help others will experience themselves as effective and competent. Helping oneself also contributes to the satisfaction of one's own needs. Thus, in the PPC approach, generosity is understood as another basic need (Brendtro et al., 2002). **Figure 2** shows the basic needs of autonomy, mastery, belonging and generosity, which are presented by Brendtro and Larson (2006) in their "Circle of Courage." Practiced helpfulness is a good way to experience oneself as competent, valuable, confident, and social. The feeling of belonging in a group particularly promotes social–emotional competence in a variety of areas, such as self- and social awareness, and interpersonal skills.

The Peer Group Meetings

Key elements of the method that contribute to positive adolescent development, according to Vorrath and Brendtro's (2013) PPC manual, are: (1) Relationships of trust: adolescents feel safe

FIGURE 1 | Basic concept of the project "Empower Peers 4 Careers."

FIGURE 2 | Circle of courage and positive self-development (compare e.g., Steinebach et al., 2018).
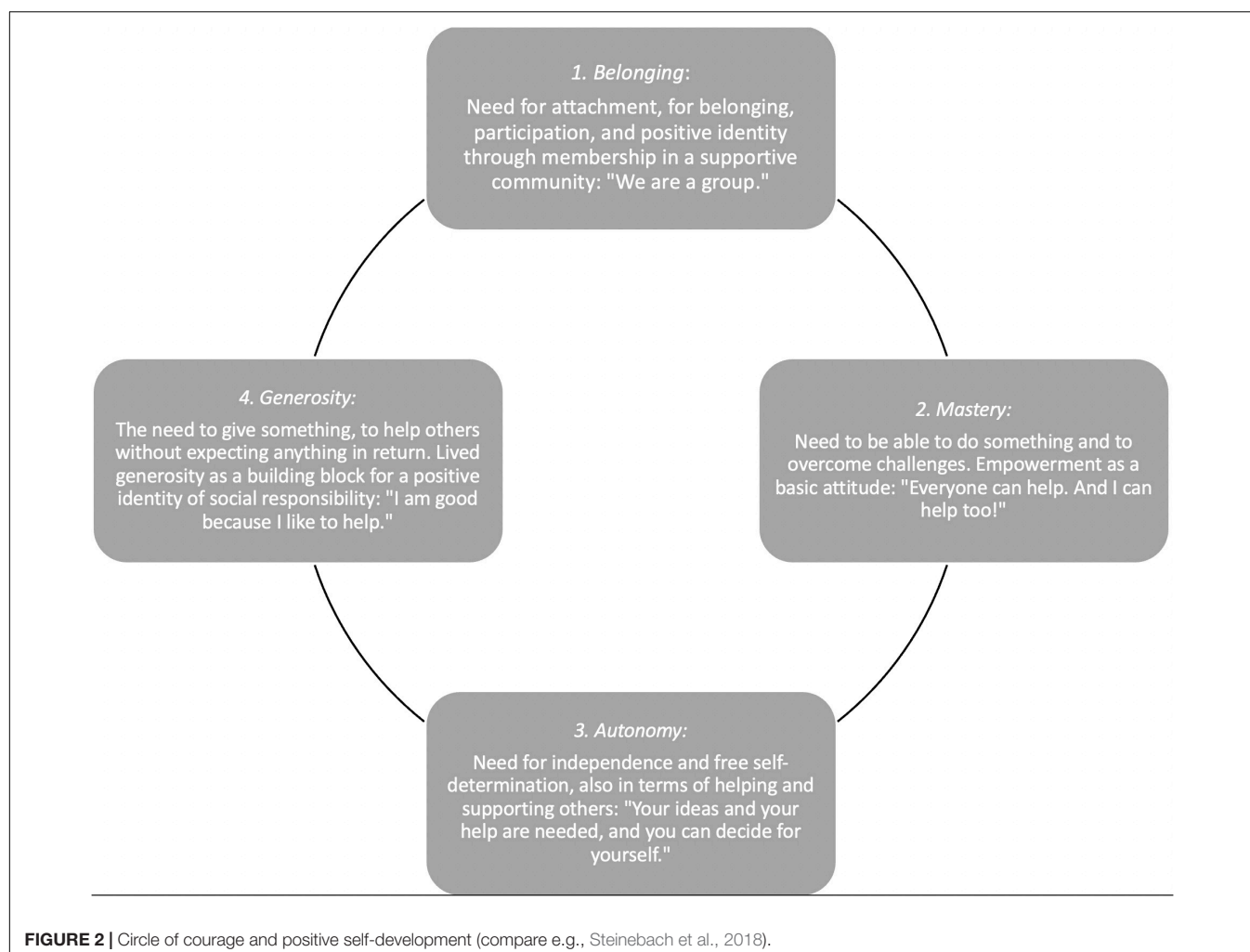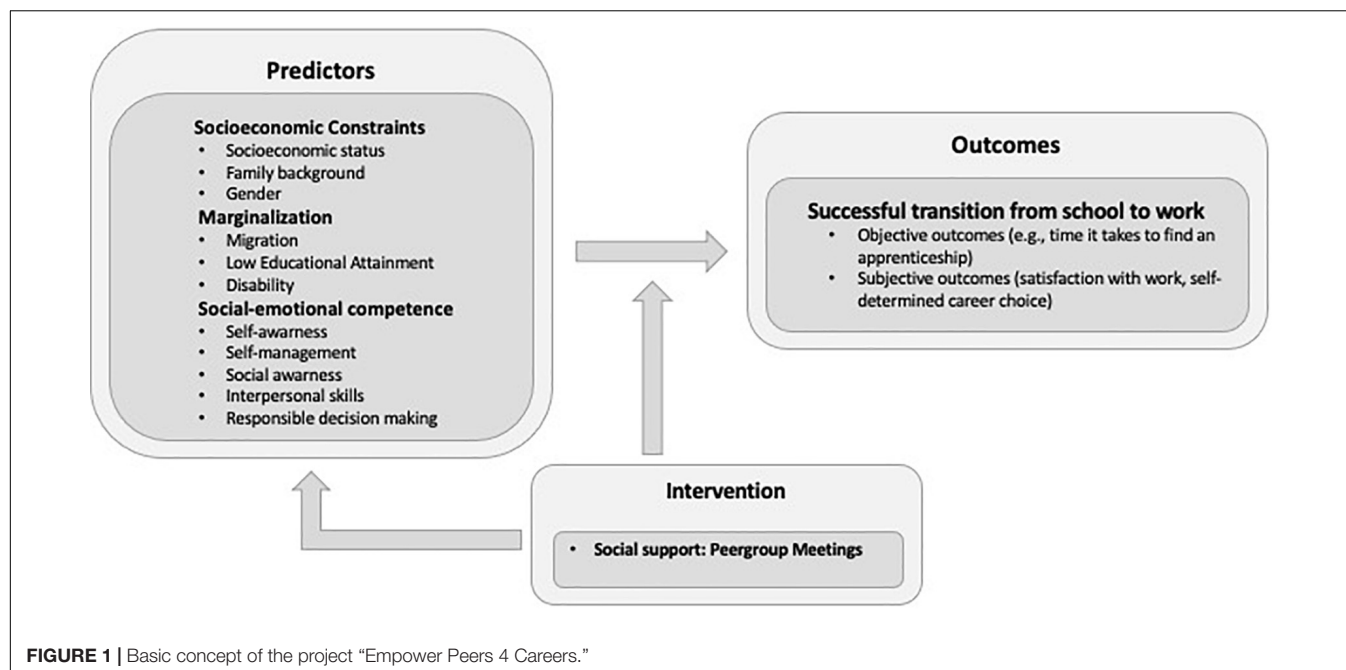
sharing their own problems and challenges with others. (2) Problems as opportunities: overcoming difficulties and challenges builds strength and resilience. (3) Ownership rather than obedience. Young people learn to take responsibility for their lives. (4) A culture of respect. No one hurts another person; everyone is responsible for helping each other. These key elements play an important role in the successful implementation of peer groups and attention should be paid to their observance during meetings.

Peer groups meet regularly with each other to talk about a problem while an adult facilitator is also present. The meetings need clear procedures and group rules to be introduced in the classroom (**Table 1**). Each meeting begins with each young person naming a current problem that is on his or her mind. In the next step, all group members unanimously agree on who should get the meeting based on the urgency of the problems and the motivation of the individual peers. In the next steps, the group works intensively on the problem, tries to understand it better by asking specific questions and also tries to find out the feelings behind it. Afterward, possible solutions are designed together in order to support the young person as best as possible in overcoming the problem and achieving the goal. Finally, the group leader summarizes the content of the session and, above all, the group process that took place in the round.

Implementation of Positive Peer Culture Groups in Vocational Orientation Lessons

The framework in which the group meetings take place is the Career Orientation (CO) lesson. In most schools, career choice preparation is offered across subjects in the last 2 years of school (8th and 9th grade). The groups meet regularly every 2 weeks during a CO lesson (45 min) to discuss a problem related to their career choice. These group meetings are thus built into regular classes and are part of the mandatory program at the high school level (8th and 9th grade). In other contexts, PPC groups are also organized differently, with different duration (up to a maximum of 90 min), and more frequent frequency (up to several times per week, Steinebach et al., 2018). In this project, a compromise was

chosen, and the duration and frequency were set according to the possibilities of the curriculum.

Participating schools were given the choice of who would moderate the groups. As a rule, the class teacher is primarily responsible for career choice preparation; in some schools (especially special schools), "a career coordinator" is responsible, or in the integrative setting in the regular school, the school remedial teacher supports the young people (Schellenberg and Hofmann, 2017). The facilitators are trained in advance by the project team on 2 days and familiarized with the PPC approach. On the first day, theoretical knowledge around the implementation of PPC groups is imparted, which they can also practice themselves: they role-play group meetings themselves and each person also practices the role of facilitator. On the second day, the main topic is the introduction of PPC groups at the school, as well as the formation of peer groups among the teachers. The goal is a good networking among the participating adults. After the two training days, the teachers or special education teachers can start with the PPC groups in their classes. Within the framework of additional supervision, they continue to be supported in the implementation of the PPC groups in the classroom (focus: exchange of experiences, What has proven successful? Where are there difficulties?). In this way, the teachers also form a "group" among themselves, report problems to each other and support each other. This could relieve teachers and create free capacities for them. The tasks they take on as moderators also come close to the coaching task called for in the Swiss curriculum, in that they are supposed to adopt "an accompanying and supportive attitude" in career choices (Bildungsdirektion des Kantons Zürich, 2017).

Tasks of the Moderators

The particular challenge of moderation is, on the one hand, to accompany the groups in such a way that they run in a regulated and successful manner. On the other hand, this must be done in a way that leaves the young people in charge of the meeting and its course (Vorrath and Brendtro, 2013). Only then can the youth attribute subsequent success to themselves. Thus, professionals tend to be facilitators in the discussion sessions and in an observer

TABLE 1 | Procedure of the group meetings.

Phase of the meeting	Purpose	Aids for career choice
1. Problem appointment	Everyone briefly names a problem.	Prioritize and focus
2. Problem identification	The young people agree on a problem.	Formulating concerns together
3. Description of the problem	The problem is described factually and chronologically.	Formulate or understand issues
4. Asking questions about the situation	Questions are asked about what was not understood.	Differentiate and "explore" the complexities
5. Inquiries about feelings and possible alternative behaviors	Identify problematic behaviors, positive and negative feelings and thought patterns, and new opportunities.	Thinking, feeling, and wanting
6. Design possible solutions	What are the solutions?	Broadening the view and learning to think in scenarios
7. Homework	Who takes on which tasks? What does the group do?	Making agreements, implementing and accompanying solutions
8. Feedback round	The facilitator gives feedback to the group.	Learning from the process

role. Central to what they do is that they teach values. The highest value is to care about others, to help someone, and to accomplish positive results. The facilitator trusts in the competences of the young people, and promotes the potentials of the young people without dominating themselves. He/she strives to be caring, authentic, empathetic, understanding, sensitive, patient, and confident. **Table 2** summarizes key tasks of moderators.

FINDINGS TO DATE, OUTLOOK ON THE EVALUATION

The project "Empower Peers 4 Careers" will be carried out by the University of Teacher Education in Special Needs (HfH) in collaboration with the Zurich University of Applied Sciences (ZHAW) from 2021 to 2023. A total 15 classes of the 8th grade (age group: 14-year-olds) from regular and special schools are participating, which will conduct the PPC groups in class during two school years. The regular school is provided at different levels: in addition to the grammar school level, there is the secondary school level A, which has higher academic requirements than the secondary school level B. In the case of regular schools, it is mainly classes from the less demanding secondary level B that participate; compared to classes from secondary type A, more adolescents with psychosocial (including due to migration background) or social–emotional difficulties are represented, for whom the transition from school to work is more often associated with special difficulties (e.g., Neuenschwander, 2019). Among special schools, those with a focus on social–emotional problems participate. The PPC approach has so far proven its worth especially in this school setting (Opp and Teichmann, 2008; Steinebach and Steinebach, 2009).

Ten additional classes from the aforementioned school types participate as control classes, conducting their usual vocational orientation lessons (without PPC groups). They then have the opportunity to participate in Empower Peers 4 Careers with an 8th grade class in the next school year. This procedure

corresponds to a quasi-experimental control group design (Hussy and Jain, 2002), using both quantitative and qualitative data collection methods. Central questions of the scientific monitoring of the project are: How well can the planned group meetings be implemented in the school settings studied? What are the effects on the social–emotional competence of the young people, on their readiness to choose a profession, and on the classroom climate? How can the group meetings be implemented sustainably at the school?

The questions will be examined primarily with the help of standardized measuring instruments, with the written survey of the students taking place at three measurement points. The "Student Assessment List for Social and Learning Behavior" (Schülereinschätzliste für Sozial- und Lernverhalten, SSL) by Petermann and Petermann (2014) will be used to measure social competence. Career readiness is assessed with the Career Resources Questionnaire for Adolescents by Marciniak et al. (2019). For the investigation of class and school climate, the Linz Questionnaire on School and Class Climate on Community, Rivalry, Willingness to Learn, Disruptiveness (Eder, 1998) is used. Further questions concern the development of social–emotional competence (Strengths and Difficulties Questionnaire, SDQ; Klasen et al., 2003). Further, group moderators will be asked, through in-depth interviews, what aspects were important to them in the implementation of Empower Peers 4 Careers. Interviews will also be conducted with selected students, which will serve to selectively enrich the quantitative survey. **Figure 3** provides an overview of the most important stages of the entire project.

HYPOTHESES ON THE EFFECTIVENESS OF "EMPOWER PEERS 4 CAREERS"

The results of our study will be available in 2023. The following hypotheses can already be formulated: the introduction of PPC at school will strengthen social–emotional competence. These are important competences that have been given special weight in the Swiss curriculum "Curriculum 21" and are important for the promotion of resilience and the successful transition to a career. It is expected that the intervention will promote career readiness and thus the ability to choose a realistic, suitable profession and to trust in one's own abilities even in the face of setbacks. This strengthens the overall career choice process at school, which has a positive impact on finding an apprenticeship in post-compulsory education. These hypotheses are formulated based on findings from other studies that found changes in participating youth in a variety of areas, such as self-awareness and interpersonal skills (Brendtro and Caslor, 2019), academic achievement (Brendtro et al., 2002), school climate (Mitchell and Cockrum, 1980), and decreases in behavior problems (Gottfredson, 1987).

The relatively long intervention period (over two school years with) will in all likely strengthen and stabilize positive changes among adolescents. For example, various authors conclude that positive effects can be expected 12 months after the introduction of PPC at the earliest (Caslor, 2003). Other

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TABLE 2 | Moderator roles in PPC groups.

Tasks of the moderator

The moderator . . .

Ensures adherence to the structure (sequence of steps, cf. **Figure 3**), forms of interaction and communication,

Is not part of the group (shows this by sitting a bit outside the circle), but can intervene at any time,

Uses questions as the main means of communication,

Does not analyze himself/herself,

Does not work out solutions, guides the group to solution-oriented work,

Does not use direct forms of address ("you", "you're") and avoids direct dialog and addresses the group ("What does the group think?),

Refrains from expressions in the "we" form, avoids "I" messages,

Is reserved without appearing apathetic or disinterested,

Keeps the flow of communication going,

Takes notes for the summary at the end ("feedback round"),

Formulates a summary at the end, highlighting positive and helpful behavior,

Raises awareness of recognizing and distinguishing positive and negative behavior,

Responds to the group's level of development and passes responsibility.

FIGURE 3 | Overview of the methodological design of the project "Empower Peers 4 Careers."
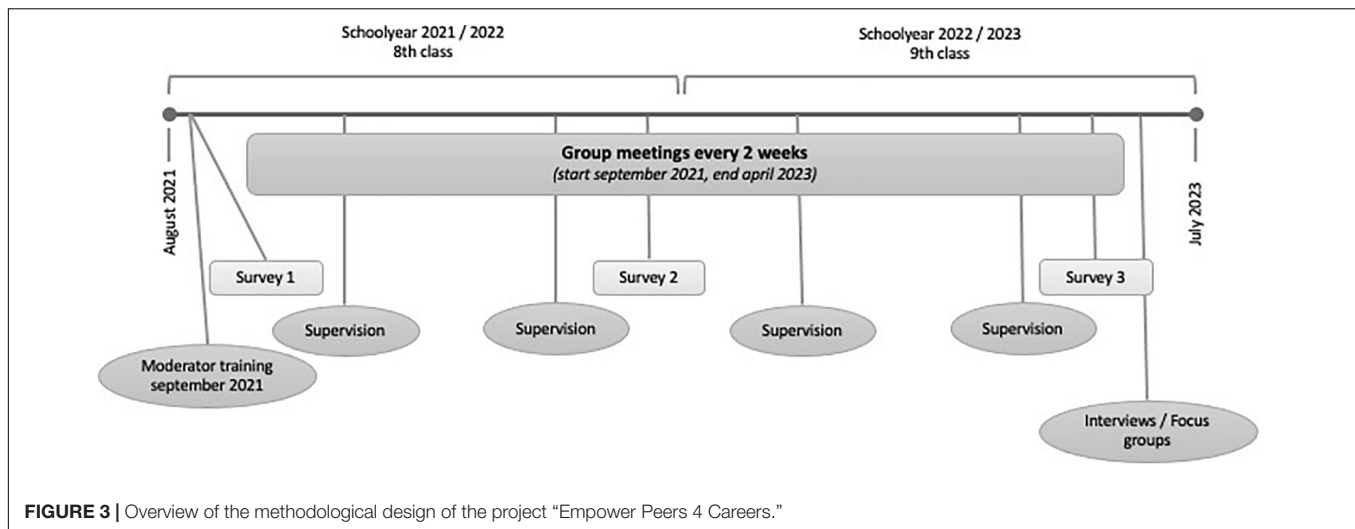
important factors for success are that PPC is well implemented at the school and that the facilitators are well trained or prepared (Gold and Osgood, 1992).

The focus of the intervention is on young people with problems in the social–emotional area, involving both regular and special schools. Thus, it has learners with different impairments, in the field of ADHD, behavior, autism or with mental health problems. We expect overall positive effects on aspects of emotional experience and behavior (cf. SDQ scale, Klasen et al., 2003) based on relevant literature (e.g., Opp and Teichmann, 2008). However, we assume that the PPC intervention is not equally effective for all target groups. For example, the literature (Ryan, 2006) shows that adolescents with trauma have more relapses into old behavior patterns after a PPC intervention than adolescents without trauma. The authors explain it because traumatized adolescents are less able to trust other people (peers and adults) because of their stressful experiences. This is where the important role of the moderator of the groups comes into play by paying attention to the special needs of all group members.

DISCUSSION

Vision and Sustainability

The aim of the project is to support young people in the transition from school to work, paying particular attention to inclusive educational pathways. Career choice should not be viewed as a one-time event, but rather embedded in the context of lifelong learning. In today's careers, changes are increasingly frequent and an active career path design is necessary to adjust the chosen direction with a view to different life roles. Career choice should also already be understood as part of a holistic "life design" when accompanying young people from school to work (Savickas, 2012).

The project is particularly aimed at strengthening adolescents in der regular school and special schools for behavioral problems. In particular, this is intended to strengthen young people

who, because of their preconditions (e.g., in terms of socio-demographic background, school background), have fewer good chances for direct transfer (Hupka-Brunner and Wohlgemuth, 2014). Ultimately, however, the project is intended to support all young people in the school-to-work transition so that the goal of the Swiss Conference of Education Directors (EDK) of raising the graduation rate in the post-compulsory sector to 95% is achieved. The focus of the intervention is on strengthening the social and emotional resources that are important for a successful transition. Social competences, especially communication skills and contact and teamwork skills, have been identified several times in the literature as success factors for at-risk youth in the school-to-work transition (Häfeli and Schellenberg, 2009). By implementing PPC in career choice education, social support from peers is used as a resource in the career choice process. The positive peer approaches can be particularly effective in promoting social competences as well as emotional competences (such as emotion regulation skills or resources to cope with current tasks within the career domain). PPCs offer adolescents the opportunity to satisfy key basic needs of experiencing competence (by taking responsibility for each other), autonomy (through a sense of personal strength), and belonging (through caring, reciprocal interactions), but beyond that, generosity. This contributes decisively to the young people's self-esteem (cf. Brendtro and Caslor, 2019), building self-efficacy (increasing confidence in one's own abilities), exercising self-determined career choices (learn to take responsibility for their lives) (cf. also Ryan and Deci, 2000).

The longer-term vision of the project is to strive for a more conducive culture of learning and conversation in schools, with more emphasis on mutual social support among youth. While the pedagogical professionals learn to hand over responsibility to the young people and grant them participation in their own development, the young people learn to help each other and thus contribute to a community with a lived culture of mutual support and solidarity.

The Empower Peers 4 Careers Project will be scientifically monitored to study the effectiveness of the approach for a

successful transition to the world of work. An important goal of the planned intervention study is to develop an offer for all cantons and different types of schools so that all young people in the school-to-work transition can benefit from it. It is also important to examine how the approach can be transferred to other types of schools such as 10th grade or bridge programs. It is also conceivable that the PPC approach could also be applicable in the training profession, with work colleagues supporting each other (Valero and Hirschi, 2019). Concrete products for practical use, such as brochures and guidelines, should contain ideas for content, didactic-curricular and organizational implementation with reference to the curriculum.

Assessments of Success and Feasibility

The project will be carried out during the period of 3 years thanks to the financial support of various funders. In addition, an expert committee consisting of representatives of vocational guidance, the cantons participating in the project, the universities, the elementary school education and of experts of content-related offers accompanies this project.

The training of the moderators of the participating 15 classes has already been successfully carried out. Central for the further success is that the participating persons continue to be well supported by the project team, especially when problems arise. Therefore, the introduction of such an offer should be understood as a school development process (Steinebach et al., 2018). From there, it should also be the goal to anchor PPC with its values, goals, and methods in the school as an organization.

Possible risks for the implementation of the project are that the teachers who have received the training as facilitators leave the school. In this case, the knowledge must be passed on to the new teachers, or the PPC groups must already be so well established that they can continue to run well. Other risks lie in the data quality of the data collected. The written surveys in the classes at the first time of measurement have already taken place and were conducted within one lesson in the class. For meaningful evaluations a sufficiently large sample must be achieved. To achieve this, additional classes could be included in the project for the 2022/23 school year. In addition, the effects of the current pandemic must always be closely monitored, and adjustments may need to be made.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

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Three Intervention Programs in Secondary Education on Attitudes Toward Persons With a Disability

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Persons with a disability make up a social group which is in an especially vulnerable situation. They have to face obstacles and difficulties in their participation as part of the community with equal opportunities, in which attitude of others is a determining factor. This study makes a comparative analysis of three intervention programs (1 "Simulation and Modeling," 2 "Information and Awareness Raising," and 3 "Adapted Sport") on attitudes toward persons with a disability of adolescents in secondary schools. Each program is based on a concrete technique, but they all have the common thread of the direct, structured contact technique with persons with a disability. The effectiveness of the three programs in changing attitudes is analyzed, and their impact on the different factors of the attitude construct (1 "acceptance/rejection," 2 "competence/limitation," and 3 "equality of opportunities") is also studied. The results show the effectiveness of the three programs. The students show more positive attitudes toward persons with a disability in all the groups, especially program 1. Analyzing the general influence of the three programs on the factors of the attitude construct, it can be seen that in factors 2 and 3, the attitudes have significantly improved in all three programs. Finally, the results show that each program has been more effective on a concrete attitude factor.

Keywords: attitudes, adolescents, disability, intervention, secondary education

INTRODUCTION

Certain groups of people in our society find themselves in a situation of special vulnerability, defined by the identification of certain personal characteristics that define them as a group and which differentiate them from the current stereotype of normality. These groups have to face obstacles and difficulties to their participation in the community as they do not enjoy equal opportunities with respect to the rest of the people, in contradiction to their rights as should be guaranteed by an adequate system of recognition and protection of human rights (Campoy, 2017). The Convention on the Rights of Persons with Disabilities (Organización de las Naciones Unidas, 2006), as the principal instrument of the United Nations to protect the rights and the dignity of persons with disabilities, sets out as the fundamental principles respect for a person's inherent dignity, an absence of discrimination, the full and effective participation and inclusion in society, the respect for difference and the acceptance of the

collective as part of the diversity, and equal opportunities, among others.

According to the Organización Mundial de la Salud (2011), a disability is understood as the interaction of different factors and deficiencies, including limitations to an individual's activity as well as restrictions to his/her participation. Before reaching this current vision of disability, a long period of adaptation has passed during which our understanding focused on the deficiencies and limitations of the person and his/her lack of abilities (medical-rehabilitation model). In the 1970s, a new way of understanding disability started in the United States, creating the foundations for the future movement for an independent life (DeJong, 1979; Shapiro, 1994). At the same time, in the United Kingdom, there arose, from a sociological viewpoint, the development of the social barriers model, which would later take the form of the social disability model (Barnes et al., 2002). Both movements have a new vision of disability, one which stresses the importance of the social barriers as a decisive factor in the limitations and difficulties that this collective suffer. From such a viewpoint, a disability ceases to be defined as a person's physical, mental, intellectual, or sensorial limitation, becoming instead a social limitation. The social model sees a disability not only as an attribute of a person, but also as the product of the interaction between a set of conditions, many of which are created by the social environment (Hasler, 2003; Ferreira, 2008; Lawson and Beckett, 2021). Such a focus opens the way for a new concept centered on human rights and posing a change of paradigm in the way of understanding a person with a disability.

A person's disability and her/his functioning are conceived as a dynamic interaction between the state of health and contextual factors, which also involves both personal and environmental factors which make a full and effective social participation in conditions of equality with other persons more difficult (Organización Mundial de la Salud, 2001; Organización de las Naciones Unidas, 2006; Abellán and Hidalgo, 2011). Among these said factors, it is worth mentioning the attitudes toward the collective because of their great influence. Such attitudes are a determining relational and environmental factor which can either facilitate of hinder the process of inclusion in society (García and Hernández, 2011; Organización Mundial de la Salud, 2011). For Luque and Luque-Rojas (2011), discrimination toward persons with a disability may derive in social exclusion, which can finally lead to a loss of their rights and active participation in society.

Thus, as the relation between a person with a disability and his/her environment is vital, then the attitudes (understood as the social constructs of those who surround them) play a fundamental role in the development and future of the person and her/his process of inclusion (Hampton and Xiao, 2008; Bešić et al., 2017).

The construct attitude understood as an idea charged with emotion that predisposes one toward a particular kind of actions when faced with a certain stimulus (Triandis, 1971), refers to the three-dimensional model of attitude built up around three components: the cognitive, which is made up of beliefs (stereotypes); the affective, which is made up of the emotions (prejudice); and the behavioral, following the tendency or predisposition to have negative, discriminatory behavior patterns toward members of the minority group that tend to marginalize them (discrimination; Rosenberg and Hovland, 1960; González and Leal, 2009; León et al., 2009). Upon this basis, society still manifests itself through disaffected social beliefs and associated behavior patterns, predominantly negative and pejorative attitudes that stigmatize and exclude persons with a disability, undermining their full inclusion in society (UNICEF, 2013; Sevilla et al., 2014; Echeverría and Galaz, 2018). Depending on whether the attitudes are positive or negative, they either favor or reduce the capacity for inclusion on a social, family, or individual level (Rillotta and Nettelbeck, 2007; Shannon et al., 2009).

These attitudes form a determining contextual, environmental, and relational factor that makes the lives of certain persons or collectives more difficult in all areas. Thus, one of the main barriers that persons with a disability must face is not the disability in itself, but the lack of acceptance on the part of others, caused by ignorance, indifference, and unease (Behler, 1993; Miller and Cordova, 2002). Among the negative attitudes toward disability, the term "ableism" has arisen to define a form of discrimination or social prejudice, oppression, and abusive behavior that arises from the belief that persons with a disability are inferior to others (Nario-Redmond, 2010; Nario-Redmond et al., 2019).

One of the expressions of "ableism" is micro-aggressions, a very common social phenomenon concerning persons with a disability (Moral et al., 2020). These micro-aggressions affect all spheres of life, occurring in such areas as the family, school, and even the disability organizations themselves (Oliver, 1990), and are perpetrated in a more or less disguised manner (Campbell, 2008, 2009; Wolbring, 2008; Bell, 2015; Bogart and Dunn, 2019). Thus, as mechanisms of discrimination, micro-aggressions interrupt the enjoyment of equal rights or make it impossible, creating a negative impact in the development of the self-concept and identity of the persons who suffer the said discrimination (Keller and Galgay, 2010; Dunn and Andrews, 2015; Forber-Pratt et al., 2017; Dirth and Branscombe, 2018, 2019; Harder et al., 2019). These stereotypes and prejudices that become discriminatory behavior (micro-aggressions) toward the collective are indications of the need to carry out awareness raising programs to bring about an effective and realistic change in attitudes.

Due to all of the above-mentioned points, attitudes are considered to be one of the most powerful barriers against the acceptance of persons with a disability, as well as being one of the biggest obstacles that exist in their path toward inclusion (Hampton and Xiao, 2008; Novo-Corti et al., 2011; Organización Mundial de la Salud, 2011). A growing number of intervention programs have recently been developed to modify and reverse the said prejudices and stereotypes that still exist concerning persons with a disability (Polo et al., 2011; Serrano et al., 2013).

The educational sphere is a privileged stage from which to enable a change in attitudes and to encourage positive attitudes toward persons with a disability (Shannon et al., 2009; Gurdián et al., 2020).

According to several works of research, attitudes are subject to constant change. Attitudes are learnt, in particular, during the first years of life when one's attitudes are not so deeply rooted and it is here that education, through awareness raising programs, can favor positive changes in attitudes toward disability (Triandis, 1971; Guitart, 2002; Aguado et al., 2008; Cameron et al., 2011; Linsay and Edwards, 2012). Adolescence is considered to be a crucial stage in human development, when behavior patterns and attitudes are malleable and in a state of constant formation (Hurlock, 1971). When evaluating the attitudes of adolescent students toward their peers with disabilities, several works of research have confirmed that negative attitudes are held at these ages, being clearly defined at an earlier age (Aguado et al., 2004). They can even progressively worsen at the start of adolescence, paving the way in adulthood for such attitudes to become ingrained and irreversible (Blos, 1979; Muratori et al., 2010). So, it is relevant for this type of intervention to be encouraged at an early age in order to avoid preconceived attitudes toward persons with a disability (Víquez et al., 2020).

The intervention programs created to foment a change in attitude toward persons with a disability, developed both in Spain and outside Spain, all provide results which suggest that attitudes toward this collective are not as positive as one could hope and that they can be improved through conveniently planned intervention programs (Pérez-Tejero et al., 2012; Alcedo et al., 2013; Santana and Garoz, 2013; McKay et al., 2015; Harrison et al., 2019). Faced with this reality, the study of and research into the strategies and techniques included in the most effective attitude-changing intervention programs take on greater importance (Delgado, 2015).

Outstanding among the different theoretical approaches adopted to understand and explain the acquisition and modification of attitudes are the theories of consistency and contact. The first is based on the principle that persons make an effort to maintain some kind of coherence in their beliefs, attitudes, and behavior (Briñol et al., 2003). The second establishes that intergroup contact implies clearly defined, real, face-to-face contact between the members of the groups and tends to produce changes in attitudes (Allport, 1979; Pettigrew and Tropp, 2006; Lemmer and Wagner, 2015; Boin et al., 2021; Polo et al., 2021; Sadziak et al., 2021); giving rise to what Pettigrew (2009) called the "transfer of the secondary effects of contact," in reference to the fact that those attitudes acquired through experiencing contact with a particular group can be transferred toward other groups not involved in the original situation.

As for the theoretical approaches that focus on contact and which are based on scientific evidence, some studies that investigate prejudice as the basis of discriminatory attitudes toward persons with a disability classify the contact theory as being among the principal focuses for reducing such attitudes (Paluck et al., 2019; Boin et al., 2021). This theory has given rise to a series of techniques for modifying attitudes toward persons with a disability, in particular the contact technique. In this sense, such systematic reviews as those of Pettigrew and Tropp (2006), Florez et al. (2009), and Lemmer and Wagner

(2015) analyze the conditions that increase the effectiveness of the contact technique in changing attitudes. They stress: careful planning of the interactions and the encouragement of an intergroup climate that makes the individual skills of the persons with a disability more visible; gratifying interactions in an atmosphere of respect based on cooperation; the selection of persons with a disability based on criteria concerning motivation for one's actions, credibility, competence in the areas of knowledge to be worked on, domination of social skills, and a positive attitude toward their own disability, while being willing to talk about it; prior training in the activity to be carried out so they can feel confident and safe, carrying out interactions based on the person's skills and the disabling environment, instead of on the deficiencies and medical diagnoses of the disability, as well as on the preparation of the students prior to the interaction by indirect means (videos, readings, etc.).

The effectiveness of the contact theory is due to the fact that it facilitates the discovery of the positive attributes of persons with a disability through interventions based on structured contact and positive interactions which allow one to recognize the potential of a person with a disability, thus generating more accurate expectations and helping to eliminate barriers and prejudices toward them (Verdugo and Arias, 1991; Alcedo et al., 2013; Felipe et al., 2020). Intergroup contact has a great potential for effective interventions aimed at reducing prejudices (Boin et al., 2021).

Several works of research confirm the fact that prior, direct contact with persons with a disability can bring about an improvement in the attitudes toward this collective, as long as the said contact implies acquiring greater knowledge of the disability (Suriá, 2011; Armstrong et al., 2017; Abellán, 2018; Scanlon et al., 2020). Research into this question has shown that, when students receive information concerning persons with a disability and they also participate in significant interaction with them, more positive attitudes are seen (Rillotta and Nettelbeck, 2007; McKay et al., 2015). However, the success rate of the reduction in prejudicial attitudes is not limited to direct interventions; later studies have shown that successful interventions can also be carried out through diverse forms of indirect contact, such as vicarious, imagined, or virtual contact (Lemmer and Wagner, 2015; Cocco et al., 2020).

In the educational context, certain documentary reviews and analyses of attitude changing programs analyze the procedures used in their implementation. Here, the information is presented in the form of discussion groups and work groups, with simulations and role playing the condition of the disability in question. There is also direct contact with persons with a disability, indirect contact through videos and films, imagined contact, through activities involving reflection and practical experiences, as well as teaching ways to conceptualize disability. Such are the strategies that can be seen to have the greatest effectiveness in attitude reorientation programs (Lean et al., 2006; Linsay and Edwards, 2012; Santana and Garoz, 2013; Martos-García et al., 2016; Árnadóttir et al., 2018; Logan and Bogart, 2020; Reina et al., 2020; Kirk et al., 2021).

The technique of simulation and modeling involves the vicarious experience of observing the simulation of a disability,

in order to positively modify attitudes (Stathi et al., 2014; Ginevra et al., 2021). Several studies consider it to be one of the most effective strategies for promoting changes in attitudes (Slininger et al., 2000; Hodge et al., 2002; McCarthy and Light, 2005). In this sense, a greater benefit is noticed if the subjects who experience the simulation perceive the reactions of the persons with a disability and the reactions toward themselves as simulators (Donaldson, 1987; Horne, 1988). According to certain studies, the technique is most effective if the experience is planned with sufficient time to provide the participants with the understanding of the effort required by those with a disability to overcome the challenges that the disability on occasions presents, taking on the activity seriously so it raises their awareness of what persons with a disability could do if they had the appropriate adaptations available. Furthermore, if after completing the activity, there is a discussion/debate concerning the experience they have had (French, 1992; Kiger, 1992; Verdugo et al., 1994; Herbert, 2000; Burgstahler and Doe, 2004; Hurst et al., 2012).

However, there are studies that question this technique, either because the empirical evidence sustaining it as a technique to foster changes in attitudes is weak, or because certain risks are associated to it for the participants, such as stress, pressure or a lack of confidentiality (French, 1992; Kiger, 1992; Herbert, 2000; Nario-Redmond et al., 2017). Along these lines, other studies indicate that the simulation of disabilities generates anxiety while not promoting any improvement in attitudes toward persons with a disability, thus affecting the collective's integration into society. Other studies raise the question that simulation as a technique supposes living through the difficulties of other persons and that, in the sphere of physical disability; it can be counterproductive, as it diminishes the perceived competences of the persons with a disability (Silverman et al., 2015).

As for the technique of awareness raising and information, it should be said that the progress made in overcoming psychosocial barriers have been achieved through intervention programs whose most commonly used techniques are awareness raising and information concerning the disability (Gurdián et al., 2020; Lawson and Beckett, 2021). Research in this respect has shown that when students receive information concerning persons with a disability and also participate in significant interactions with them, they then reflect more positive attitudes (Rillotta and Nettelbeck, 2007; McKay et al., 2015). Research into this question has shown that, when students receive information concerning persons with a disability and they also participate in significant interaction with them, more positive attitudes are seen (Rillotta and Nettelbeck, 2007; McKay et al., 2015). Greater knowledge of a disability can lead to improved attitudes in the long term (Navas et al., 2004; Vignes et al., 2009; Moore and Nettelbeck, 2013); while ignorance and a lack of information can negatively affect students' attitudes (Nowicki, 2006; Rillotta and Nettelbeck, 2007; Ison et al., 2010; Linsay and Edwards, 2012). Recent studies have stated that, in order to develop interventions which can generate positive attitudes, it is necessary to design awareness raising programs that consider direct contact with persons with a disability (Ocete et al., 2022). Prior contact helps to reduce intergroup

anxiety which, together with increased empathy, can act as mediators for the effects of contact (Pettigrew and Tropp, 2006; Seger et al., 2017).

As for the technique of adapted sport, a change in attitudes toward persons with a disability has been demonstrated in those who participate if it is combined with information concerning the disability and the adapted sports, a simulation of the disability in the said sports, debates and guided discussions (Guitart, 2002; Aguado et al., 2004; Santana and Garoz, 2013). This technique also supposes a contribution to education in values and the social awareness raising of those who participate in the said technique (Robles-Rodríguez et al., 2017). According to Abellán et al. (2022), one of the commonest forms of simulating a disability in Physical Education is through the practice of adapted sport. Although there is a scarcity of scientific publications concerning intervention programs with persons with a disability in the sphere of physical sporting activity or studies concerning attitude changing programs in school populations that use physical sporting activity as a fundamental guide (Felipe and Garoz 2014; Felipe, 2017); positive results are considered in some of them with respect to changes in attitude in school populations and young people (Xafopoulos et al., 2009; Reina et al., 2011; Pérez-Torralba et al., 2019).

Thus, this study aims to analyze which intervention modes are most effective in combination with the contact technique for generating changes in attitude toward persons with a disability in the adolescent population in schools. We also aim to analyze the effect of the said techniques on the different components of the attitude construct. To be more precise, we carry out three intervention programs using a different technique in each: the first using "Simulation and Modeling (vicarious experience)" of the disability; the second using "Information and Awareness Raising"; and the third using "Adapted Sport."

MATERIALS AND METHODS

Participants

The number of participants was determined, initially, from the 43,389 students registered in obligatory secondary education (ESO) in the Autonomous Community of Extremadura (Spain) in the 2018–2019 academic year, considering a sample error of 4% and a confidence interval of 96%. The total sample was made up of 548 secondary school students from 20 states and privately owned direct grant schools. These centers were selected at random by means of cluster sampling from a total of 120 centers. The study was carried out using one class group per school. Each school was assigned a particular year group (first, second, third, or fourth) so that all years would be represented. Assignation to experimental and control groups was carried out through a draw. As for the representativeness, 30% of the students were in their first year of secondary school, 27% in the second year, 22% in the third, and 21% in the fourth. Around 51.7% were girls and 48.3% were boys, all between 12 and 16 years of age *(M = 13.66; SD = 1.374).*

Instrument

"Brief Questionnaire for Adolescents on Attitudes Toward Persons With a Disability CBAD-12A"

This instrument (Álvarez et al., 2020) is chosen as it is the only instrument validated for evaluating attitudes toward persons from 12 to 16 years of age with a disability in the Spanish population. It is an instrument of great diagnostic and/or predictive utility when analyzing the attitudes of this age group. It is a brief instrument, created specifically for the need to have an evaluation instrument that can solidly analyze attitudes toward the said collective with sufficient evidence of validity and reliability, while also allowing a simple and fast application (Álvarez et al., 2020). The response format was of a Likert type with five possible answers, in which 1 is "totally disagree" and 5 "totally agree." Higher scores in the questionnaire indicate more negative attitudes toward persons with a disability (Álvarez et al., 2020).

According to the authors, the analyses carried out confirm that the variables associated with the attitudes of adolescents toward persons with a disability can be grouped into three factors (acceptance–rejection, competence–limitation, and equal opportunities) made up of four well-defined, solid and relevant items with weights over 0.50 and with an adequate internal consistency. For instance, one item from each factor of the questionnaire is presented: Factor 1 acceptance/rejection: *"I would not go to a place where they know me accompanied by a person with a disability"*; Factor 2 competence/limitation: *"Persons with a disability, in many aspects, are like children"*; and Factor 3. equal opportunities: *"An unemployed person without a disability should be contracted before an unemployed person with a disability."*

The instrument is subjected to an AFC and the correlations between the three factors indicate that they are clearly related. This, in turn, indicates that as the negative attitudes toward disability in one of the factors increase, they also increase in the other two. A structural equation analysis is carried out and the random resampling method is applied which allows us to verify that the latent variables in the three factors are well defined and adequately evaluated, strengthening the good psychometric characteristics of the CBAD-12A. In addition, a multi-group analysis is applied that confirms the equivalence of the factorial structure of the questionnaire with respect to gender. Finally, in order to contrast its nomological validity, and starting from the hypothesis that those subjects who maintain contact with persons with a disability will have more positive attitudes toward them, comparisons between subjects with and without contact were carried out to confirm the said hypothesis.

In this study, the reliability indices for the different factors were: acceptance/rejection, Cronbach's Alpha ($\alpha = 0.82$), and McDonald's Omega ($\Omega = 0.84$); competence/limitation ($\alpha = 0.77$, $\Omega = 0.77$); and equal opportunities ($\alpha = 0.74$, $\Omega = 0.74$).

To confirm whether the model found in the original validation study (Álvarez et al., 2020) adequately fit our data; we have used the goodness indices described in **Table 1**. As can be seen, the model is adequate and the fitness indices are optimum, showing evidence of reliability and validity for the generalization of our results.

Procedure

The study was carried out in the centers selected for the intervention, over 9 weeks of a school term during class time. The centers were asked to complete an informed consent form for the research, a document which expressly asks the educational center to accept its participation in the research.

The research took place in three phases, the first 2 weeks before the intervention to fill in the CBAD-12A questionnaire for the control group (CG) and the experimental groups (EG1, EG2, and EG3). Qualified personnel went to the centers at appointed times during tutorial hours to supervise the filling-in of the questionnaire, attending to any doubts that the students might have. The tutorial hour was chosen to facilitate the task being carried out in a relaxed atmosphere with the presence of the tutor. The presentation, completion, and collection of the questionnaire took approximately 40 min. In the second phase, the three intervention programs were applied and the participants were distributed at random among the three versions, EG1, EG2, and EG3. The students from the CG received their normal tutorial class. Each program had a team of three monitors with a disability to coordinate the activities. The third and last phase took place 2 weeks after the intervention itself, to complete the CBAD-12A questionnaire once more in the same tutorial hour and under the same conditions as in the first phase.

The intervention programs and their methodologies are singular: the first (EG1) uses the simulation and modeling technique (vicarious experience); the second (EG2) uses the information and awareness raising technique concerning disability; while the third (EG3) uses the adapted sport technique. Each program consists of three sessions carried out over 6 weeks, one session each 2 weeks. The work methodology is mainly based on group dynamics, videos and bibliographical material, role-playing, simulation, and cooperative learning.

The interventions were carried out in different areas of each center. The purpose of the simulation and modeling technique (EG1) was to encourage a change of attitudes by putting the students in place of persons with a disability, simulating different situations through the use of technical aids and the analysis of the problems of universal accessibility. The information and awareness raising technique (EG2) aimed to provide the students with information concerning the conceptual, legal, and practical contents referring to disability, in the hope of raising awareness of this collective's rights. The objective of the adapted sport technique (EG3) was to provide the students with knowledge of adapted sports through practicing them, thus putting themselves in the position of persons with a disability. **Table 2** shows details of the interventions carried out with these different techniques. There were no interventions with monitors for the control group (CG), nor was there direct or indirect contact with the students who made up this said group.

Design

A quasi-experimental methodology was used with a non-equivalent control group and pre- and post-measures in both experimental and control groups. This is precisely one of the most commonly used methodologies in educational

TABLE 1 | Goodness-of-fit indices for the proposed model, Questionnaire (CBAD-12A) by Álvarez et al. (2020).

Model	χ^2	χ^2/df	GFI	IFI	TLI	CFI	RMSR	RMSEA
3 factors	140.767	2.760	0.972	0.931	0.909	0.930	0.042	0.046

χ^2, Chi-square statistic; χ^2/df, Chi-square divided by the degrees of freedom; GFI, Goodness-of-fit index; AGFI, Adjusted goodness-of-fit index; IFI, Incremental fit index; TLI, Tucker–Lewis index; CFI, Comparative fit index; RMSR, Root of the mean square residual; and RMSEA, Root mean square error of approximation.

TABLE 2 | Details of the interventions carried out with these different techniques.

Program 1. Simulation and Modeling Technique	Program 2. Information and Awareness Raising Technique	Program 3. Adapted Sport Technique
First session. Presentation of the program and the monitors.	**First session**. Presentation of the program and the monitors	**First session**. Presentation of the program and the monitors.
Technical aids (wheelchairs, crutches, walking sticks, and walking frames) to overcome the environmental barriers. Explanation of their use with PowerPoint, videos and real demonstrations by the monitors (modeling). Learning to use the technical aids in three teams with a monitor to coordinate the activity. Discussion concerning the experience. Monitors talk of their experience in relation to the use of the said technical aids in their life.	Disability, attitudes, and effects on persons with a disability.	Adapted sport in its different modalities.
	Debate format (concept of disability, the knowledge students have of persons with a disability, society's and students' attitudes, analyzing beliefs, stereotypes and prejudices and their influence on persons with a disability). The monitors share their own experience with the students concerning the difficulties they have found with respect to the social attitudes they have come across in their lives.	BOCCA, Presentation and explanation of the sport, its adaptations for persons with a disability and the techniques used to play it. Three teams are formed, a monitor acting as the captain of each team. A tournament is organized and played. Finally, a guided discussion is held concerning the experience.
Second session. Simulation of the disability. Itineraries around the center using the technical aids. Detection and analysis of the different barriers in the environment. Observation of the classmates who simulate the disability, empathizing with the difficulties of the collective. The monitors guide and advise the students during the simulations. Pooling the teams' ideas concerning the experience, analyzing the barriers in the environment. The monitors talk of their own experience when faced with such difficulties in their lives, not so much because of their disability but from the point of view of a lack of accessibility.	**Second session**. Convention on the Rights of Persons with a Disability (Organización de las Naciones Unidas, 2006). Each team is led by a monitor who coordinates the activity. Each team selects and analyzes three fundamental rights from the CRPD. Guided discussion on the degree of fulfilment of the said rights and their importance for persons with a disability. The teams create an awareness raising campaign with a poster concerning the three rights worked on.	**Second session**. Presentation and explanation of wheelchair basketball, its adaptations for persons with a disability and the technique used. Wheelchair practice is performed and three teams, each one captained by a monitor, are formed. The three teams participate in a tournament. Finally, a guided discussion is carried out concerning the experience.
Third session. Role playing daily situations (shopping, using public transport or going to a café). Simulation of some of the limitations and difficulties that persons with a disability have in their social environment. Subsequent analysis and debate concerning the experience. The monitors explain their own experience in the said situations, telling real anecdotes to demonstrate the difficulties that social attitudes generate in their day to day lives.	**Third session**. Each team presents their awareness raising campaign. Together with the monitor from each team, the students agree on placing the posters in a visible location within the center in order to raise awareness among the educational community.	**Third session**. Presentation and explanation of wheelchair slalom, its adaptations for persons with a disability and the technique used.
		Through the different sessions, the students analyze the benefits of sport for persons with a disability, simulating access to physical sporting activity, putting the students in the place of the persons with a disability. They work on the knowledge and simulated practice of adapted sports, demonstrating and practicing alternatives in sport. Finally, a guided discussion is carried out concerning the experience.

research. In most empirical studies carried out in the educational sphere, the quasi-experimental methods have taken on a great importance due to the organizational and ethical difficulties of providing a rigorous control of the experimental method in the educational context and to the desire to achieve the explanatory effectiveness of the cause-effect relations which are characteristic of the said method. A quasi-experimental design consists in applying experimental designs to real situations (educational, family, social etc.), but it has its limitations. The two fundamental strategies for controlling whether a confounding variable may have affected the results of the study are to include a control group and to take measures both prior to and following the application of the intervention.

We worked with independent groups, one control group (CG) and three intervention groups (EG1, EG2, and EG3). EG1 received the intervention with the *"Simulation and Modeling"* program and was made up of 219 students. EG2 received the *"Information and Awareness Raising"* program and was made up of 164 students.

EG3 received the *"Adapted Sport"* program and was made up of 60 students. The control group was made up of 105 students.

The dependent variable, attitudes toward disability, was measured following the application of the different programs. The control group did not receive the intervention and all the groups (experimental and control) completed the pre-test and post-test phases with the brief questionnaire on attitudes toward disability (CBAD-12A) by Álvarez et al. (2020).

Data Analysis

We initially carried out reliability analyses (Cronbach's Alpha and McDonald's Omega), as well as a confirmatory analysis (CFA) of the instrument used. We then submitted the data to the Kolmogorov–Smirnov and Levene tests in order to determine the assumptions of normality and homoscedasticity. $p > 0.05$ was found in all the contrasts, thus justifying the use of the tests: ANOVA for independent samples, the Student t-test for related samples and covariance analyses (ANCOVA).

We also used tests for the size of the effect (η^2 and Cohen's d). The statistical techniques were carried out using the statistical package SPSS, version 21 (IBM Corp, New York, NY, United States, 2012) and JASP Free, while the AMOS-21 program was used for the CFA.

RESULTS

First of all, in order to know whether the pre-test scores of the CBAD-12A enable an appropriate base for inter-group comparisons (control-experimental), thus reducing the possibility that the estimates associated to the independent variable may be due to other factors which have not been taken into account and to contrast the effectiveness of the intervention carried out, we performed inter-group pre-test (control/experimental) and intra-group (pre-test/post-test) comparisons (**Table 3**). Similarly, to complete the information provided through the application of the significance tests (ANOVA and Student t-test), the size of the effect was calculated using the η^2 and Cohen's d statistics.

In the inter-group pre-test comparisons (control/EG1/EG2/EG3), the lack of any significant differences in the factors 1 "acceptance/rejection" and 3 "opportunities" ($p \leq 0.05$) in the scores of the CBAD-12A demonstrates the equivalence between the groups as a good basis for comparison (**Table 3**). Significant differences ($p = 0.009$) are only found in the factor "competence." The pair comparisons of Bonferroni show that the differences are established between the experimental groups EG1 and EG2 ($p = 0.021$).

On the other hand, in the inter-group post-test comparisons (control/EG1/EG2/EG3), the experimental groups obtain significantly lower scores ($p < 0.001$) in the factors 2 (competence) and 3 (opportunities) del CBAD-12A with medium effect sizes. As for factor 2 "competence," the pair comparisons of Bonferroni show that the differences are established between the control group and EG1 ($p < 0.001$), the control group and EG2 ($p = 0.050$), and the control group and EG3 ($p = 0.020$), as well as between the experimental groups EG1 "Simulation" and EG2 "Awareness Raising" ($p = 0.027$). These differences had already been established in the pre-test. As for factor 3 "opportunities," the pair comparisons of Bonferroni show that differences are only established between the control group and EG1 ($p < 0.001$).

In order to control the possible variations due to differences between the control group and the experimental group, the data were subjected to the Student t-test for related samples (**Table 4**) so as to check whether the results found could

TABLE 3 | Inter-group analysis.

		CG		EG1		EG2		EG3		F	p-value	η^2
		M	SD	M	SD	M	SD	M	SD			
Pre-test	F1: Acceptance/ Rejection	6.92	2.77	7.35	2.69	7.44	2.66	7.56	2.90	1.014	0.386	0.007
	F2: Competence	10.42	3.06	10.49	2.84	11.35	2.87	11.26	3.55	3.891	0.009	0.019
	F3: Opportunity	6.50	2.12	6.90	2.41	6.85	2.19	7.47	2.99	2.046	0.106	0.013
Post-test	F1: Acceptance/ Rejection	7.10	3.20	6.66	2.33	6.60	2.65	6.88	2.71	0.984	0.400	0.005
	F2: Competence	10.55	3.51	8.70	2.60	9.54	3.26	9.11	3.40	10.16	0.000	0.047
	F3: Opportunity	7.29	2.46	6.24	2.04	6.72	2.63	6.66	2.52	5.548	0.001	0.026

One-factor ANOVA. CG, Control Group; EG1, Simulation; EG2, Awareness Raising; and EG3, Adapted Sport.

TABLE 4 | Intra-group analysis.

		Pre-test		Post-test		t	p-value	d
		M	SD	M	SD			
CG	F1: Acceptance/Rejection	6.92	2.77	7.09	3.21	−0.525	0.601	0.057
	F2: Competence	10.41	3.06	10.58	3.57	−0.565	0.573	0.051
	F3: Opportunity	6.50	2.12	7.23	2.43	−2.845	0.005	0.332
EG1	F1: Acceptance/Rejection	7.35	2.69	6.64	2.32	5.571	0.000	0.283
	F2: Competence	10.49	2.84	8.65	2.50	12.596	0.000	0.689
	F3: Opportunity	6.90	2.41	6.22	2.03	4.411	0.000	0.306
EG2	F1: Acceptance/Rejection	7.44	2.66	6.62	2.67	3.481	0.001	0.309
	F2: Competence	11.35	2.87	9.59	3.25	8.301	0.000	0.576
	F3: Opportunity	6.85	2.19	6.68	2.61	0.854	0.394	0.071
EG3	F1: Acceptance/Rejection	7.56	2.90	6.89	2.72	1.906	0.062	0.240
	F2: Competence	11.26	3.55	9.02	3.37	5.132	0.000	0.653
	F3: Opportunity	7.47	2.99	6.56	2.49	2.100	0.040	0.334

Repeated measures t-Student.
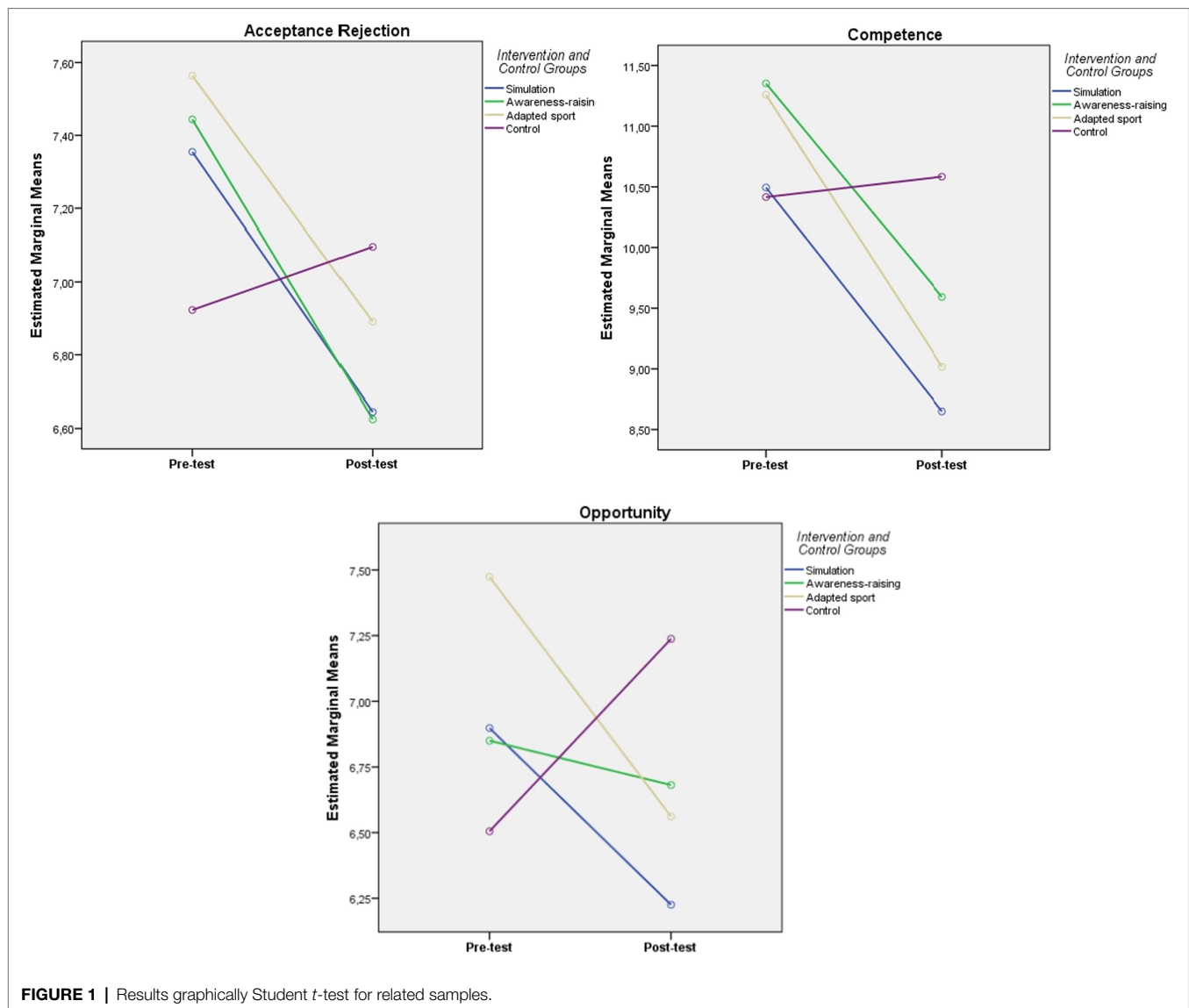
FIGURE 1 | Results graphically Student *t*-test for related samples.

be attributed to the independent variable (the intervention). **Figure 1** shows these results graphically.

For EG1 "Simulation," the intra-group comparisons show a significant reduction ($p < 0.001$) between the pre-test and post-test scores in the three factors of the CBAD-12A, with medium to high size effects ($d \geq 0.69$) in factor 2 "competence." In EG2 "Awareness Raising," significant differences ($p \leq 0.001$) are found in factor 1 "Social Rejection" and factor 2 "competence," with medium to high size effects ($d \geq 0.58$) in factor 2 "competence." For EG3 "Adapted Sport," significant differences were found in factor 2 "competence" ($p < 0.001$) and factor 3 "opportunities" ($p = 0.040$), with medium to high size effects ($d \geq 0.65$) in factor 2 "competence." On the other hand, there is a significant increase ($p = 0.005$) within the control group between the pre-test and post-test scores in the factor 3 (opportunities), with a medium effect. This increase is contrary to our hypotheses.

The analysis of the size effects (Cohen's *d*) provides evidence that the greater size occurs in factor 2 "competence" and also

that, for factor 1 "Social Rejection," the greater size effect occurs in EG2 "Awareness Raising" ($d = 0.31$). In factor 2 "competence," the greater size effect occurs "Simulation" EG1 ($d \geq 0.69$); while, for factor 3 "opportunities," the greater size effect occurs in EG3 "Adapted Sport" ($d = 0.33$).

Finally, in order to control the effect of the regression to the mean, we have to eliminate the effect attributable to other variables not included in the design and thus not subject to control from the dependent variables (post-test scores of the CBAD-12) by carrying out inter-subject effect tests (ANCOVA). The pre-test scores of the dependent variables are used as co-variables and the different groups (control/EG1/EG2/EG3) as fixed factors.

The ANCOVA (**Table 5**) shows significant differences ($p \leq 0.05$) between the groups (experimental and control) in factors 1 (acceptance/rejection), 2 (competence), and 3 (opportunities), confirming the results found in the inter-group comparisons (**Table 2**). So, the decreases observed in the scores of the

TABLE 5 | Inter-subject effects test (ANCOVA).

		Origin	Sum of type III squares	*gl*	Quadratic mean	*F*	*p*-value	η^2
Post-test	F1: Acceptance/ Rejection	Pre-test F1	1042.771	1	1042.771	202.727	0.000	0.254
		CG/EG1/EG2/EG3	39.698	3	13.233	2.573	0.049	0.013
		Error	3065.651	596	5.144			
	F2: Competence	Pre-test F2	1852.909	1	1852.909	313.981	0.000	0.345
		CG/EG1/EG2/EG3	310.089	3	103.363	17.515	0.000	0.081
		Error	3511.297	595	5.901			
	F3: Opportunity	Pre-test F3	434.497	1	434.497	94.183	0.000	0.136
		CG/EG1/EG2/EG3	104.524	3	34.841	7.552	0.000	0.037
		Error	2754.156	597	4.613			

CBAD-12A Factors/Group intervention.

CBAD-12A in the experimental groups may be attributable to the intervention carried out.

DISCUSSION

This research aimed to analyze three intervention programs and their effectiveness in changing the attitudes toward persons with a disability of adolescent students in educational centers. Each of the programs had a particular technique as its base: "Simulation and Modeling" in program 1, "Information and Awareness Raising" in program 2 and "Adapted Sport" in program 3; all brought together by the technique of direct, structured contact with persons with a disability (Laws and Kelly, 2005; García and Hernández, 2011; Polo et al., 2011; Armstrong et al., 2017; Logan and Bogart, 2020; Kirk et al., 2021).

Concerning the first objective of this study, to analyze the effect of each program on the change in attitude toward persons with a disability, the results show the effectiveness of the interventions as the students demonstrate more positive attitudes toward this collective in all the groups (EG1, EG2, and EG3). This is not the case with the control group (CG), which maintains or even worsens their attitudes toward the collective in factor 3, "equal opportunities." This may be due to the fact that, as they receive no interventions, they focus their perceptions on aspects related to the limitations (social prejudices and stereotypes) of the persons with a disability and not on their possibilities, capacities and potential (Bausela, 2009). On the basis of the consistency theory, it is considered that people make an effort to maintain a certain coherence in their beliefs, attitudes, and behavior (Briñol et al., 2003).

As for the effectiveness of the intervention programs, it was program "Simulation and Modeling" that, taking the three factors evaluated as a whole, achieved the greatest change in attitudes. Different studies consider the appropriateness of this technique. They pose the idea that, of the numerous techniques used to change attitudes toward persons with a disability, "simulation" is one of the most effective in promoting changes in attitudes (Slininger et al., 2000; Hodge et al., 2002; McCarthy and Light, 2005). Exposing students to the "simulation" of situations that persons with a disability have to face every day is one way for them to know such problems, directly, profoundly

and "in person." This will generate a greater empathy and a greater awareness of the competences required by persons with a disability when facing such tasks (Verdugo et al., 1994; López and López, 1997; Lean et al., 2006; Florez et al., 2009; Delgado, 2015; Seger et al., 2017). According to Ríos (2003), such an exposition encourages them to understand and evaluate the possible difficulties that persons with a disability have. It would seem much more effective to have a session in which the students sit in wheelchairs and visit their center, thus realizing that architectural barriers exist than to have a session presenting a series of slides concerning such architectural barriers. In short, the "Simulation and Modeling" program has allowed these students to live through certain situations that limit their normal functionality; an artificial situation that helps to educate the students in values and attitudes toward persons with a disability.

Nevertheless, some studies question this technique, as they consider it generates stress, pressure and a lack of confidentiality in the participants, while not promoting an improvement in attitudes toward persons with a disability (French, 1992; Kiger, 1992; Herbert, 2000; Silverman et al., 2015; Nario-Redmond et al., 2017). As for the research bases in this kind of questions concerning the technique of simulation, we are fully aware of the fact that, for a technique to be effective, the risks must be minimized and the planning of the activities has to be rigorous. Thus, in the simulation program carried out, the activities were always in groups supervised by monitors with a disability. The simulations were based on certain guidelines to guarantee their success, such as providing prior information to resolve any doubts; explaining the capacities of the monitors with a disability so as to resolve any problems they might face and thus prevent feelings on the part of the participants of despondency or considering the task to be impossible; informing of the possible risks and reminding the participants of the precautions they should take; anticipating the possibility of feelings of unease, allowing them to refuse to do the activity or to interrupt it at any moment, with the possibility of choosing the type of simulation in which they wish to participate; carrying out the activities in groups to face the limitations posed and to find solutions to the problems that arise; planning the experience with a sufficient duration of time in order to be able to understand and overcome the challenges that a

disability sometimes presents; creating an atmosphere of seriousness; giving the participants time to interiorize the simulation; proposing how the lives of persons with a disability would change if they had the necessary support (accessibility), instead of focusing on the negative aspects and difficulties; combining the active development of the simulation with the observational participation of the companions; finishing the activity with a colloquium-debate and discussion directed by the monitors with a disability concerning their lived experiences, in order to analyze the situations they lived through and observed in others, thus enabling the sharing of information concerning the difficulties found and generating solutions to improve accessibility in the environment (Donaldson, 1987; Clunies-ross and O'meara, 1989; Pfeiffer, 1989; Behler, 1993; Verdugo et al., 1994; López and López, 1997; Goddard and Jordan, 1998; Burgstahler and Doe, 2004; Hurst et al., 2012).

The second aim was to analyze the impact of each one of the programs in the different factors of the attitude construct: factor 1 "acceptance/rejection," factor 2 "competence/limitation," and factor 3 "equality of opportunities." In this sense, and following (Verdugo et al., 1994), it is important for the interventions to take into account all three components of attitudes, the cognitive, affective, and behavioral. Analyzing the general influence of the three programs on the factors (F1, F2, and F3), it can be appreciated that attitudes have improved significantly in factors 2 and 3 for all three programs of the intervention. The students of the experimental groups (EG) show a more positive perception of persons with a disability with respect to their competence and equality of opportunities (Slininger et al., 2000; Morton and Campbell, 2008; Florez et al., 2009; Xafopoulos et al., 2009; Linsay and Edwards, 2012). As for factor 2, all three programs show positive changes, especially in program "simulation," which is the most effective in bringing about changes in attitudes. The students who participated in this program are the ones with the greatest perception of the competence of persons with a disability. According to recent studies, the Simulation and Modeling technique brings with it a positive modification in attitudes (Stathi et al., 2014; Ginevra et al., 2021). As for factor 3, "equality of opportunities," all the groups improve their attitudes, especially those in program "Adapted Sport," being the most effective in changing attitudes in the said factor. After participating in the program "Adapted Sport," these students showed a greater awareness of equality of opportunities for persons with a disability (Kasser and Little, 2005; Reina et al., 2011).

The third objective was to evaluate how each of the intervention programs exerted influence with respect to the attitude factors. The results show that each of the programs achieved greater effectiveness in a particular factor. The "Simulation and Modeling" program generated a greater effect in factor 2 "competence/limitation." Simulating a situation of disability and putting oneself in the place of a person with a disability, who has to face day to day life situations and their ensuing difficulties, has an important effect on one's perception of the collective's competence (Horne, 1988; Verdugo et al., 1994; Goddard and Jordan, 1998; Reina et al., 2010). According to Seger et al. (2017), exposing the students to the "simulation" of situations that persons with a disability normally have to face generates greater empathy and greater awareness of the competences required by persons with a disability to deal with such tasks.

The intervention program "Information and Awareness Raising" had real effects on F1 and F2, but not F3; it was this program which had a greater impact on factor 1 "acceptance/rejection," the affective component of the attitude. These results coincide with other works of research in which the condition of empathy and emotional attachment is, without doubt, an important aspect that can be observed in the intervention programs (Asensio, 2002; Avramidis and Norwich, 2002; Moore and Nettelbeck, 2013). Providing knowledge concerning persons with a disability, information concerning the prejudices and stereotypes this collective suffers from and raising awareness of their rights have all had a positive impact on rapprochement to the collective. In this sense, the students show greater acceptance and adopt a more competent viewpoint toward persons with a disability. According to several works of research, these attitude changing programs can encourage the development of a greater social conscience in adolescents, leading to a more intense social acceptance of persons with a disability that breaks with the existing prejudices and stereotypes toward them (Aguado et al., 2004; Linsay and Edwards, 2012; Delgado, 2015; Gurdián et al., 2020; Lawson and Beckett, 2021).

The program that uses the technique of "Adapted Sport" is the one that shows a greater size effect in factor 3, "equality of opportunities." Our data are coherent with other studies as far as the effectiveness of this intervention technique is concerned, since they demonstrate that adapted sport greatly encourages equality of opportunities and the raising of social awareness toward this collective in secondary school students (Robles-Rodríguez et al., 2017; Árnadóttir et al., 2018; Felipe et al., 2020).

An important point that should be taken into account following the analysis of the results is that the three interventions carried out all had the common thread of the technique of structured contact which showcases the capacities of the monitors with a disability through positive interactions, thus facilitating the acknowledgement of their potential as persons and generating more accurate expectations, modifying attitudes toward them (Laws and Kelly, 2005; Rillotta and Nettelbeck, 2007; Wong, 2008; Díez et al., 2011; Lemmer and Wagner, 2015; Cocco et al., 2020; Boin et al., 2021; Sadziak et al., 2021).

The contact technique developed in this study (in the three intervention programs) followed the premises and conditions provided by the research, included in the introduction section of this paper, in order to optimize the effectiveness. The role of protagonist given to the monitors with a disability in the three intervention programs is considered to be a fundamental factor as far as the effectiveness and the results are concerned. All the activities were coordinated and supervised by the team of monitors with a disability in each program, fulfilling the ideal requirements as competent models.

In this sense, similar results to those of our study indicate that the combined effect of various techniques would seem to be more effective when it comes to generating positive changes in attitudes toward persons with a disability in all its components (Aguado et al., 2004; Krahé and Altwasser, 2006; Wong, 2008; Xafopoulos et al., 2009; Ison et al., 2010; Reina et al., 2011; Santana and Garoz, 2013).

LIMITATIONS AND FUTURE LINES OF RESEARCH

As limitations of our study, we must list those of the quasi-experimental designs, which are derived from having worked with natural groups, thus being unable to assign the participating students randomly to the experimental or control groups. There is, therefore, no total control over the experimental variables and thus the results should be interpreted with caution. On the other hand, another limitation is the monitoring of the changes, the measurement of the effect of the different intervention modalities over the long term, carrying out different measurements to evaluate the maintenance of the change in attitudes.

Finally, the common thread of the technique of direct contact with persons with a disability and the techniques of the intervention programs themselves (information, simulation, and adapted sport) make it more difficult to be able to clearly and unequivocally attribute the effectiveness of the attitude change to the concrete techniques of each program. This could be overcome in the future by designing interventions in which the technique of "contact" (persons with and without a disability) and their interaction with the techniques of "information," "simulation," and "adapted sport" could be controlled.

As future lines of research, we would consider it relevant to analyze in greater detail the effects generated in the attitude change with respect to such alternative variables as the monitor (with or without a disability, type of disability), the type of intervention and the time, among others. Furthermore, we would like to continue working on the analysis of different aspects to improve the programs. Finally, we believe it would be useful to carry out further studies to analyze the effects and the consolidation of the changes in the long term.

CONCLUSION

The modification of attitudes toward persons with a disability is complex and requires studies to analyze the most effective techniques to bring such a change to fruition. Being aware of the difficulty of the task, we believe it is important to bring the reality of persons with a disability closer to educational centers, to ages at which the negative attitudes toward the said collective are still not consolidated. This is essential for promoting more positive visions of the collective and to construct a more inclusive society, developing intervention programs that can translate this reality in a practical and "vivid" way (González and Baños, 2012; Felipe and Garoz, 2014; Harrison et al., 2019).

An important value of our research is the analysis of the effect of the programs posed and the differential effectiveness of the various components of the attitude construct, providing further knowledge in this respect (Verdugo et al., 1994). The techniques of simulation, information, and adapted sport demonstrate their effectiveness for changing attitudes. The study has shown that not all the techniques produce the same effect in the attitude construct. Attitude is a complex construct made up of different factors and our work poses the need to go deeper into a more detailed analysis of which programs and techniques affect most

effectively these said factors. This will help to modify attitudes toward the collective in an effective and integral way. Finally, we consider that programs which bring together different techniques, such as those used in this research, would obtain more effective results in modifying the attitude construct in all its factors.

Despite the limitations of the study, it still provides a valuable contribution to the sphere of Inclusion and attitude change toward persons with a disability. We put forward new advances concerning the effectiveness of the techniques used and we are optimistic that the results obtained will lead to a change in attitudes on a social level, starting in our particular case from the secondary school stage, which is a key moment in a person's development and in the consolidation of his/her attitudes. As stated by Aguado et al. (2004), if the positive attitudes decrease over the years, the benefit of interventions such as the one presented in this study is twofold, as not only have attitudes not worsened, they also do not return to their initial states. We can conclude that the application of well-designed and adequately planned intervention programs will produce positive effects in modifying the attitudes of adolescent students, which may lead to overcoming the obstacles created by prejudice toward persons with a disability, as well as encouraging respect for differences and acceptance of the collective as part of the diversity and equality of opportunities.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethics Committee of the University of Extremadura. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

JÁ-D, BL-d-B, M-IP-d-R, SM-L, and VL-R contributed to conception, design of the work, analysis and interpretation of the data, and drafting the work. All authors contributed to the article and approved the submitted version.

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Enhancing Schools' Development Activities on Inclusive Education Through In-service Training Course for School Teams: A Case Study

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Most countries face the challenge of reconstructing their education systems to ensure equitable quality education for all children in inclusive settings. This challenge is also relevant in Estonia, the context of this study. A long-term in-service training course for school teams (school leaders, support specialists, and teachers) was developed and implemented in Estonia. The main goal of the training course was to develop attitudes, skills, and knowledge of school staff about the concept and meaning of inclusive education (IE) and the effective implementation through inclusive school development strategies. The aim of the current study was to find out how the in-service training course for school teams influences system-wide changes in the implementation of IE at the school level and what factors affect it. Purposeful sampling (two schools) was used, and the qualitative thematic case study research method was chosen to find answers to the research questions. Data were collected from school policy documents, homework assignments of the training course, semi-structured interviews in the middle and at the end of the training course, open-ended questionnaires at the end of the training course, and researcher diary. The results showed that the in-service training course for school teams enhanced cultural and structural changes at the school level. These changes were influenced by factors such as leadership, collaboration, commitment, and contribution of different parties, system-wide approach, resources, and external expertise. The implications of these findings are discussed further in the paper.

Keywords: inclusive education, in-service training, school teams, schools' development process, factors affecting

INTRODUCTION

Inclusive education (IE) as a human right (United Nations, 2006) has been ideologically accepted in most countries currently. Nevertheless, many countries are still making efforts restructuring their education systems to provide high-quality education for all learners in inclusive settings. This is complicated by the fact that education systems of different countries are based on deep rooted historical and cultural specificities (Ainscow and Miles, 2008). However, profound changes in the education system require a fundamental transformation of key aspects, ways of thinking, and practices in education. Thus, policymaking, teacher

education, school management, and cooperation between different school stakeholders need to change (Arcidiacono and Baucal, 2020).

The literature reviews show that inclusive school development has focused primarily on teachers' readiness to cope with special educational needs students (SEN) in an inclusive classroom (Van Mieghem et al., 2018; Hansen et al., 2020). Teachers' knowledge and skills play an important role in implementing inclusive classroom practice. As the implementation of IE is a very complex and multifaceted process (Mitchell, 2015; Schuelka and Engsig, 2020), there are many factors at different levels of education systems that influence a meaningful implementation of IE. The OECD report (OECD, 2003) emphasizes the principle that teaching SEN students is a matter a whole school, not just individual teachers. Ainscow and Miles (2008) have pointed out that, in addition to what is happening at the class level, a school culture and the commitment of all school staff members are equally important. This complex and multifaceted act requires consciously targeted effort and particular ways of leading (Carter and Abawi, 2018). Ainscow and Sandill (2010) emphasize that cultural changes in the workplace affect how teachers view their work and students. Additionally, school policy that support school-wide structural changes is equally important (Hadfield and Ainscow, 2018; Ainscow, 2020). In order to design inclusive schools, the key capacity building strategy is enhancing cross-professional collaboration (Hansen et al., 2020). A school-wide training approach, collaboration between teachers and support professionals, collaboration and support from school leaders and resource centers, including universities, promotes the implementation of different characteristics of inclusive education at the school level (Harris and Jones, 2017; Juma et al., 2017). Bjørnsrud and Nilsen (2019) have pointed out that collective learning in teams paves the way for joint planning with preparation, a common language, observation in the classroom, and new ideas with actions for pupils' learning. Moreover, the need for research on how to support and advise schools in developing the organization, in collaboration with researchers and practitioners, has been highlighted (Grima-Farrell and Mcdonagh, 2011). Therefore, in addition to teachers' pre- and in-service training courses, in-service training for school teams of different professionals (teachers, support specialists, school leaders) could help to address these complex challenges.

In this paper, we report on a study that was conducted in Estonia where inclusive education has become an important field of research (see, e.g., Leijen et al., 2021; Pedaste et al., 2021). Moreover, the Teaching and Learning International Survey (TALIS) 2018 report emphasized that, in Estonia, professional development of both teachers and school leaders regarding the successful implementing of IE needs to be enhanced (OECD, 2020). Consequently, developing the teaching quality of IE curriculums at teacher training universities in Estonia has become one of the key priorities. Studies conducted in Estonia have shown that there is a need for different kind of training courses. For example, courses for teachers to develop the competencies needed to teach students with different abilities,

training for support professionals on their changed role in implementing IE, but also training for school leaders to structure the inclusive school development process (Kivirand et al., 2020). Therefore, attention has been paid to composing new training courses at the two main teacher training universities in Estonia. In addition to modernizing initial and in-service training courses for teachers on specific topics of IE, an in-service training program was designed for school teams, involving all key actors at school level who play an important role in the meaningful implementation of IE. More precisely, a long-term (60 ECTS) in-service training program on IE was designed, which included a separate course for teachers (24 ECTS), joint courses for teachers and support specialists (26 ECTS), and a joint course for school teams, i.e., teachers, support specialists, and school leaders (10 ECTS; see Kivirand et al., 2021). The main goal of the school teams training course was to develop (1) positive attitudes toward IE and (2) skills and knowledge about the concept and meaning of IE and its effective implementation through inclusive school development strategies. The general principles of the training course were to link theory to practice and raise schools' capacities to implement IE during the training sessions and designing long-term development activities. We took into consideration that reconstructing the school culture and practice on IE is a very multifaceted and long-term process. To support schools' development through in-service training, it is important to address all relevant topics in a coherent and cyclical way over a longer-term period. The training was conducted over a period of 1.5 years (for further information see Kivirand et al., 2021).

In this paper, we will explore how the long-term in-service training course for school teams (teachers, support specialists, and school leaders) influenced schools' development activities in the implementation of IE and what factors affected the implementation from the perspective of the school teams. In the following section, we will introduce the rationale and the theoretical background of the developed course and present the research questions of the study.

PROFESSIONAL DEVELOPMENT OF STAFF MEMBERS ON IE

Effective implementation of IE is a multi-faceted endeavor that requires the involvement of all those involved in the school, and above all motivated teachers and a positive attitude to IE (Kaur et al., 2015). So far, teacher education in IE has often focused on increasing teacher-specific didactical competences to cope with children with SEN. It has been stressed that professional development for teachers should pay more attention to build on collaboration and collegial interactions (Mangope and Mukhopadhyay, 2015). According to Forlin and Sin (2017), the development of teacher competencies, as a curriculum for professional learning, requires a number of key principles, including:

- engaging teachers, leaders, and other stakeholders in dialogue regarding which competencies are required;

- developing a vision for professional learning that is integrated into system-wide; and
- whole-school planning.

The sense of a cohesive school community, cooperation between teachers, and support professionals plays an important role in the implementation of meaningful and child-centered IE (Engelbrecht et al., 2017). Evidence shows that many countries face the challenge of how special needs educators could support teachers in inclusive classrooms (Florian, 2019). The transition from integration to inclusion requires a relevant conceptual change for modifying the role of the support teacher with regard to implementing inclusion. In addition to the traditional individual support for children with special needs, there is an increasing role for support professionals in supporting, advising, and collaborating in teaching (Perez et al., 2017). The content of teachers' and special educators' training has frequently focused on how to differentiate teaching of SEN students in the mainstream schools rather than on working with all students in an inclusive classroom.

In addition, school leaders play a critical role in creating conditions that positively impact school performance in inclusive practice (Ainscow and Sandill, 2010; Al-Mahdy and Emam, 2017; Amin and Yasin, 2018). They must prioritize equity and excellence for all through their decision-making which affects learner groupings, staff allocation, access to curriculum and accreditation opportunities, and resource allocation (Harris and Jones, 2017; European Agency for Special Needs and Inclusive Education, 2019). School leaders should take a leading role in promoting positive attitudes toward IE and innovation processes when applying inclusive education in everyday practice (Urton et al., 2014). In addition, Skoglund and Stäcker (2016) emphasize that main tasks of school leaders are to set directions for staff and organizational development. Therefore, educational leaders' values, beliefs, and perceptions toward inclusive education have a large impact on how other stakeholders view inclusion (Cherkowski and Ragoonaden, 2016; Al-Mahdy and Emam, 2017). Schools are successful and provide high-quality education to all students if school leaders themselves enact the school with an inclusive vision and values, while motivating the entire staff to apply an inclusive approach (Schuelka et al., 2018; Kivirand et al., 2021). Studies have shown that school leaders principally value the philosophy of inclusion (Bayrakci et al., 2017; Murphy, 2018), but the problems are reflected in their knowledge, skills, and leadership styles of how to design inclusive organizations (Amin and Yasin, 2018; Carter and Abawi, 2018).

Therefore, in order to succeed in the whole-school system-wide development activities in the field of IE, the professional development and cooperation of all parties is important. An in-service training course for school teams could provide a good opportunity to raise capabilities of all school level parties and opportunities to enhance research-based collaboration between schools and universities (Kivirand et al., 2021). In the following section, we will look at what theoretical starting points we used as a basis for designing in-service training for the school teams (teachers, support specialists, and school leaders).

DESIGNING THE IN-SERVICE TRAINING COURSE FOR SCHOOL TEAMS

Kinsella, 2020 emphasizes that ensuring high-quality education for all children in an inclusive classroom (including children with SEN) depends primarily on the extent to which the entire school staff pays attention to the development of the organization. Changes in the whole school culture and politics require a reflective practice of both the individual and the entire staff, and the key to the success of the collaborator's problem-solving is team-learning. Hereby it must be considered that the education system as a whole and the school as an organization is a very complex multi-layered socio-cultural system. Thus, development activities must consider many different characteristics that cover all levels of this ecosystem (Haug, 2020; Kinsella, 2020; Schuelka and Engsig, 2020). Therefore, we based the design of the in-service training course for school teams on the ecosystem model for supporting IE developed by the European Agency for Special Needs and Inclusive Education (EASNIE) that was previously developed based on Bronfenbrenner's ecological system model (European Agency for Special Needs and Inclusive Education, 2017). More specifically, according to this model's key indicators from meso-system (school level), like leadership, continuum of support, collaboration, professionalism of staff, ethic for everybody and family involvement, were combined with the exo-system around the school, i.e., community commitment and working together with other professionals outside of schools. Finally, macro-system indicators, like state legislation and policy, governance and funding, monitoring and quality assurance, were also taken into account.

The main goal of the school teams training course was to raise the school staff's awareness about the concept and meaning of IE and its effective implementation through inclusive school development strategies. Schools were first introduced to IE principles and following they analyzed their specific context and planned developmental activities related to IE based on the need of their schools. The elements of three necessary dimensions, like creating inclusive cultures, producing inclusive policies, and exploring inclusive practices, described in the guidebook *Index for inclusion* (Booth and Ainscow, 2002), were used. Although this document has been widely used in many countries, it was considered that the different models developed cannot be replicated one by one, but the local context must be taken into account (Loreman, 2014). Thus, the indicators and questionnaires described in the above-mentioned document were partially used and adapted to the Estonian context. For example, indicators of school culture were translated and mapping of the schools' contexts in this dimension. An additional source used in the training course was the self-assessment questionnaire addressing key issues at classroom and organization level developed by EASNIE (European Agency for Special Needs and Inclusive Education, 2017). This instrument supported schools to assess the situation with regard to students and school staff, partnership and collaboration, and the role of school leaders.

Finally, a co-creative approach in designing the training course was used to ensure the topics we chose for the training

course for school teams made sense and were meaningful for teachers, support specialists, and school leaders. An initial outline of the training course was introduced to and discussed with the participants before the training course. For example, schools expressed the view that the training should address issues of how to work together to set common goals for meaningful implementation of IE, how to create support systems for both students, and teachers to ensure effective teaching in an inclusive classroom. At the same time, the participants' expectation was that the joint training of the different schools will preserve the autonomy and contextual specificity of each school. According to Vyas et al. (2014), a multi-disciplinary co-creation in the designing process can lead to harmonious work where the insight and previous experiences of the participants provide useful input to the practical research framework.

Based on the abovementioned theoretical framework, the following topics of the training course for school teams (10 ECTS) were identified: vision and school culture, legislative framework and school policy, learning environment and resources, professionalism of staff, collaboration, and quality assurance (see also Kivirand et al., 2021). The training course was divided into nine sessions with 60 academic hours contact training and 200 h independent or group activities. The aim of the current study is to explore how long-term in-service training for school teams (teachers, support specialists, school leaders) influenced schools' development activities in the implementation of IE and what factors affected it based on the school teams' perspective.

The following research questions were set:

1. What development activities were carried out during the in-service training course to implement IE at the schools?
2. What factors affected the development activities planned and carried out in the implementation of IE?

METHODOLOGY

An exploratory case study approach was used as it enabled to answer the questions "what" development activities were carried out during the training course to implement IE at the schools and explore "why" or "how" these phenomena appeared in the context these were situated (Baxter and Jack, 2008).

Selection of Cases
Purposeful sampling was used in which data are collected from people who can best inform the researcher about the research problem under the examination (Creswell, 2007). Two participating schools (out of four) were selected as cases for the current study following these criteria (see also **Table 1**):

1. Clear initiative from the school to participate in the training course with the aim to carry out school development activities in the field of IE;
2. Students with and without SEN in the area of their school residence study in school;

3. Schools with similar numbers of students in the level of compulsory education managed by the same municipality;
4. Participation of all school levels' key stakeholders in implementing inclusive education, i.e., school principal, support specialist in the role of the special needs education coordinator (SENCO) and teachers.

The sampling technique took into consideration that participants' experiences and actions can provide purposeful information and build an in-depth picture about the case (Creswell, 2007).

At the beginning of the training course, both schools applied for funding to improve the learning environment at the local government. Both schools received funding and these were co-funded by the European Social Funds (ESF).

Ethical Issues
At the beginning of the study, all participants were explained the purpose of the study and what data would be collected, used, and stored. It was also confirmed that the confidentiality of the data is guaranteed and all the data collected on paper or in digital form are kept secure. It was clarified that all data will be used only for research purposes and the results will be presented in a generalized form, following all the requirements of the ethical study which does not allow the participants to be identified. All team members gave written consent to participate in the study.

While conducting group interviews, we took into account that ethical issues may arise related to confidentiality, in particular from the point of view of the interviewees (Sim and Waterfield, 2019). Therefore, good confidentiality practice was explained to the interviewees before the group interviews. More precisely, it was clarified that different personal opinions are expected and accepted, and participants were asked not to discuss shared personal information with others. In addition, the interview questions did not address sensitive personal information.

Data Collection Procedure
As the use of the exploratory case study method presumes to collect data in different ways and analyze them in depth (Yin, 2003), we collected data in the following stages and formats (examples of data collection is presented in **Table 2**):

Group Interviews in the Middle of the Training
After the sixth session, semi-structured school-based group interviews with both school teams separately were conducted by trainers. In choosing the group interviews, we relied on Cohen et al. (2007) explanation that group members who have worked together can support or complement each other. The purpose of the group interviews in the middle of the training course was to get feedback on the content, volume, and organization of the training course to make modifications if necessary and thereby better support schools in their development activities. Interviews were between 1 h and 1 h and 10 min in length.

TABLE 1 | Background data of study participants.

	The whole number of students in the level of compulsory education	The percent of SEN students	The number of special classes	Team members		
				Teachers	Support specialists	School leaders
Case No.1	500–560	30%, of which 78% with additional general support out of classroom, 16% with intensified support and 6% with special support	None	Four subject teachers who teach in grades 4–9	One special educator in the role of SENCO	One school principal, working experience as a school leader at the beginning of the training 2 years
Case No. 2	500–560	26% of which 75% with additional general support out of classroom, 13% with intensified support and 12% with special support	Nine small groups for SEN students	Six subject teachers who teach in grades 4–12	One social pedagogue partially in the role of SENCO	One school principal, partially in the role of SENCO, working experience as a school leader at the beginning of the training 8 years

TABLE 2 | Examples of data collection.

Data collection instrument	Examples of questions/data collected
Group interviews in the middle of the training course	• What are your opinions about the content and volume of the training? • What are your suggestions for making the content and volume of the training course more meaningful? • What are your suggestions to increase the practical value of the training? • How do you evaluate your participation in in-service training as a team?
Schools' policy documents	• Description of school vision and mission • School rules of procedure • Description of support system for SEN students • School curricula • School development strategy plan
Team homework of training course	• Analyzing the situation of school culture • Analyzing and updating the school policy documents • Mapping the learning environment and resources • Mapping school staff's training needs • Analyzing school's self-evaluation results • Planning or finalizing long-term school development plan
Group interviews at the end of the training course	• What school's development activities have you carried out during the training course at your school? • What development activities have you planned after the training? • What have been the supporting/hindering factors in implementing the changes?
Open-ended questionnaire at the end of the training course	• What has been my role as (teacher, support specialist, school leader) in implementing the planned development activities? • What are the most important factors influencing team learning?
Research diary	• Monitoring the participation and discussions of team members during the training course • Monitoring the commitment of participants

School Policy Documents

A desktop analysis (Mason, 2002) of available school policy documents on IE was carried out in the beginning and at the end of the training course with the aim to map the preliminary situation and find out the final modifications. This method made it possible to understand how schools' inclusive education policies have changed and are reflected in formal documents. We analyzed documents that are mandatory for schools by law and must be publicly available.

Team Homework Assignments of Training Course

The homework submitted during the training was purpose-built documents for the study, which provided an additional opportunity to get answers to the research questions: what development activities were carried out during the in-service training course to implement IE at the schools, and what factors affected the development activities planned and carried out in the implementation of IE. According to Gillham (2000),

this method makes it possible to keep track of what the case study participants *said* and what they actually *did*.

Group Interviews After the Training Course

As semi-structured interviews are the most important form of interviewing in case study research (Gillham, 2000), we conducted additional group interviews at the end of the training course. The purpose of these interviews was to find out what development activities on IE schools were carried out during the training course and what were the supporting/hindering factors in implementing the changes. The duration of interviews with both schools was 45 min.

Open-Ended Questionnaires After the Training

Individual open-ended questionnaire as an additional method was chosen to complement the group interviews and sought further answers in particular to the second research question. Bryman (2016) and Mason (2002) suggest to use this method

as it allows all participants to individually provide their personal opinion and additional information.

Researcher's Diary

A research diary was kept by the first author of the study during the training course. This method helped to reflect the results of the research in a more open and honest way (Engin, 2011).

Data Analysis

In the current case study, the form of the embedded analysis of different units was used (Yin, 1994). The preliminary situation, process, and final outcomes of schools' developmental activities and factors affected these activities were analyzed using multiple data collection instruments.

The data analysis procedure consisted of three phases.

Preparation Phase

The aim of the preparation phase was to prepare data for thematic content analysis. Interviews with both school teams were recorded and transcribed in full. Schools' policy documents, the training course homework, open-ended questionnaires, and research diary notes were documented separately by the schools. The total volume of the data was 110 pages in the first case and 108 pages in the second case.

Case by Case Analysis Phase

In the second phase, a thematic content analysis was conducted separately by cases as it enabled to describe the meaning of qualitative data systematically and rule guided but also in a flexible way (Schreier, 2012). All documented materials were repeatedly read with the aim to select the meaning units by the research questions. Consequently, condensed meaning units were coded, which in turn were listed in a separate file. The list of codes included the name of the code, description, and examples of the meaning units. After the coding process, the codes were grouped under subthemes and main themes. For example, the codes "changing the system of development conversation," "monitoring individual development of students," formed a subtheme, *supporting students*. The codes "mapping teachers' training needs," "in-school trainings for teachers," formed a subtheme, *supporting teachers*. The codes "renewal curriculum," "preparation of a development plan," formed a subtheme, *school policy*. Finally, three subthemes formed the main theme, structural change. The two cases are described by the main themes and subthemes.

Multiple Case Analysis Phase

In the final phase, a cross-case analysis was conducted using qualitative meta-analysis synthesis to compare and synthesize themes and subthemes, with triangulation of findings across cases to support validity of the study (Mays and Pope, 2000). The focus was on the pattern establishment and generalizations. At the end of this phase, the analysis revealed similarities and differences of the cases and the results are presented by the

main themes combined with subthemes. For example, describing what factors affected school development activities, the subthemes *development activities led by appointed leader, school leader as a member of the team, teacher as a leader among other teachers* formed the main theme "leadership."

The initial data analysis was done by the first author. Following, all co-authors were involved in the final data analysis process and both coding and categorization decision were discussed until a consensus was reached.

In the following section, we describe the results of the data analysis on a case-by-case basis, which development activities were carried out by the schools and what factors affected it. We also present a comparison of the two cases and discuss the most important results.

RESULTS

Case No. 1
Development Activities Carried Out During the Training Course

In the first case, a change of school leader took place 2 years prior to the training course in which the data from this study were collected. The teaching staff in this school had also changed to a large extent. Due to the increasing proportion of students with special educational needs in the school, the school leader had set a priority to improve implementing IE in their school. At the beginning of the training, discussions took place between the parties involved in the school (teachers, parents, students) about the school's vision and values. As a result, the main principles of IE were jointly agreed and, most importantly, inclusion was considered in a broader sense, i.e., inclusion concerns all learners, not just those with special needs. A joint agreement was made at the school that special classes would not be formed for SEN students, instead IE supported by co-learning with peers in an inclusive classroom. However, if necessary, sufficient support would be organized individually or in groups. The mapping of inclusive school culture conducted during the training course revealed that not all teachers share inclusive values to the same degree and therefore the goal was to keep the development of inclusive school culture in focus among teachers and the wider school community.

To support the relationships between students in the school, a support program for students with learning difficulties and behavioral problems was implemented during the training course. Some students became support peers for other students on a voluntary basis. This was considered important, in particular, to support student-to-student friendships and to provide student-to-student assistance, but also to enhance cooperation between students and teachers. The school also joined an evidence-based anti-bullying program.

In order to support all students and to notice the individual special needs of students at an early stage, the procedure for developmental interviews with students and their parents was arranged. By the end of the training, a thorough procedure and instructions for conducting development interviews for

teachers as well as parents and students were completed. The teacher who participated in the training said:

> My favorite development activity was the topic of development discussions. This did not happen systematically in our school. Now we have specific guidelines and forms for collecting feedback from students and parents and documenting the developmental interview.

An analysis of the school's SEN student support system at the beginning of the training course indicated that it is not sufficiently systematic and comprehensible to all parties. Therefore, the school team focused on updating the system for monitoring and intervening in the individual development of students, which resulted in the reorganization of the entire school support system. As a result, the principles and objectives of support were formulated, the support services provided at different levels were described, the roles of the different parties were specified, the principles of cooperation in supporting students, and the criteria for evaluating support results were defined. Under the leadership of support specialists, this was immediately implemented in the school.

In order for the renewed support system to be implemented effectively at the school level, internal training was organized for all teachers. Under the leadership of support specialists, a learning community was initiated for teachers and parents, where it was possible to discuss how to find solutions to the problems that have arisen in the involvement of students with SEN. At the same time, the need for longer-term training for teachers was mapped based on the specifics of meeting their own development needs and development goals. The school also decided to initiate a mentoring program for new teachers, and one part of this was the SEN student support system at school. In order to provide comprehensive support to teachers, support specialists also passed through the training in co-vision techniques.

As the basic document of the school's operation is the school curriculum, the extent to which the curriculum supports the provision of quality education for children with SEN was analyzed. As a result, the school curriculum was supplemented. Firstly, the members of the school team focused on formulating minimum learning outcomes for students with learning difficulties, and secondly, the further task of the support specialists was to supplement the development of the general competencies described in the curriculum. SENCO of the school explained:

> Speech therapists should look at how to achieve communication skills, the task of a social pedagogue is to develop social skills, a special educator should look at the topic of learning skills and a psychologist the topic of emotional skills. And then the school curriculum will frame these important points on how to support students in these areas.

At the end of the training, the school had prepared a new development plan for the next 3 years, which defined the

following development areas: systematic and value-based management of the school; supporting the development of inspired, collaborative, satisfied and professional staff; effective cooperation with stakeholders, and creating an inclusive school environment. The participants themselves emphasized:

> Since we consider inclusion in our school in a broad sense, all the planned development activities in our development plan are in fact the development activities of an inclusive school.

As can be seen from the above description, during the training course, the school was able to improve the functioning of the inclusive education system as well as to draw up a long-term strategic plan with clear objectives and specific activities.

Factors Affected Development Activities

The team that participated in the training had set a specific goal to reach a development plan by the end of the training course, which also defines further development directions. The school leader appointed a support specialist to lead the development activities of IE, who also performed the tasks of the SENCO at the school. In the case of the teachers selected for the team, the principle considered that they would be motivated to improve themselves in the field of IE and thus, contribute to development activities. The school leader did not take a leading role and was involved as a member of the team, and this was explained as follows:

> The fact that I chose a specialist to lead the process was, in my view, the only right decision. With her knowledge and dedication, she was the real leader we were able to rely on.

All team members were committed to addressing all the topics covered during the training. It was emphasized that the involvement of different specialists working in the school in the training course increased both the cooperation between them and the cooperation at the school level as a whole. The possibility of cooperating with other schools was also considered an encouraging factor. However, participants pointed out that the implementation of IE in schools is greatly influenced by how it is supported at the national level. They mentioned a lack of state support in ensuring the availability of necessary support for learners with SEN, such as directing resources to access out-of-school counseling services, developing teacher training, improving learning environments, and creating study materials for different levels of learning.

The implementation of the planned activities was supported by the ESF co-financial support for the improvement of the learning environment and received at the beginning of the training. At the end of the training, the school had an extension of a school building, which solved the lack of space, especially in providing flexible learning opportunities and the necessary support for students with SEN. During the training, after

mapping the need for support professionals, the school head found an opportunity to hire more staff of support specialists. The school's team members were pleased with this situation, but emphasized:

> However, in the implementation of the planned development activities, we will continue to see the need to contribute to the improvement of the learning environment as well as to the increase of the existing human resources. But now we face the challenge of how to use them most effectively in a context of limited resources.

The lack of time was emphasized as a critical factor in planning and implementing all activities during the training course, but the team coped well with time planning. Participants acknowledged that in a time-constrained environment, skillful time planning and consistency in adherence to the plan are important. As such, it was possible to meet with the team on a weekly basis, if necessary, conduct brainstorming with the entire staff, and contribute to the homework provided during the training course.

According to the participants' point of view, they were also supported in planning the development activities of IE by the fact that during the training course it was possible to comprehensively address various aspects of IE and thus create a systematic approach to achieving both short-term and long-term goals. The role of trainers as external experts was considered important. The trainers' broad knowledge of the meaningful implementation of IE, taking into account evidence-based practice and linking theory to practice, was highlighted as positive. However, participants acknowledged that there was a lack of individual school visits and counseling during the training period. Regarding the recommendations of the specialists of the regional out-of-school counseling team, it was pointed out that their decisions are often inconsistent with the school's SEN student support system and do not support inclusive classroom practice.

In conclusion, the clearly set short- and long-term goals and SENCO's committed leadership in promoting the key topics supporting implementation of IE covered in the training course encouraged all members collaboratively contribute to the planned activities. However, there was a need for greater state involvement in the implementation of inclusive education policies and more effective out-of-school counseling services.

Case No. 2
Development Activities Carried Out During the Training Course

In the second case, the school leader had been in office for 8 years and the school team was guided by the vision and core values previously developed in the training activities. The core values reflected in the school's documentation were openness, cooperation, and creativity. Good education is ensured for each student according to their level of development and ability-based grouping of students. At the beginning of the training,

participants explained that the core values of their school reflect the nature of IE. However, during the training, the concept and meaning of IE was discussed and it was decided to set out more clearly the principle of inclusive education, according to which students with SEN generally study in the mainstream classroom and receive the necessary support. However, participants emphasized:

> Providing inclusive education principle in documents and the introduction of this idea alone will not help. However, inclusion is encouraged by the continuous promotion of the organization's culture and spirituality. We need to communicate our values both inside and outside the school.

As the school has a large number of students of different nationalities as well as students with different SEN, an evidence-based behavioral skills development program was introduced at the school to ensure the safety of all students. During the training period, the implementation of this program was extended. In addition, the school's rules of procedure were amended to make more precise the guidelines for the behavior of all learners, including those with SEN, in different situations. The participants of the training indicated:

> Such clear instructions were actually useful for other students as well. Everyone immediately had fewer problems.

In order to ensure the well-being of the teachers, one person was selected from among the teachers to mediate the problems and concerns to the management board.

To improve the necessary support for students, the practical arrangements for early detection of SEN and the availability of support in their school were analyzed and organized in such a way that there is a comprehensive system that supports all those in need. The responsibilities and tasks of the different parties, the principles of providing support, the support services provided, and the criteria for evaluating the effectiveness of IE were specified. By the end of the training, the team had changed the SEN students support procedure document in cooperation with the support specialists and teachers working at the school and made it available on the school's website.

In order to enhance and support cooperation between teachers, a subject section on IE was launched, where teachers could exchange their experiences and provide the necessary counseling from support professionals or teachers who had participated in the training. In order to plan teachers' individual subject training needs, as well as the inclusion needs of children with SEN, the school head drew up a matrix of teacher development needs based on school values on the one hand and the professional standard of teachers on the other. Based on this matrix, teachers can analyze their development needs in implementing IE, plan training courses, and thus shape their careers.

The team that participated in the training also analyzed the school curriculum from the point of view of inclusive

study organization, and thorough changes were made to this document: the principle of IE was set and the principles of supporting children with special needs and counseling parents were brought into line with the improved system and legislation. However, the participants commented:

> Now that we are streamlining our IE system, we are coming up with new ideas and therefore realizing that the curriculum needs to be constantly updated and improved. It will never be finished.

In conclusion, it can be said that during the training, the school team worked to improve the internal support of students with SEN, to organize the documents concerning the organization of IE, and to map further development needs. The aim was that the knowledge and information gathered during the training would be analyzed more thoroughly together with the entire school staff and used as a basis for compiling a new development plan.

Factors Affected Development Activities

The school team had set the goal of improving the organization of support for learners with SEN during the training course and defining the development goals of IE. The school leader gave the initial initiative in planning the development activities of IE to the team participating in the training course. The school leader submitted proposals both in the mapping of the situation and in the planning of activities in the phase when the need for development activities in one or another area had become clear. Once completed, the proposals were submitted by the school leader and justified this as follows:

> I made a very conscious choice for my school team. It was important to me that the team included proactive support professionals and teachers from all levels of primary school. I delegated the management of this whole process to them, as they communicate most closely with both teachers and students.

The school team was motivated to deal with the set goals and the cooperation between the team members went well. At the same time, it was pointed out that not all teachers were sufficiently involved in the mapping and planning of the development activities within the school. Participants felt that not enough support was found at the local government level to improve IE. It was explained that the implementation of inclusive education has been largely an initiative of some schools themselves, but local government education officials should take the lead in creating an understanding that all schools in their area need to teach children in an inclusive way and then provide them with the necessary support. The participants of the training also pointed out that the state education policy approach to the implementation of IE also sets certain limits in terms of the planned activities.

> On the one hand, the support system for learners with disabilities is too bureaucratic and non-inclusive. On the other hand, the number of new immigrants is

constantly increasing. This target group is not well supported.

However, during the training period, the school received financial resources co-financed by ESF to improve the learning environment. It was decided to invest in the furnishing of the classrooms (e.g., adjustable desks, soundproof partitions, etc.). After reorganizing the support system, the number of support specialists in the school was increased. As a result, it was possible to practice the planned activities and provide more effective support to students, teachers, and parents. While at the beginning of the training SENCO's tasks were divided between the school principal and one school support specialist, at the end of the training SENCO was replaced by a new support specialist, as the upgraded system required more time and one leader.

According to the trainees, the fulfillment of the goals set by the school both in the improvement of the existing system and in the mapping of development needs was also supported by the complex treatment of various key topics related to inclusive education during the training and exchange of experiences with other schools. However, the trainees pointed out that the time resource set its own limits and that it was not possible to contribute enough to all the planned activities. It was also acknowledged that accurate time management and adherence to it would have helped to reduce this problem. The lack of financial resources was also highlighted. The school team would have liked to recruit more teachers and assistant teachers to reduce the workload of teachers who had more students with SEN in their class.

The involvement of external expertise in the form of trainers during the planning and implementation of the school's development activities was considered important by the school team. In addition, as expressed, co-operation with trainers could even continue after the end of the training course. Specialists from the out-of-school counseling team were expected to provide more guidance on how to organize the teaching of students with more severe special needs, as well as students without special needs, in an inclusive classroom.

In summary, a committed team was working on improving the situation related to IE. A clear leader of the work was not specified. The goals were met, and the team was motivated to improving IE at school. However, a number of obstacles were highlighted, such as a lack of resources and a lack of commitment from local and national authorities to support IE policies at school level. There was also a need to continue consulting with the external experts after the training.

Cross-Case Analyze
Similarities and Differences Between the Two Cases in Development Activities Carried Out During the In-service Training Course

We compared the similarities and differences between the two cases regarding the activities that were carried out during the training and identified different cultural and structural level changes (see **Table 3**).

Main theme	Development activities carried out during the training course	Case 1	Case 2
Shaping school culture	• Shaping vision and values at the beginning of the training course	+*	−**
	• Involving stakeholders in shaping vision and values	+	***
	• The need for further communication of values inside and outside the school	+	+
	• Establishing the concept and meaning of IE	+	+
	• Peer support activities among students	+	−
	• Implementing evidence-based behavioral programs	+	+
	• Appointment of a teacher welfare coordinator	−	+
Structural change	• Changing school curricula on IE	+	+
	• Composing of a new strategic development plan on IE	+	−
	• Enhancing the developmental dialogue with students and parents	+	−
	• Improving the support system for SEN students	+	+
	• Changing the internal rules of the school	−	+
	• In-school training for all teachers on IE	+	−
	• Dealing with IE topics in teachers' workshops	+	+
	• Mapping the training needs of teachers and other school staff	+	+
	• Preparation of a training plan for teachers and other school staff on IE	+	−
	• Compiling a self-assessment matrix for teachers' training needs	−	+

*+ Activity took place; **− No activity; ***No data.

Shaping School Culture

A comparative analysis of the cases shows that schools dealt differently with the topic of vision and values during the training course. In the first case, the school had decided to start developing targeted IE just before the training course. In cooperation with all parties, the vision and values of the school were set out, including the principle of inclusive education, which became the basis for mapping the current situation and planning further development activities. The focus was to increase the capacity of the whole school to teach students with SEN in an inclusive classroom. In the second case, the vision and values were defined years earlier and their renewing was not discussed. However, the school team decided that the principle of IE and its meaning should be more clearly articulated in the school documentation, as there were no common understandings of the meaning of IE at school level. Designing a school culture for the meaningful implementation of IE remained a challenge for future development.

Evidence-based behavioral programs were used in both cases to develop good practice and ensure safety for all students. Additionally, a peer supporting program was initiated in the first case. In the second case, to ensure the well-being of the teachers, one person was selected from the teachers who was appointed as the coordinator of the well-being of the teachers and whose task was to communicate the problems and concerns of the teachers to the management.

Structural Change

In both cases, the training involved organizing and drafting the school's key policy documents, although in different ways. In the first case, the priority was to develop a new development plan for the school, and this goal was met. The completed strategic document was clearly communicated, with specific targets and measurable development activities, which reflected the characteristics of an inclusive school and where the creation of high-quality learning opportunities that support the individual development of the student had been identified as the most important development activity. In the second case, the part of the school curriculum dealing with support and counseling for students with SEN was updated. Preparations of a new development plan were also started. It was emphasized that the situation of the self-assessment questionnaires, learning environment, resources and training needs conducted during the training course were mapped and analyzed by the members participating in the training course and provided a lot of valuable information, all of which needs to be discussed with the whole school staff.

In the first case, the procedure of developmental dialogue with students and parents was thoroughly addressed, as it did not work systematically at school. In the second case, it was not considered necessary to make changes to this document. According to the participants' point of view, the procedure of developmental dialogue was well organized in their school. In both cases, the system for noticing, intervening and documenting the need for support for learners with SEN was streamlined. The school team was recognized at the local government level for this activity in the first case. In the second case, rules of procedure were amended. The amended procedures made the rules of good behavior clearer for students with SEN as well as for other students.

In both cases, in-school training was provided to support teachers. In the first case, the training was conducted by the participants for all teachers in relation to the needs mapped during the training and the revised documents. For example, it became clear that the roles of support professionals and the support system were not clear to all teachers, and in-school training was provided on the subject. In the second case, teacher-to-teacher training was provided. The teachers who took part in the training, who were selected from different school levels, shared the knowledge gained during the training in smaller study circles. In the first case, too, learning communities were initiated for teachers, but in terms of content, they aimed at solving the problems that had arisen. In addition, the school

mapped teachers' training needs, which highlighted the need to increase teachers' knowledge and skills in three key core values related to inclusive teacher education: valuing learner diversity, supporting all learners in an inclusive classroom, and collaborative skills. As a result of the mapping of the training needs, a long-term teacher training plan was prepared to ensure the fulfillment of the goals set in the development plan. In the second case, the school head drew up a comprehensive self-assessment matrix for teachers' training needs for IE, based on which teachers themselves mapped their training needs and then draw up an annual training plan.

In conclusion, although both schools contributed to the planning and implementation of development activities in different ways during the training, in both cases their own goals were followed, and they were achieved. In the first case, the training focused intensively on the development of all the topics covered during the training course, and a development plan was completed, setting targets for the next 3 years. In the second case, the main focus was on the mapping of development needs, on the basis of which it was planned to start preparing a new development plan after the end of the training course. However, while considering different activities, it also became visible that both schools focused more on the structural changes and somewhat less on the cultural changes.

Similarities and Differences Between the Two Cases About Factors Affecting School Development Activities on IE

Next, we compared the similarities and differences regarding the factors that the trainees considered important in the planning and implementation of IE development activities (see **Table 4**) and distinguished these across six broader main themes.

Leadership

The schools had organized the leadership of development activities differently. In the first case, a specific leader, SENCO, working at the school, was appointed to lead the whole development process. The school leader was an active member of the team and participated in the process of mapping development needs as well as planning improvement activities. In the second case, there was no specific leader in the activities carried out during the training course. Teachers and support professionals who participated in the training course mainly contributed to the improvement of the support system for students with SEN. The school leader took responsibility for ensuring the professionalism of teachers, such as conducting a self-assessment questionnaire among all teachers and mapping teachers' training needs.

In both cases, it appeared that teachers had become carriers of inclusive thinking and practice and there for also leaders for their colleagues within the school.

Commitment and Contribution

Both schools were motivated to participate in the training course and thus, to enhance IE arrangements so that all students would be supported in an inclusive classroom. In the first

case, in addition to immediate actions to improve the efficiency of the support system, a long-term strategic development plan was drawn up during the training. The other team aimed to map out the areas that need to be thoroughly developed, which would support them in drawing up a development plan after the training course.

In both cases, all team members participated in the training activities as well as in the homework assignments. Participants emphasized that taking responsibility was voluntary and that everyone contributed to the activities in which they felt a strong commitment. This was also supported by the fact that at the beginning of the training course both schools had clear goals and objectives, which they want to achieve by the end of the training course. At the same time, in both cases it was stated that the involvement of the whole school staff in the development process still needs to be improved. It was also pointed out that not all teachers have an understanding of the meaning and importance of inclusive education.

At the same time, it was emphasized in both cases that they perceived little contribution from the state to the implementation of inclusive education policies and to the support of schools in the implementation of IE. It was pointed out that there is a lack of a clear vision and goal at the national level on how to make the whole education system more inclusive and gaps in legislation were also observed. In the second case, the lack of commitment of local authorities to promoting inclusive education at regional level was also highlighted.

Collaboration

The cooperation between the members of both teams who participated in the training course went well. It was pointed out that working together during the training strengthened the relationships between the team, which in turn had a positive effect on the cooperation within the school with other teachers who have readiness to teach in an inclusive classroom. At the same time, in both cases, there was a greater need to involve parents and the community in planning development activities. Cooperation with other schools was highly valued as the exchange of different experiences during the training provided lots of ideas on how to solve different problems and what aspects to pay attention to in the school's development activities.

System-Wide Approach

In both cases, it was considered important that the training addressed the most important issues related to the development activities of an inclusive school in an integrated way. It was pointed out that linking theory to practice helped to create a broad-based background for mapping the real situation and planning development activities.

Resources

Both schools found opportunities to improve their school environment and recruit additional staff. However, school No. 2 pointed to a greater need for financial resources to implement its plans. The lack of time was emphasized by both teams. On the one hand, this was due to the fact that the school

TABLE 4 | Similarities and differences between the two cases factors affecting.

Main theme	Factors affecting	Case 1	Case 2
Leadership	• Development activities led by appointed leader	+*	−**
	• School leader as a member of the team	+	+
	• Teacher as a leader among other teachers	+	+
Commitment and contribution	• The commitment of the school team involved in the training	+	+
	• Motivation of the school team involved in the training	+	+
	• Clearly stated goals	+	+
	• Commitment and contribution of all staff	−	−
	• The need for contribution at national level	+	+
	• The need for contribution at local government level	−	+
Collaboration	• Efficient cooperation between the members of the training team	+	+
	• Cooperation with all teachers at the school	−	−
	• Out of school cooperation	−	−
	• Cooperation with other schools	+	+
System-wide approach	• Systematic mapping of the current situation in the implementation of IE	+	+
	• Prioritization of development activities on IE	+	+
Resources	• The need for more time	+	+
	• Effective time planning	+	−
	• Resources for improving the inclusive learning environment	+	+
	• The need for financial resources to hire more staff	−	+
External expertise	• Knowledge and skills of trainers	+	+
	• Evidence and research based approach	+	+
	• Linking theory into practice	+	+
	• The need for individual school visits and counseling during the training course	+	−
	• The need for continuing cooperation between schools and trainers after the training	−	+
	• The need for adequate support of specialists in out-of-schools counseling centers	+	+

*+ Factors appeared. **− Factors not appeared.*

development process was very time-consuming, and on the other hand, schools were overburdened with activities due to the COVID-19 crisis. However, in the first case, the team was able to plan their time very carefully for both completing homework assignments and development planning. Although, they admitted that it was very burdensome and at times they acted within their capabilities. In the second case, regular meetings were not planned or the planned activities were postponed due to lack of time.

External Expertize

In both cases, it was considered important that an expert from outside the school be involved in planning and developing the development activities of IE, who would be able to point out the mapping of different key areas and their interrelationship. It was pointed out that the in-service training program developed at the university provided a good opportunity for this. The research- and evidence-based approach to supporting school self-development activities was considered very important. Linking theory and practice during the training course was also highlighted as a supporting factor. At the same time, the need for more individual meetings with trainers during the training course was acknowledged. It was also pointed out that cooperation with trainers could continue after the training course. As the closest advisory experts at the school level are specialists from the regional out-of-school counseling team, it was criticized that their advice did not always support schools how to teach students in an inclusive classroom.

In conclusion, participation in the training course as a team, the commitment and specific goals of the team, cooperation

with other schools, the complexity and coherence of the topics covered in the training course were seen as supporting factors in schools' development process. The lack of time and involvement of the parties of the whole school was an obstacle. The low contribution of the state and local government to the issue of inclusive education was seen as an out of school hindering factors. A need for individual counseling was reported by trainers both during and after the training. Regarding the practice of an inclusive classroom, the trainees felt little support from the specialists of the out-of-school counseling centers. On a more general perspective, both schools pointed out more supportive factors and some hindering factors regarding school level factors, while regarding the region and state level concerns and hindering factors were voiced more than the supportive factors.

DISCUSSION

The aim of the current study was to explore how long-term in-service training for school teams (teachers, support specialists, school leaders) influenced schools' development activities in the implementation of IE and what factors affected it in school teams' perspective.

During the training course, schools carried out several short-term development activities according to their school's needs. The focus was on activities related to shaping school culture, as well as updating policy documents on IE in the school and thus enhancing support for students and teachers. Longer-term goals for further activities were also set. In one case, a

school development plan was drawn up for the next 3 years, and in another case it was decided to start working after the training. Thus, the training had a positive effect on the development activities of schools in the field of IE. As school self-development is considered to be one of the most important criteria for removing barriers to the implementation of inclusive education (Hadfield and Ainscow, 2018; Ainscow, 2020), in-service training for school teams is a good opportunity to support them in this process. Moreover, restructuring the school policy and practice can improve the learning outcomes of all students (Persson, 2013).

The results of the case study showed that the development activities planned and carried out during the training course depended to a large degree on how the school had understood the concept of IE. If the school understood IE to mean teaching all students together in an inclusive classroom, the mapping of development needs, and planned development activities, also focused on how to increase the capacity of the whole school to put IE into practice. Although the principle of IE has been one of the basic values of education policy in the Estonian context for more than 10 years, the meaning of the concept of IE is still understood very differently (Kivirand et al., 2020) and this was also confirmed by this study. The same trend is highlighted in several studies in other countries (Hardy and Woodcock, 2015; Cameron, 2017), and our study indicates again the importance of reaching the agreement regarding the concept of IE in the Estonian context. Moreover, in the Estonian context, the most important features of IE are considered to be social inclusion and high-quality education for all learners (Ministry of Education and Reseach, 2021), i.e., the focus is on creating opportunities for students with SEN to study in mainstream schools. However, it is common practice that students with more severe SEN spend most of their time, either partially or continuously throughout the school year, in a special class or in a smaller group. Schools that use the practices described above identify themselves as inclusive schools. Black-Hawkins and Florian (2021) have also pointed out that schools that contribute to providing support and learning opportunities for SEN students in mainstream schools consider themselves inclusive schools. Therefore, addressing the different characteristics of an inclusive school culture during the in-service training course is important to change what we mean by the concept of IE. However, shaping shared values across the school is a long and complex process. In order for the values and the principles of IE developed by the team to be more widely recognized among the entire school staff, more activities could be planned for further training that would involve the whole school staff in shaping the vision and values. More emphasis should also be placed in initial teacher education on how to put IE into practice in a meaningful way. This, in turn, would provide a good starting point to engaging in a constructive dialogue in society as a whole in order to remove barriers between two somewhat opposing discourses, "inclusion for some" or "inclusion for all," as Leijen et al. (2021) have highlighted in their study.

The changes planned and carried out during the training in the policy and structure of the school (see **Table 3**) were greatly influenced by the existence of a specific leader. As the school leader in the first case had chosen a specific leader to lead the whole process, they were able to plan time more effectively throughout the process and meet the short-term and long-term goals set. Appointing a support specialist, who is also in the role of SENCO at the school, to lead the change in IE is one way to map systematically all development needs and plan future activities on IE. As SENCO is the most involved with teachers and the school's support team on a day-to-day basis, she perceives the need to support teachers in teaching SEN students in an inclusive classroom. In this way, it is possible to implement certain innovations immediately and thus also change the role of support professionals in supporting both students and teachers. Also in the international context, the focus is on the changing role of support professionals, especially in supporting teachers and introducing collaborative teaching practices (Perez et al., 2017; Florian, 2019). The results of this study revealed that a dedicated and professional leader encouraged and motivated all team members to contribute to all planned development activities. Even more, teachers who participated in the training course became carriers of IE values and communicated about practical solutions for other teachers in the school. According to Mangope and Mukhopadhyay (2015), cooperation between teachers in turn promotes their professional self-development. The participation and contribution of school leaders throughout the training was also an important positive factor. School leaders saw their role in implementing inclusive education primarily in communicating inclusive philosophy and values both within and outside school, facilitating collaboration between different actors, providing resources to overcome barriers, and creating opportunities for teachers' professional development. The role of the school leader in shaping an inclusive organization has also been emphasized in several studies (Harris and Jones, 2017; Murphy, 2018; Lambrecht et al., 2020). Khaleel et al. (2021) have also found that the role of the school leader is largely divided into two groups: creating an appropriate environment for internal school-based activities, and creating a social, academic, and emotional atmosphere; and out-of-school activities such as communication with parents and regional policy makers. Thus, the participation of school principals in in-service training, which deals with the planning of cultural and structural changes throughout the organization, is very important for their realization.

The study showed that the participation of different school teams in the in-service training course was also a positive factor. Sharing experiences with other schools made it possible to learn from each other and thus enhanced the school's development activities in the context of their own school and enabled to create a basis for further collaborative activities. The effectiveness of inter-school collaboration in the process of development activities in IE has also been proved in several other studies (see Ainscow et al., 2006; Ainscow, 2015). Thus, more collaborative inter-school learning communities should be created at the local level to enhance the development of meaningfully inclusive schools through the process of self-development activities. Moreover, as members of the school team who participated in the training course saw out-of-school factors as the main hindering

factors affecting the implementation of IE, such as the lack of commitment and contribution from the state and local government, more opportunities should be found for wider cooperation. The creation of regional learning communities, involving representatives of the state, local government, schools, and universities, would help to develop shared understandings of the meaning of the concept of IE and to create different models for putting it into practice in the context of their own country. Good examples of this can be found in long-term studies in the UK (see Ainscow et al., 2020). This would also make it possible to better understand the role of the state and local government in a meaningful implementation of IE. This does not mean only more financial support, but it is essential to establish proven practices based on research in the context of a particular country. It would also help to approach the development of IE both at the organizational level and in the education system, as Kinsella, 2020 has emphasized in his study. Therefore, even when planning further training, it could be considered whether and how representatives of the state and local governments could be involved at some stage in the training course, in order to initiate a dialogue between the various parties and thus support the schools more effectively.

In conclusion, the participation of different school-level key professionals in long-term in-service training creates a good and broad-based opportunity for school self-development activities in the field of IE. At the same time, it is important that schools are supported at national and local level in this journey.

CONCLUSION

The results of this study showed that long-term in-service training course for school teams (teachers, support professionals, school leaders) supported schools in planning and implementing IE development activities. In terms of development activities, two main themes were distinguished: activities related to shaping school culture and structural change. Regarding inclusive school culture, the main focus was on developing a vision and value for a meaningful implementation of the concept of IE. However, more activities took place in the context of structural change, such as reforming school policies, renewing the student support system and support for the professional development of teachers. Among the supporting factors within the school, the clearly set goals to be achieved, the commitment of the team that participated in the training course, the contribution of all participants, and good co-operation between them came up. The lack of time for cooperation within the school and the involvement of all school staff in the planning of development

activities turned out to be the most essential hindering factors within the school. The out-of-school supporting factors were considered by the trainees to be a system-wide approach to all topics, the integration of theory and practice during the training course, and cooperation with other schools. The main out-of-school hindering factors were the commitment and contribution of the state and local government to the development of an IE system and the lack of evidence-based research in the field of IE in the context of their own country.

Although the study provided a good overview of the effects of team training in the planning and implementation of school self-development activities in the field of IE, we would also like to point out some limitations. Firstly, due to the COVID-19 emergency, we had to hold half of the sessions *via* Zoom and it was not possible to organize individual school counseling sessions in schools, which would have made it possible to increase the effectiveness of training in the school as a whole. Secondly, school observation as additional data collection method would have provided better information to triangulate the analysis of results, but this was also not possible in the COVID-19 situation. Further research is needed to examine longitudinally how the innovative activities implemented in the in-service training course for school teams influence the social and emotional well-being and academic achievement of all students (SEN and non-SEN students) and satisfaction of parents.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR CONTRIBUTIONS

TK contributed to all elements of the research, design and conducted an in-service training course, collected and analyzed the data, described the results, and compiled a discussion. ÄL and LL contributed to the research design, final data analysis process, and editing and reviewing the manuscript. All authors contributed to the article and approved the submitted version.

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The Influence of Individual and Situational Factors on Teachers' Justice Ratings of Classroom Interactions

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Teachers, as role models, are crucial in promoting inclusion in society through their actions. Being perceived as fair by their students is linked to students' feelings of belonging in school. In addition, their decisions of resource allocations also affect students' academic success. Both aspects underpin the importance of teachers' views on justice. This article aims to investigate what teachers consider to be just and how teacher characteristics and situational factors affect justice ratings of hypothetical student-teacher-interactions. In an experimental design, we randomly varied the description of the interacting student in text vignettes regarding his/her special educational need (SEN) (situational factor). We also collected data on teachers' attitudes toward inclusion and experiences with persons with disabilities (individual factors). A sample of in-service teachers in Germany ($N = 2,254$) rated randomized versions of two text vignettes. To also consider the effect of professional status, a sample of pre-service teachers ($N = 275$) did the same. Linear mixed effect models point to a negative effect of the SEN on justice ratings, meaning situations in which the interacting student is described with a SEN were rated less just compared to the control condition. As the interacting student in the situations was treated worse than the rest, this was indicative for the application of the need principle. Teachers with more positive attitudes toward inclusion rated the vignettes as significantly less just. Professional status also had a negative effect on justice ratings, with in-service teachers rating the interactions significantly lower than the pre-service teachers. Our results suggest that the teachers applied the principle of need in their ratings. Implications for inclusive teaching practices and future research are discussed further.

Keywords: classroom interactions, justice, special educational need, justice ratings, inclusion

INTRODUCTION

Providing sufficient education for all children in mainstream schools has become an important agenda of recent education reforms around the world (The United Nations, 2006; Ainscow, 2020). Understanding inclusive education as shared "values of respect for difference and a commitment to offering all students access to learning opportunities" (Ainscow, 2020, p. 12), issues of justice are

simultaneously raised here as well. Thus, a broader understanding of inclusion that recognizes a wide variety of individual needs beyond disability is adapted here. With the ratification of the UN Convention on the Rights of Persons with Disabilities (The United Nations, 2006) in Germany in 2009, students with diverse backgrounds and differing educational needs are increasingly taught in the same classroom. Students with varying needs according to their socio-emotional development as well as students with differing approaches to learning are more common in everyday learning settings in Germany (Sekretariat der Ständigen Konferenz der Kultusminister der Länder, 2022). This ongoing reform has sparked a discourse around the "correct" distribution of resources in favor of inclusive education, and ongoing reflections on educational justice extended to yet another group of students (Werning, 2014; Ainscow, 2020). How (in)justice and inclusion relate to each other in a school context is a question that has been discussed from different perspectives (e.g., specifically for the German education system; see Kiel and Kahlert, 2017). Beside ethical and normative views on this question, regarding a successful implementation of inclusive education in public institutions like schools, it is crucial to understand how perceptions of (in)justice relate to traditional and rather new – inclusive – practices.

The everyday experiences of students in school shape their understanding of our society's values (Gorard, 2011; Resh and Sabbagh, 2014). Having "fair" teachers is an important aspect of this. Interactions with teachers as a source of justice experiences in school are linked to a student's sense of belonging, which is particularly important in inclusive learning environments, student's motivation (Donat et al., 2016; Umlauft and Dalbert, 2017), and their academic achievement (Dalbert, 2011). The teachers' key role in educating our future citizens places a heightened importance on their actions as they represent and impart our society's values to the students. Accordingly, what teachers believe to be just or unjust in inclusive teaching settings is highly relevant as previous research points out a strong connection between hypothetical and real actions (Eifler, 2008).

Deviations from an equal distribution of attention and appreciation in favor of a needs-based distribution can be important aspects of inclusive teaching settings (Ainscow, 2020). How teachers evaluate such interactions, dependent on noticing and interpreting special needs of students, is essential. Individual factors of the teacher, like his/her attitudes toward inclusion and experiences with persons with disabilities, might also affect their justice ratings. In this study, the focus is on justice ratings of hypothetical classroom interactions in inclusive settings by teachers, specifically interactions between teacher and students. We investigate situational as well as individual factors and their link to justice ratings of these situations. By experimentally varying the situational information given about the student and reducing complexity by using text vignettes, we gain insight into the teachers' justice cognitions. In doing so, we can examine the causal effects of special educational needs (SEN) of students in inclusive learning settings on the justice ratings of teachers. General principles derived from these ratings can

contribute to the existing discourse on justice in inclusive education settings.

JUSTICE IN PSYCHOLOGICAL RESEARCH

Referring to research in the field of social psychology, the term "justice" is defined as individually experienced justice of social interactions (Mikula, 2002; Gollwitzer and van Prooijen, 2016). In the literature, there is disagreement about the extent to which justice might be an aspect of morality, and morality is seen as one of many motives for justice. It seems to be established that morality and justice are linked yet distinct constructs (Skitka et al., 2016). The focus of this study is to investigate what is personally considered as just or unjust (Peter et al., 2013; Gollwitzer and van Prooijen, 2016). When assessing (in)justice there are four dimensions usually distinguished: distributive, procedural, interpersonal, and informational justice (Colquitt and Greenberg, 2003).

Distributive justice is defined as the perceived justice of decision and/or allocation outcomes (Colquitt and Greenberg, 2003; Gollwitzer and van Prooijen, 2016). A scarce resource in school might be the attention and time a teacher can spend with a student. Previous research has established that there are three different principles usually applied when people assess justice in this area: the *principle of equality*, the *need principle,* and the *principle of effort* (Mikula, 2002; Berti et al., 2010; Peter et al., 2013). Allocating resources based on the *principle of equality* results in the same outcome for each recipient regardless of their individual effort or needs. The *need principle* states that students get resources based on their individual needs. Lastly, following the *principle of effort* the resource distribution is based on individual input or achievement. For example, students who are doing well in class would get more attention from their teacher (Mikula, 2002; Gollwitzer and van Prooijen, 2016; Ehrhardt-Madapathi et al., 2018). The second dimension of justice is *procedural justice*. It is concerned with the perceived justice of the process that led to a decision or allocation of outcomes (Colquitt and Greenberg, 2003; Gollwitzer and van Prooijen, 2016). *Interpersonal* and *informational justice* are concerned with communication and interactions. *Interpersonal justice* refers to one's perception of interaction and communication. It encompasses respectful and appropriate interpersonal interactions (Colquitt and Greenberg, 2003; Peter et al., 2013; Fischer, 2016; Ehrhardt-Madapathi et al., 2018). *Informational justice* refers to adequate explanations and transparency, especially in communicating a decision (Colquitt and Greenberg, 2003; Peter et al., 2013).

The present article will focus on distributive and interpersonal justice for three reasons. First, in the UN Convention on the Rights of Persons with Disabilities (The United Nations, 2006), it is proposed that the diversity of every learner should be respected and educational institutions should enable every member of society to participate in the very same. These claims are reflected in both justice dimensions. Second, previous research suggests that interactions concerning distributive and interpersonal justice

can easily be observed in class (Ehrhardt-Madapathi et al., 2018). Third, when asked how an ideal or just teacher would behave students usually describe behaviors touching on issues of distributive as well as interpersonal justice (Berti et al., 2010; Gorard, 2012; Peter et al., 2013). Regarding distributive justice, students express conflicting ideals representing the three justice principles. For instance, students wish to be praised when deserved, but also disapprove of favoring hard-working students (Ulich, 2001; Gorard, 2012). The application of the principle of equality and the effort principle are in conflict here. In addition, students wish everyone to be treated the same while also expressing that students in need should get additional help (Ulich, 2001; Berti et al., 2010; Gorard, 2012; Peter et al., 2013). This points to conflicting ideals regarding the principle of equality and the need principle. In contrast, teachers of an Italian study seemed to prefer the principles of need and effort when distributing goods and resources in the classroom (Berti et al., 2010). On the other hand, Iranian English language teachers reported a preference for the principle of equality when distributing resources (Estaji and Zhaleh, 2021). In terms of interpersonal justice, students wish to be treated with respect and not be humiliated in front of their class (Ulich, 2001; Gorard, 2012). Likewise, teachers also consider treating students with respect as an important factor when communicating in class (Berti et al., 2010).

Research on Justice in School

Justice experiences in school can be investigated from various perspectives. As stated above, students' experiences of justice in school are of particular importance since these experiences shape their ideas of what justice means in our society (Gorard, 2011, 2012). Teachers and teacher actions often represent the rules and values of their school and by that, they shape students' experiences of their daily school life as well as their representations of our society's values (Gorard, 2011). What teachers believe to be just or unjust is highly relevant since this can be assumed to translate into actions (Eifler, 2008; König et al., 2014). For instance, Ehrhardt-Madapathi et al. (2018) found a bidirectional relationship between teachers' sense of justice regarding their own actions and students' behavioral problems. Students reacted to unfair treatment with behavioral problems which led to a further decrease in teacher sense of justice, "creating a vicious circle" (Ehrhardt-Madapathi et al., 2018, p. 359).

One way to learn more about teacher justice in school is to ask students how they perceive their teachers. In several studies, students reported their daily interactions with their teachers to generally be unjust (Abs et al., 2007; Berti et al., 2010; Gorard, 2011). On the other hand, there is also evidence that students perceive their teachers' actions as generally just (Donat et al., 2016, 2018a,b). In an observation study conducted in 45 primary and secondary schools in Germany, Prengel (2019) found overall positive interactions between teachers and students, further supporting the evidence of generally just teachers.

So far, little is known about teachers' justice experiences in school. The few studies investigating this area present inconsistent findings. Evaluating a democracy project, Abs et al.

(2007) found that teachers rated their own actions toward students as "sometimes" to "rarely" unjust. However, asked about students' actions toward them, teachers rated them more often to be unjust (Abs et al., 2007). In contrast, in a study by Ehrhardt et al. (2016) teachers rated their actions concerning the allocation of praise and attention to be very just while also reporting that they were aware of the sensitivity of these allocations (Ehrhardt et al., 2016). The comparability of these studies is limited as Abs et al. (2007) did not instruct the teachers to assess specific actions. How these perceptions relate to students' (learning) outcomes has yet to be investigated. The studies described so far have in common that participants or observers were asked to assess the behavior or interactions of a person in specific situations or toward them in terms of justice. In questionnaire studies, the instructions for students and teachers usually do not specify which student's or teacher's actions should be assessed. This can cause respondents to refer to a "mean" of student's/teacher's behavior which could limit the significance of the reported justice experiences (Molinari et al., 2013). In addition, recent experiences with one person or experiences that elicited very strong emotional reactions could overshadow other more positive interactions and thus create a bias in the reports of the participants. One way to avoid these problems is the use of hypothetical descriptions of a teacher's behavior.

In a study with pre-service teachers, Kobs et al. (2021) used hypothetical descriptions of student-teacher-interactions to investigate the influence of information about a special need of the interacting student on justice judgments. They found that pre-service teachers rated the situations less just if the interacting student was described with having behavioral difficulties compared to the same situation with a neutral description of the student. The same pattern was found for situations focusing on the distribution of teacher resources when the student was described with learning difficulties. Kobs et al. (2021) concluded that prospective teachers evaluated distributive student–teacher-interactions in line with the principle of need. This was not entirely the case for interactions with a focus on interpersonal justice. However, the transferability of these results is limited since the sample consisted of pre-service teachers who generally did not have a lot of experience with teaching in a heterogeneous classroom.

As described above, students and teachers sometimes have contradictory ideals when it comes to justice in the classroom. However, both groups emphasize fairness as an important characteristic of a "good" teacher (Wilbert and Gerdes, 2007). Overall, these studies highlight the importance of and need for further research on the topic of justice in school.

Potential Factors Influencing Justice Ratings of Classroom Interactions

Previous research has established that the assessment of a hypothetical behavior and a participants own behavior can be linked (Eifler, 2008; König et al., 2014). Investigating how teachers rate justice of hypothetical classroom interactions could provide insight into what teachers believe to be just interactions. Therefore, it is essential to investigate

factors potentially influencing these justice ratings. It is important to differentiate between situational and individual factors. Individual characteristics of the participants evaluating interactions can influence their perception as well as situational factors, which they might not be able to control (modeled here via experimental variations). Thus, we choose to consider both individual and situational factors.

Student Characteristics

Student characteristics are important situational factors impacting teaching in diverse classrooms. Considering the focus on distributive and interpersonal justice, the following issue might arise: Teaching children without and with a SEN in one classroom can evoke conflicting approaches to teaching – supporting children in need individually or giving them additional attention (principle of need), and equally distributing the teacher's attention among all students (principle of equality). In the presence of a SEN, treating each student the same, regardless of their individual needs, may be judged to be less fair than without a SEN present. Furthermore, if we consider inclusive education as recognizing the individual needs of every student, fostering learning environments correspondingly and enabling them to actively participate in our society (Piezunka et al., 2017; Ainscow, 2020), parallels to the above-mentioned definitions of the two justice dimensions arise. This concept of inclusive education reflects respectful and dignified interpersonal interactions in the sense of interpersonal justice. However, pre-service and in-service teachers in various studies have expressed concerns about teaching children with certain SEN in mainstream classrooms (Avramidis and Norwich, 2002; Ruberg and Porsch, 2017). These concerns may affect the justice ratings of the described interactions with and without information about a child's SEN.

These concerns may be fueled by stereotypes or beliefs the (pre-service) teachers hold. In that sense, their beliefs about specific student characteristics might affect how they assess classroom interactions or other aspects of teaching (Hirschauer and Kullmann, 2010). Focusing on student's ethnicity and social background, Lorenz et al. (2016) conducted a longitudinal survey among primary school teachers. They found a negative bias of the teachers toward students of Turkish origin, and from a lower social background, expecting them to achieve less than students of other groups during the school year (Lorenz et al., 2016). In a similar approach, teachers in preparatory service were asked to grade fictional students in a classroom in mathematics (Kaiser et al., 2015). Among other aspects, information on the social background (cultural capital) of the students was randomly varied. Kaiser et al. (2015) found no influence of cultural capital on the grade given. Both studies report interesting findings about stereotypes and teacher assessments, however connections to justice in school were not investigated. As described above, Kobs et al. (2021) investigated the influence of SEN on justice ratings among student teachers and found that equal treatment was considered less just if the interacting student was described with behavioral problems. This was also true for situations illustrating issues of distributive

justice and a student with learning difficulties (Kobs et al., 2021). Whether these findings apply to in-service teachers as well is unknown. So far, similar investigations focusing on student characteristics and their link to justice ratings in inclusive teaching settings have not been conducted. Kobs et al. (2021) supposed that individual characteristics may also affect justice ratings. This is further investigated in the following sections of this paper.

Teacher's Attitudes Toward Inclusion

It can be assumed that individual factors are of great importance when investigating justice ratings. By focusing on interactions in inclusive classrooms, a teacher's attitudes toward inclusion might be an important aspect to consider. Given the established positive relationship between knowledge about SEN or inclusion in general and attitudes toward inclusion (Avramidis and Norwich, 2002; de Boer et al., 2011), more positive attitudes toward inclusion might lead to a heightened awareness for the individual needs of a student. This in turn, could affect justice ratings, specifically an application of the principle of need in the formation of justice ratings. However, a number of studies report (pre-service) teachers' mostly negative attitudes toward teaching students with behavioral problems as well as learning difficulties in mainstream classrooms (Avramidis et al., 2000; Avramidis and Norwich, 2002; de Boer et al., 2011; Lübke et al., 2016; Ruberg and Porsch, 2017). Children with either one of these SEN are commonly taught in mainstream schools in Germany (Statistisches Bundesamt, 2017; Sekretariat der Ständigen Konferenz der Kultusminister der Länder, 2021). Considering these factors, it is relevant to investigate the effects of these specific SEN on the justice ratings of in-service teachers. It is also relevant here to see, whether attitudes toward inclusion generally affect justice ratings in the described way.

Experiences With Persons With Disabilities

Given the inclusive setting of our vignettes, experiences with persons with disabilities may be an essential factor when investigating justice ratings. Those experiences have been investigated to a great extent in regard to their influence on teachers' attitudes toward inclusion (Avramidis et al., 2000; Avramidis and Norwich, 2002; Forlin et al., 2010; de Boer et al., 2011; Kim, 2011; Bosse and Spörer, 2014; Hellmich and Görel, 2014; Ruberg and Porsch, 2017). The so called "contact hypothesis" suggests that teaching children with special needs in their classroom leads to a positive change in teachers' attitudes. Avramidis and Norwich (2002) literature review on the topic reported mixed results about this hypothesis. However, a more recent review by de Boer et al. (2011) supports the "contact hypothesis." Applying this hypothesis to justice, more contact to students or family members, friends, etc. with SEN could also be linked to teachers being more sensitive to justice-relevant situations and individual needs of students. Since inclusion has been in practice longer in primary schools than in secondary schools in Germany the "contact hypothesis" and its transfer to issues of justice could be relevant here as well. Again, justice ratings in line with the need principle might be expected of

teachers with more experience (personal or professional) with persons with disabilities.

Teaching Experience

Teaching experience may also be connected to teachers' justice ratings of inclusive classroom situations. Its association with attitudes toward inclusion has been investigated in previous research. Studies show a negative link between increasing teaching experience and attitudes toward inclusion (Avramidis and Norwich, 2002; de Boer et al., 2011; Saloviita, 2020). Younger teachers with less experience seem to have more positive attitudes toward inclusion (Avramidis and Norwich, 2002; de Boer et al., 2011). Having more than 10 years of teaching experience may be a turning point, since teachers with more than 10 years of teaching experience seem to be more reluctant toward inclusion (Avramidis and Norwich, 2002; de Boer et al., 2011). However, Avramidis and Norwich (2002) also report that several studies did not find a connection between years of teaching experience and attitudes toward inclusion. If these findings on attitudes toward inclusion can be adapted to justice ratings of classroom interactions, less critical justice ratings of situations with a child with SEN present could be expected from more experienced teachers.

It is also important to look at teaching experience and its potential link to justice in terms of professional development. Following a competency-based approach, pedagogical knowledge is a central competence of a teacher (Shulman, 1987; Shavelson, 2010; Kunter, 2013). Knowledge about students' specific needs that enable them to learn are highly relevant in diverse classrooms (König et al., 2014; Voss et al., 2015). Several studies suggest a positive link between pedagogical knowledge and practical experience (König and Klemenz, 2015; Voss et al., 2015; Mertens and Gräsel, 2018). Noticing and interpreting classroom situations is another important aspect of professional competence. It is often referred to as a teacher's situational cognition and fosters a teacher's ability to deal with heterogeneous learning groups in the classroom (Seidel and Prenzel, 2008; König et al., 2014). Research has shown that expert teachers identify relevant instructional situations more precisely and correctly than novices (König et al., 2014). They also interpret classroom situations more quickly than novices (Seidel and Prenzel, 2008; König et al., 2014; Paseka and Hinzke, 2014). In-service teachers should therefore be better at interpreting the situational factor SEN than pre-service teachers. They should in turn, by applying their theoretical and practical knowledge about SEN and therefore referring to the principle of need, rate the described situations less just than pre-service teachers.

Research Questions and Hypotheses

There remain several aspects about justice cognitions in school that have yet to be investigated. Kobs et al. (2021) found a significant link between the context factor "SEN of a student" and pre-service teachers' justice ratings of hypothetical text vignettes that describe inclusive teaching interactions. Whether this can be applied to in-service teachers is unknown. A link between a teacher's attitudes toward inclusion and justice ratings of inclusive teaching settings stands to reason, however, it has not

been investigated so far. As with the situational factor, none of the above-mentioned individual factors have so far been investigated in their relation to subjective justice ratings. This results in the following four research questions:

(1) In what way does information on a child's SEN affect in-service teachers' justice ratings of inclusive teaching situations?
(2) How can teachers' attitudes toward inclusion in school be linked to justice ratings of inclusive teaching situations?
(3) Do experiences with persons with disabilities influence in-service teachers' justice ratings?
(4) Is there a link between teaching experience and justice ratings of inclusive teaching practices?

Following these research questions and under application of the described research, the following corresponding hypotheses are derived:

(1) Following the principle of equality, equal treatment is rated as fair without further context information on the interacting student. With additional information about a SEN of the student, equal treatment is considered to be less just under the principle of need.
(2) Positive attitudes toward inclusion could be linked to a greater awareness for the specific needs of children with SEN and thus lead to a lower justice rating of equal treatment in accordance with the principle of need.
(3) Personal and professional experiences with persons with disabilities could raise awareness to the individual needs of children with SEN in the classroom. Therefore, we hypothesize that teachers with more personal and/or professional experience with persons with disabilities rate the described interactions as less just if a child with a SEN is described, again in line with the need principle.
(4) Since practicing teachers have more knowledge about and experience in teaching in heterogeneous classrooms than prospective teachers, we hypothesize that practicing teachers apply the principle of need and assess the described student–teacher-interactions less just than pre-service teachers if the student is described with SEN. Based on research about attitudes toward inclusion and teaching experience, we expect practicing teachers with less teaching experience to rate the student–teacher-interactions less just than teachers with more teaching experience.

MATERIALS AND METHODS

Sample

The study is composed of two samples. The first sample was obtained within the framework of the project "Evaluation of inclusive schools in the state of Brandenburg, Germany[1]." Data of 2,305 in-service teachers (84% female, 0.05% diverse) from the federal state of Brandenburg in Germany were collected.

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[1]Translated from German (Evaluation Gemeinsames Lernen und Schulzentren im Land Brandenburg).

The participants were on average 49 years old (SD = 10.36). Most of the educators mainly taught in primary schools (64%), around a third of the sample said they mainly taught secondary students (31%) and the remaining teachers taught students of all age groups (5%). The survey was conducted in January and February of 2019. Data of 39 participants were excluded due to missing values on control or independent variables. Further, 12 participants who identified as "diverse" were excluded from analyses due to their very small proportion in the sample. Hence, our analyses included data of 2,254 participants.

To investigate research question 4, the second sample was composed of 284 pre-service teachers (51% female, 0.007% diverse, 14% not specified) studying to become secondary teachers at the University of Potsdam in the state of Brandenburg. Data was gathered as part of the project "Professionalization of (prospective) teachers in the field of inclusion"[2] (Knigge et al., 2020). At the time of the survey, the pre-service teachers were on average in their 4th Bachelor's semester (SD = 2.14) and were about 23 years old (SD = 4.63). The survey was carried out in

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[2]Translated from German [Professionalisierung von (angehenden) Lehrkräften im Bereich Inklusion].

the winter term of 2017/18. Data of nine students were excluded because of missing values on the dependent variable.

Instruments

We used text vignettes to systematically investigate the influence of the context factor SEN on justice ratings of teachers – a common method in justice research (Atria et al., 2006; Steiner and Atzmüller, 2006; Auspurg et al., 2009; Weibler and Feldmann, 2012; Liebig et al., 2015). The situational descriptions are based on a psychological understanding of justice and represent student-teacher interactions in class [see Kobs et al. (2021) for details on the development of the vignettes]. A focus on two of the four justice dimensions was intended. The first situation ("refusal to work") illustrates the perceived justice of the distribution of scarce resources (distributive justice), e.g., the teacher's attention in the classroom. The second one ("sent out") describes issues of respectful interactions between the student and teacher (interpersonal justice) (Peter et al., 2013). Both dimensions are highly relevant in the context of inclusive schools. However, further investigations showed that this distinction could not be confirmed empirically. As a result, we will refer to them as vignette "sent out" and "refusal to work" in the following

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TABLE 1 | Wording of vignettes and their varying characteristic "special educational need".

	Manipulation "special educational need"		
Vignettes	**SEN learning difficulties**	**No SEN**	**SEN behavioral problems**
"Refusal to work" (distributive justice)	Today, a worksheet is to be completed silently. A child refuses to do so. The teacher briefly reminds him/her to work on his/her tasks. During the rest of the lesson the teacher turns to the questions of the other pupils. The child has a much slower comprehension and is overwhelmed faster than other children. In most subjects, he or she is two years or more behind the average learning level expected at this age.	Today, a worksheet is to be completed silently. A child refuses to do so. The teacher briefly reminds him/her to work on his/her tasks. During the rest of the lesson the teacher turns to the questions of the other pupils. The child generally behaves rather ordinary in class and performs according to his or her age group.	Today, a worksheet is to be completed silently. A child refuses to do so. The teacher briefly reminds him/her to work on his/her tasks. During the rest of the lesson the teacher turns to the questions of the other pupils. The child has great difficulty in restraining itself and following the lesson permanently. It often gets into conflict with the staff and classmates at the school.
"Sent out" (interpersonal justice)	During the teacher's talk, a child disturbs the lesson by repeated loud interjections. The teacher reminds him to be quiet. After a few minutes, the child starts to disturb the lesson again. After the child starts swearing, the teacher interrupts her talk and asks the child to wait outside the classroom for the rest of the lesson. The child has a much slower comprehension and is overwhelmed faster than other children. In most subjects, he or she is two years or more behind the average learning level expected at this age.	During the teacher's talk, a child disturbs the lesson by repeated loud interjections. The teacher reminds him to be quiet. After a few minutes, the child starts to disturb the lesson again. After the child starts swearing, the teacher interrupts her talk and asks the child to wait outside the classroom for the rest of the lesson. The child generally behaves rather ordinary in class and performs according to his or her age group.	During the teacher's talk, a child disturbs the lesson by repeated loud interjections. The teacher reminds him to be quiet. After a few minutes, the child starts to disturb the lesson again. After the child starts swearing, the teacher interrupts her talk and asks the child to wait outside the classroom for the rest of the lesson. The child has great difficulty in restraining itself and following the lesson permanently. It often gets into conflict with the staff and classmates at the school.

Translated from German.

chapters. Text blocks giving information on the interacting student were systematically varied. Again, reference is made to previous research findings on the attitudes of teachers toward inclusion pointing to teachers' negative attitudes toward children with a SEN in domains of behavioral problems and, to a lesser extent, learning difficulties (Avramidis et al., 2000; Avramidis and Norwich, 2002; de Boer et al., 2011; Langner, 2015; Schwab and Seifert, 2015; Lübke et al., 2016; Ruberg and Porsch, 2017). Descriptions of these SEN and a neutral description were included as a manipulation in the text vignettes to investigate justice cognitions (see **Table 1**). The justice rating of each vignette was assessed *via* three items. The first items asked the participants to rate the interaction from their perspective. The other two items requested the participants to assess the justice of the interaction from the perspective of the interacting student, and his/her classmates. Answers were given on a five-point rating scale (1 = unfair to 5 = fair) with a neutral midpoint. The three items were then aggregated into a scale using the mean.

The following instruments were only answered by the sample of in-service teachers. The items measuring attitudes toward inclusion were based on a questionnaire designed by Kopp (2009) (*M* = 2.51, *SD* = 0.67, Cronbach's α = 0.80). Four items were rated on a four-point Likert scale. Experiences with persons with disabilities in personal and professional context were measured using 14 items (Forlin et al., 2010; Kim, 2011). The participants indicated for each item whether it applied to their experiences or not (multiple choice) (see **Table 2**). They also indicated which grades they taught. This was used to model the school type mainly taught in. The gender and age of the participants were collected as control variables.

Design and Procedure

The in-service teachers rated the vignettes and items described above as a part of the project "Evaluation of inclusive schools in the state of Brandenburg, Germany" at the beginning of 2019. Following research question one, the descriptions of the student's behavior pointing to a SEN were varied in the text vignettes as contextual information to investigate their influence on the teachers' judgments of fairness in teaching situations. The description of a student with behavioral problems exclusively depicts the symptoms of an externalizing behavioral disorder (see **Table 1**), internal disorder patterns are not considered in the present design. The varying description of the student's behavior was given at the end of each vignette. Accordingly, three variations of each of the two vignettes were developed. Three sets containing one variation of each vignette were generated. The participants were randomly assigned to one set, resulting in every participant seeing two of the three experimental variations in random order.

The pre-service teachers assessed these vignettes alongside four others during a lecture for pre-service teachers studying to teach at secondary level I and II at the University of Potsdam, Germany. The online survey was part of the ProfInk research program (Knigge et al., 2020). It was conducted using the online survey software "EFS Survey." The design of this study is described in Kobs et al. (2021). It is important to note here that the information about the SEN of the interacting student was given at the beginning of each vignette for the pre-service teachers.

Statistical Analyses

As every participant rated both vignettes, the data collected can be categorized as repeated measure. We analyzed the data using linear mixed effect models (LMM) (Singmann and Kellen, 2019). LMMs were computed with the lme4 (Bates et al., 2015b) and RePsychLing (Bates et al., 2015a) packages using the maximum-likelihood estimator and BOBYQA optimizer, and *p*-values were computed with the lmerTest (Kuznetsova et al., 2017) package, using Satterthwaite approximation for degrees of freedom. Effect sizes were computed with the effectsize package (Ben-Shachar et al., 2020). All statistical analyses were conducted using R (R Core Team, 2020).

To test for research question one, the experimental manipulation (description of SEN) was modeled in a within-subject three-level factor. To account for the difference of the two vignettes, a two-level factor was implemented. The control variable gender was also converted to a factor with two levels, the control variable age was centered around the mean (*M* = 49.18). In line with research question two, the attitudes toward the inclusion scale were added. For easier interpretability, it was centered around the mean (*M* = 2.51). To investigate research question three, the items relating to experiences with persons with disabilities were added. The 14 items were combined as follows to reduce model complexity. Knowing people with disabilities from activities in your free time and from your neighborhood was combined into the factor "acquaintance with disabilities." Having a colleague with disabilities and having had a fellow student with disabilities were combined to the factor "colleague with disabilities." Likewise, having had a student with disabilities during one's own school years in their class or at their school was subsumed under the factor "persons with disabilities in own school days." This resulted in nine two-level factors indicating whether the item(s) had applied to the participant or not. The type of school mainly taught in was modeled as a factor with three levels (primary school, secondary school, both equally).

To test for research question four, two models were computed. In the first model, pre-service and in-service teachers were compared. Since the participating pre-service teachers were studying to become secondary teachers, the sample of practicing teachers was reduced to secondary teachers for the comparison (*N* = 605). Again, the situational factor was modeled in a within-subject three-level factor, and a two-level factor accounted for the difference of the two vignettes. The difference in the participants' professional status was modeled by a between-subject two-level factor. In the second model, only practicing secondary teachers with less than 15 years teaching experience were investigated (*N* = 198). This decision was based on literature implying a shift on attitudes toward inclusion for teachers with more than 10 years of teaching experience (see above). A three-level factor was implemented to account for up to 5, 10, and 15 years of teaching experience. Other model components were the same as in the previous model.

All factors were contrast coded using backward sliding contrasts (Venables and Ripley, 2002). This means that neighboring levels are compared, e.g., for the experimental variation (SEN) justice ratings for level 2 (no SEN) are compared to level 1 (learning difficulties), and level 3 (behavioral problems) is compared to level 2 (no SEN) (Schad et al., 2020). This is beneficial when multiple predictors are present, and interactions are modeled. Because of this coding, grand-mean centering is applied. Three models were computed to test for research questions one to three. The first model only included the control factors age and gender, the three-level factor of the manipulation and the factor representing the vignettes. Interactions of the latter two factors were computed as well. In the next model, we added the scale for attitudes toward inclusion and its interaction with the factor SEN. In the final model, 11 contrasts of the remaining factors (experiences with persons with disabilities and mainly taught school type) were entered. Interactions of the school type mainly taught in and the experimental variation were computed as well. All models included the participant's ID as random effect. The effect sizes obtained from the effect size package were calculated using the test statistic to account for the dependency of the data. Accordingly, the ω^2 obtained should be understood as an estimate (Ben-Shachar et al., 2020).

RESULTS

The teachers rated the vignette illustrating a more distributive situation ("refusal to work") overall less just than the interpersonal vignette ("sent out") (M = 2.43 vs. 2.88) (see **Table 2**). The internal consistency of both vignettes was acceptable with Cronbach's α being 0.68 for the vignette "refusal to work" and 0.61 for the vignette "sent out."

As described above, three models were computed to analyze the possible impact of situational and individual factors on the justice judgments of teachers. The first model contained only

the experimental variations and vignette factor as well as the age and sex of the in-service teachers. The model's total explanatory power was substantial (conditional R^2 = 0.41), and the part related to the fixed effects alone (marginal R^2) was 0.19. With adding the centered attitudes of inclusion scale, the explanatory power related to the fixed effects increased (marginal R^2 = 0.21). A further addition of the items concerned with experiences with persons with disabilities and professional experiences led to a further increase of marginal R^2 (0.23). The Akaike Information Criterion decreased from model 1 through model 3. Therefore, the following descriptions refer to model 3.

To answer research question four, two more models were computed to investigate the influence of teaching experience on justice judgment. We modeled increasing professional development by computing a factor illustrating completed training/education. As stated above, only secondary in-service and pre-service teachers were included in this analysis. The model's total explanatory power was substantial (conditional R^2 = 0.43), and the part related to fixed effects alone (marginal R^2) was 0.18. The model, analyzing the influence of increasing teaching experience among in-service secondary teachers, explained R^2 = 0.47 in total and the part related to fixed effects accounted for R^2 = 0.21.

Hypothesis 1: Influence of the Contextual Factor 'SEN' on Justice Ratings of Teachers

The results obtained from the analyses described above are presented in **Table 3**. The results indicate that the behavioral descriptions did alter the justice ratings of the teachers. As shown in **Table 3**, the justice scores decreased by half a unit if the student's behavior was described according to learning difficulties compared to the neutral description (M = 2.38 vs. 2.88, p < 0.001, ω^2 = 0.04). Similarly, the teachers rated the text vignettes more just if the behavior of the student was described in a neutral way compared to a description of a student with behavioral

TABLE 2 | Descriptive statistics for the variables observed.

	Pre-service teachers	In-service teachers	Pre-service/in-service teachers
	M (SD)	*M (SD)*	*Cronbach's* α
Vignette "refusal to work"	2.71 (0.32)	2.43 (0.74)	0.60/0.68
Vignette "sent out"	3.18 (0.27)	2.88 (0.76)	0.42/0.61
	example item	*M (SD)*	*Cronbach's* α
Attitudes towards inclusion (based on Kopp, 2009)	"Inclusive teaching can meet the needs of all pupils through appropriate methods."	2.51 (0.67)	0.80
	example item	**Applied to (in%)**	
Experiences with persons with disabilities in personal and professional context (based on Forlin et al., 2010; Kim, 2011)	"In my family are persons with disabilities."	29.79	

*For wording of vignettes see **Table 1**. N (in-service teachers) = 2,254. N (pre-service teachers) = 275.*

TABLE 3 | Fixed effects for mixed models predicting justice ratings of in-service teachers (*N* = 2,254).

	Unstandardized estimate b [95% CI]									
	M1			**M2**			**M3**			
Parameter	**Estimates**	**SE**	**t**	**Estimates**	**SE**	**t**	**Estimates**	**SE**	**t**	**Partialω²**
(Intercept)	2.81*** [2.70, 2.92]	0.06	48.61	2.85*** [2.73, 2.96]	0.06	50.22	2.80*** [2.68, 2.92]	0.06	46.02	
Experimental/ situational factor										
No SEN – learning difficulties (ld)	0.50*** [0.46, 0.55]	0.02	21.07	0.50*** [0.46, 0.55]	0.02	21.31	0.45*** [0.37, 0.52]	0.04	11.76	0.04 [0.03,0.05]
Behavioral problems – no SEN (bp)	−0.17*** [−0.21, −0.12]	0.02	−7.01	−0.17*** [−0.21, −0.12]	0.02	−6.99	−0.15*** [−0.22, −0.08]	0.04	−3.98	0.00 [0.00,0.01]
Control factors and interactions										
Vignettes "sent out" – "refusal to work" (vig)	0.45*** [0.41, 0.48]	0.02	24.93	0.45*** [0.41, 0.48]	0.02	24.92	0.45*** [0.41, 0.48]	0.02	24.98	0.22 [0.19,0.25]
Sex (male – female)	0.15*** [0.09, 0.22]	0.03	4.69	0.14*** [0.08, 0.20]	0.03	4.36	0.12*** [0.05, 0.18]	0.03	3.60	0.01 [0.00,0.01]
Age (centered)	−0.00 [−0.00, 0.00]	0	−1.83	−0.00** [−0.01, −0.00]	0	−2.62	−0.00** [−0.01, −0.00]	0	−2.71	0.00 [0.00, −0.01]
ld × vig	−0.60*** [−0.71, −0.49]	0.05	−10.89	−0.59*** [−0.69, −0.48]	0.05	−10.88	−0.59*** [−0.70, −0.49]	0.05	−11.16	0.04 [0.03,0.05]
bp x vig	0.49*** [0.39, 0.60]	0.05	8.99	0.49*** [0.38, 0.59]	0.05	9.04	0.49*** [0.39, 0.59]	0.05	9.24	0.03 [0.02,0.04]
Individual factors and interactions										
Attitudes toward inclusion (centered) (ati)				−0.17*** [−0.21, −0.14]	0.02	−10.03	−0.16*** [−0.19, −0.12]	0.02	−8.94	0.03 [0.02,0.05]
ld x ati				0.09* [0.02, 0.15]	0.03	2.49	0.08* [0.01, 0.15]	0.03	2.33	0.00 [0.00,0.01]
bp x ati				−0.01 [−0.08, 0.05]	0.03	−0.42	−0.02 [−0.08, 0.05]	0.03	−0.48	0.00 [0.00,0.00]
Family member with disabilities (yes – no)							−0.07** [−0.12, −0.02]	0.03	−2.81	0.00 [0.00,0.01]

(Continued)

TABLE 3 | (Continued)

	Unstandardized estimate b [95% CI]									
	M1			M2			M3			
Parameter	Estimates	SE	t	Estimates	SE	t	Estimates	SE	t	Partial ω^2
Acquaintance with disabilities (yes – no)							−0.03	0.02	−1.29	0.00 [0.00,0.00]
							[−0.08, 0.02]			
Colleagues with disabilities (yes – no)							0.03	0.03	1	0.00 [0.00,0.00]
							[−0.02, 0.07]			
Persons with disabilities in own school days (yes – no)							−0.05	0.03	−1.86	0.00 [0.00,0.00]
							[−0.10, 0.00]			
Teaching experience in primary/secondary school with persons with disabilities (yes – no)							−0.01	0.04	−0.18	0.00 [0.00,0.00]
							[−0.08, 0.06]			
Teaching in special needs schools (yes – no)							−0.07*	0.03	−2.18	0.00 [0.00,0.01]
							[−0.14, −0.01]			
No teaching experience with persons with disabilities (yes – no)							0.02	0.04	0.57	0.00 [0.00,0.00]
							[−0.06, 0.11]			
Observing colleague teaching persons with disabilities (yes – no)							−0.07*	0.03	−2.35	0.00 [0.00,0.01]
							[−0.12, −0.01]			
Experiences with caretaking of persons with disabilities outside of school (yes – no)							−0.08*	0.04	−2.14	0.00 [0.00,0.01]
							[−0.15, −0.01]			
School type Secondary school – primary school (sec)							0.12*** [0.07, 0.17]	0.03	4.82	0.01 [0.00,0.02]
School type both – secondary school (bo)							−0.03	0.05	−0.48	00 [0.00,0.00]
							[−0.13, 0.08]			
ld × sec							−0.01	0.05	−0.29	00 [0.00,0.01]
							[−0.11, 0.08]			

(Continued)

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TABLE 3 | (Continued)

Parameter	Unstandardized estimate b [95% CI]									Partial ω²
	M1			M2			M3			
	Estimates	SE	t	Estimates	SE	t	Estimates	SE	t	
bp × sec							-0.11* [-0.21, -0.01]	0.05	-2.22	00 [0.00,0.00,0.00]
ld × bo							-0.18 [-0.40, 0.03]	0.11	-1.67	00 [0.00,0.00,0.00]
bp × bo							0.19 [-0.03, 0.40]	0.11	1.72	00 [0.00,0.00,0.00]
Model information										
AIC	9482.27			9383.06			9331.42			
ICC	0.28			0.26			0.24			
Observations	4,505			4,505			4,505			
Marginal R²/Conditional R²	0.186/0.411			0.209/0.413			0.226/0.415			

CI, confidence interval; ld, contrast no SEN – SEN learning difficulties; bp, contrast SEN behavioral problems – no SEN; vig, contrast vignettes "sent out" – "refusal to work"; ati, centered attitudes toward inclusion scale; sec, school type secondary school – primary school; bo, both school types – secondary school. p-values based on Satterthwaite estimation. *p < 0.05, **p < 0.01, ***p < 0.001.
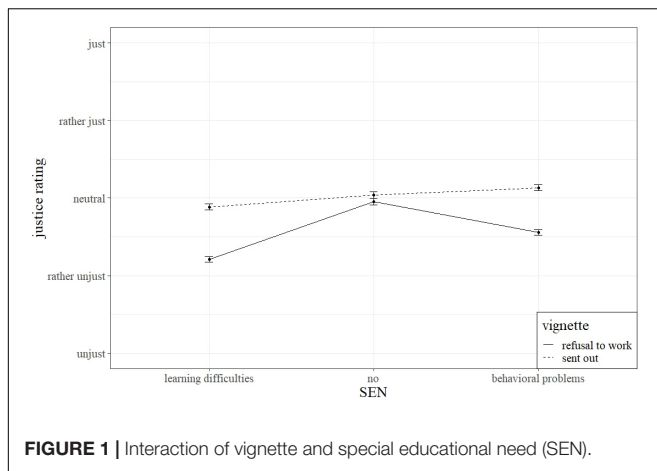
difficulties ($M = 2.88$ vs. 2.70, $p < 0.001$, $\omega^2 = 0.00$). Both significant contrasts of the manipulation were of small effect size (Funder and Ozer, 2019). Since research in this field is scarce, an adequate classification is not yet possible. Moreover, in an experimental research setting, smaller effects are to be expected, especially when very complex designs are applied (Funder and Ozer, 2019). The significant interactions of the vignette factor and the experimental variations indicated a varying effect of the student's behavioral description on justice ratings. Both effects were of small magnitude (Funder and Ozer, 2019). **Figure 1** illustrates this. The teachers rated the situation "refusal to work" less just if the student was described with a special need (solid line). However, for the vignette "sent out" this is not true. The interaction was rated least just for the student with learning difficulties, and it was rated more just when the interacting student is described with behavioral difficulties, with the rating of the situation with a student without a SEN in between (dashed line).

Hypotheses 2: Link Between Teacher's Attitudes Toward Inclusion and Justice Ratings

The results indicate a connection between teacher's attitudes toward inclusion and justice judgments. An increase in attitudes toward inclusion can be associated with a decrease by 0.15 units on the scale of justice ratings ($p < 0.001$, $\omega^2 = 0.03$) (see **Table 3**). Again, this was an effect of small size (Funder and Ozer, 2019). There was also a significant interaction of attitudes toward inclusion and the experimental variation. **Figure 2** illustrates this relationship: With an increase in attitudes toward inclusion, the decrease of the justice scores is stronger for situations in which the student is described with learning difficulties (dashed line) compared to a student without SEN (dotted line) ($p < 0.05$). The justice ratings were not significantly different for the SEN behavioral problems.

Hypotheses 3: Influence of Individual Factors Concerned With Experience With Persons With Disabilities on Justice Ratings of Teachers

Six of the entered 15 contrasts were significant. The results suggest that subjectively experienced justice is related to personal and professional experiences of teachers with people with disabilities. Thus, teachers with family members with disabilities assessed the situations presented less fairly than their colleagues ($M = 2.59$ vs. 2.68, $p < 0.01$, see **Table 3**). Having taught children in special needs schools also negatively affected the justice ratings ($M = 2.53$ vs. 2.68, $p < 0.05$). Furthermore, having sat in on a colleague teaching an inclusive class also negatively influenced the justice ratings of the described interactions ($M = 2.57$ vs. 2.68, $p < 0.05$). Teachers who reported to have taken care of children outside of school also rated the described interactions lower than colleagues who did not ($M = 2.53$ vs. 2.67, $p < 0.05$). In addition, we found that secondary school teachers assessed the hypothetical

FIGURE 1 | Interaction of vignette and special educational need (SEN).

FIGURE 2 | Interaction of attitudes toward inclusion and special educational need.

descriptions generally fairer than primary school teachers do ($M = 2.75$ vs. 2.60, $p < 0.001$) (see also **Figure 3**). Lastly, there also was a significant interaction of the school type a teacher taught in and the experimental variation. **Figure 3** illustrates this interaction. Primary and secondary school teachers rated both situations rather similar if a student is described with behavioral problems ($M = 2.68$ vs. 2.75). However, the secondary school teachers' assessment of the situations increased steeper than that of the primary school teachers if the student is described neutrally ($M = 3.01$ vs. 2.82).

Hypotheses 4: Influence of Individual Factors Concerned With Teaching Experience on Justice Ratings of Teachers

The results obtained from the analyses described above are presented in **Table 4**. The left column (M4) represents the results comparing pre-service and in-service teachers, the right column shows the results of the model estimating the influence of increasing teaching experience on justice ratings (M5). The analysis showed that pre-service and in-service teachers differed significantly in their justice ratings. The secondary in-service teachers rated both situations significantly lower than pre-service teachers ($M = 2.76$ vs. 2.94). Furthermore, the experimental variation and professional status interacted significantly. The significant interaction of the training status and the experimental variations indicates a varying effect of the student's behavioral description in relation to the teaching experience of the person rating these descriptions. **Figure 4** illustrates how the pre-service teachers generally rated the described interactions more just than practicing teachers. Describing the interacting student with learning difficulties enhances the different assessment. However, focusing solely on practicing secondary teachers no significant effect of teaching experience could be found.

Additional Results

Throughout all models the assessments of the two situations differed significantly, with the situation "sent out" being rated more just (see **Tables 3**, **4**). Surprisingly, the results also suggest gender differences in evaluating the described interactions with
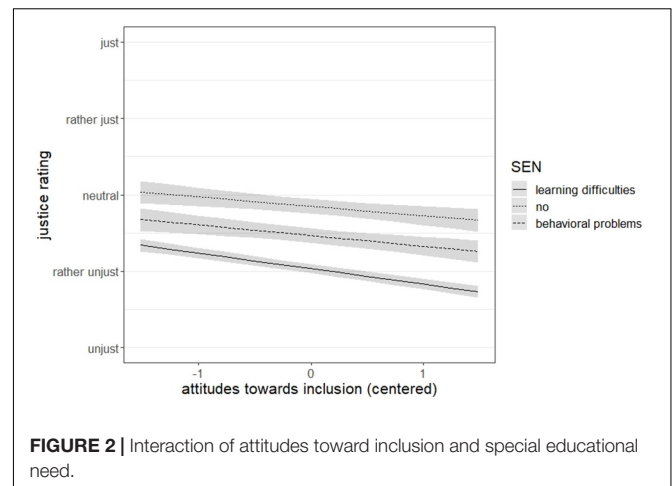
male teachers assessing them generally more just than females ($M = 2.79$ vs. 2.63). Since 84% of the sample were female, this finding should be taken with caution.

DISCUSSION

This study investigated whether context and individual factors influence teacher's justice ratings of hypothetical student-teacher-interactions. To do so, we used two text vignettes illustrating classroom interactions and experimentally varied the description of the interacting student to represent learning difficulties, behavioral problems, or no special needs (situational factor). These were then rated by our participants. Given the inclusive setting of the described interactions, we assessed the participants' attitudes toward inclusion, experiences with persons with disabilities, and years of teaching experience (individual factors).

In line with hypothesis 1, we found a general effect of the experimental manipulation on teachers' justice ratings since they rated both hypothetical interactions less just if the interacting student was described with a SEN. Equal treatment of all students in the social reference group (classroom) was rated less just if the interacting student was described with a SEN. This result is in line with the principle of need. Accordingly, a needs-based distribution of attention and appreciation might be preferable in the presence of SEN, even though this was not explicitly investigated in the present study. The reported general effect of SEN is partly in line with results of Kobs et al. (2021) who found a significant, overall effect only for the manipulation "behavioral problems" on justice ratings of student teachers.

Closer inspection revealed significant interactions of the text vignettes and the experimental manipulation. The justice ratings decreased for the vignette "refusal to work" in the presence of SEN. Again, a preference for a needs-based distribution of attention instead of equal treatment in case of SEN could explain this rating trend and is in line with the findings of Kobs et al. (2021) and consistent with the findings of Berti et al. (2010) who reported teachers' preferences for needs-based distribution of resources. When it comes to distributing resources in the learning environment, teachers seem to reference the

principle of need. For the interaction described in "sent out" this pattern did partly replicate. Consistent with hypothesis 1, the justice rating of this text vignette was rated less just if a student was described with learning difficulties compared to a student with a neutral description. Again, a preference for the principle of need seemed to guide these ratings. However, sending out a student with behavioral problems was rated more just than the same interaction with a student without SEN (see **Figure 1**). Teachers might have rated the interaction for this SEN more just because they prioritize having a calm learning environment for the rest of the class and therefore felt that this action was justified. The principle of need does not seem to guide this rating instead a preference for equal treatment in this situation could explain this rating trend. This outcome is contradictory to that of Kobs et al. (2021) who reported

opposite pre-service teacher ratings for this vignette. Overall, these findings indicate that our participants considered an equal distribution of resources in the described classroom situations to be less fair if a student with a SEN was present. This was true for both SEN. It supports our assumptions that the need principle is relevant in justice cognitions in the context of inclusive classroom settings (Peter et al., 2013). The consistent application of the needs principle in assessing the fairness of both situations with a student with learning difficulties also points to our participants' knowledge on adaptive teaching strategies for this SEN (Lübke et al., 2016). Regarding students with behavioral problems, the teachers in our study seemed to distinguish in their assessment depending on the interaction described. As stated above, Ehrhardt-Madapathi et al. (2018) found a negative relationship between teachers' justice perceptions of

TABLE 4 | Fixed effects for mixed models predicting justice ratings for pre-service teachers and in-service teachers at secondary level in comparison (M4) and secondary teachers only (M5).

	Unstandardized estimate b [95% CI]					
	M4			**M5**		
Parameters	**Estimates**	**SE**	**t**	**Estimates**	**SE**	**t**
(Intercept)	2.85***	0.02	139.16	2.74***	0.04	63.44
	[2.81, 2.89]			[2.65, 2.82]		
Experimental/situational factor						
No SEN – learning difficulties (ld)	0.34***	0.04	8.57	0.51***	0.08	6.24
	[0.27, 0.42]			[0.35, 0.66]		
Behavioral problems – no SEN (bp)	−0.20***	0.04	−5.00	−0.25**	0.08	−3.12
	[−0.27, −0.12]			[−0.41, −0.09]		
Control factors and interactions						
Vignettes "sent out" – "refusal to work" (vig)	0.47***	0.03	17.12	0.52***	0.06	8.70
	[0.42, 0.53]			[0.40, 0.63]		
vig × ld	−0.55***	0.09	−6.43	−0.72***	0.19	−3.77
	[−0.72, −0.38]			[−1.10, −0.35]		
vig × bp	0.28**	0.09	3.22	0.56**	0.19	2.88
	[0.11, 0.45]			[0.18, 0.93]		
Individual factors and interactions						
Professional status	0.18***	0.04	4.45			
Pre-service t. – in-service t. (prof)	[0.10, 0.26]					
prof × ld	−0.39***	0.08	−4.88			
	[−0.55, −0.23]					
prof × bp	0.08	0.08	0.97			
	[−0.08, 0.23]					
Teaching experience				0.04	0.10	0.46
Up to 10 – up to 5 years				[−0.14, 0.23]		
Teaching experience				−0.07	0.11	−0.63
Up to 15 – up to 10 years				[−0.28, 0.14]		
Model information						
AIC	3661.648			858.264		
ICC	0.31			0.33		
N	880 subj			198 subj		
Observations	1,760			396		
Marginal R^2/Conditional R^2	0.185/0.434			0.207/0.466		

CI, confidence interval; ld, contrast no SEN – SEN learning difficulties; bp, contrast SEN behavioral problems – no SEN; vig, contrast vignettes "sent out" – "refusal to work"; prof, contrast professional status preservice teachers – in-service teachers. p-values based on Satterthwaite estimation. *p < 0.05, **p < 0.01, ***p < 0.001.
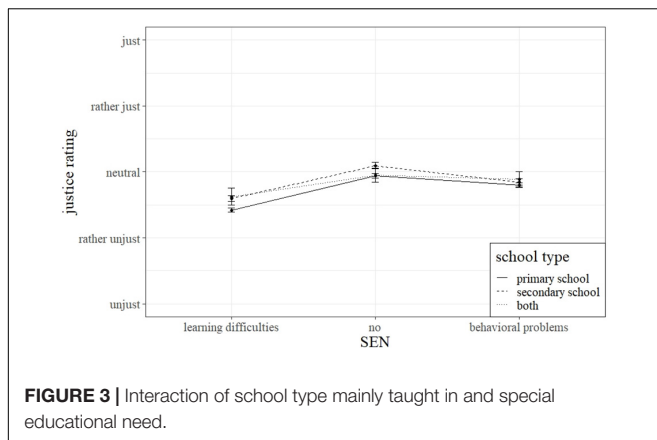
FIGURE 3 | Interaction of school type mainly taught in and special educational need.
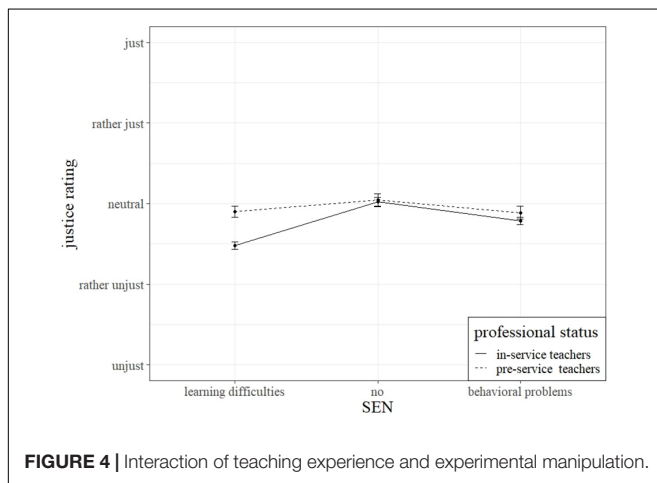

FIGURE 4 | Interaction of teaching experience and experimental manipulation.

their own actions and students' behavioral problems, thus not paying attention to a child with behavioral problems might make more sense in certain contexts to avoid enhancing the problem. This highlights the importance of context when it comes to justice. Since the situational descriptions were kept very short, the teachers might have varying assumptions with regard to relationship dynamics of the vignette protagonists or other interactions preceding this situation. For these reasons, hypothesis 1 could only be partly confirmed.

The extent to which individual abilities of perspective-taking and empathy can play a role here and contribute to a further expansion of the acceptance and use of the need principle appears to be of great relevance for future studies to gain a deeper understanding of the evaluation processes that take place here. Due to the experimental design, this aspect was kept randomly constant in the present study. How justice-sensitive a person is in general (Baumert and Schmitt, 2016) and possible links between the facets of justice sensitivity and the perspectives taken here while rating the student–teacher-interactions are other aspects to consider in future research. For example, rating the text vignettes from the student's perspective could appeal to a large extent to the respondents' observer sensitivity and the classmate perspective could appeal to the respondent's observer or maybe even beneficiary sensitivity. Thus, investigating possible relationships between facets of injustice sensitivity and individual

perspectives in the items could be promising. A corresponding emphasis on strengthening the different perspectives on justice would seem worthwhile for further studies. As stated above, the brevity of the text vignettes might have encouraged our participants to speculate about previous interactions of the vignette protagonists and their relationship dynamics. This could lead to different assumptions that influence their justice ratings. To gain a deeper understanding of justice cognitions in educational settings teachers' reasoning and their understanding of the presented situations could be explored in think-aloud protocols in future studies (e.g., Paseka and Hinzke, 2014).

As described above, we hypothesized a link between attitudes toward inclusion and justice ratings of inclusive teaching interactions. The justice ratings of the text vignettes generally decreased with more positive attitudes toward inclusion of the teachers. Several studies suggest a positive link between knowledge about inclusion or SEN and attitudes toward inclusion (Avramidis and Norwich, 2002; de Boer et al., 2011), which might explain the decreasing justice ratings in our study if the principle of need is not applied in a situation with a student with SEN present. Although this is an effect of small size, adding attitudes toward inclusion and interactions with the experimental variation to our model led to an increase of 2% in variance explained (marginal R^2). These findings support our hypothesis that more positive attitudes toward inclusion could be linked to a heightened awareness of students' individual needs. A significant interaction was also found for attitudes toward inclusion and the experimental variation. The justice ratings of the vignettes decreased more strongly as attitudes toward inclusion increased when the student was described with learning difficulties compared to a neutral student description. This effect was not found for the description of a student with behavioral problems. This differentiation in relation to the specific SEN might be explained by varying attitudes for these SEN (Lübke et al., 2016). Still, these findings support our claim, that more positive attitudes toward inclusion can be associated with a heightened awareness for individual needs of children with SEN resulting in a preference for the need principle in justice ratings of these vignettes.

Regarding hypothesis 3, the results are not pointing in a clear direction. Some of the experiences the participants had seem to be linked to justice ratings. A link between experiences with persons with disabilities and justice cognitions has so far not been investigated. Following hypothesis 2 and adopting existing research about a possible relationship of these experiences and attitudes toward inclusion, might help explain some of these findings. In their review on attitudes toward inclusion, de Boer et al. (2011) report a positive link between experiences with persons with disabilities outside of a professional context and attitudes toward inclusion. This might also relate to the negative influence having a disabled family member had on justice ratings. Still, being acquainted with or having had a classmate with disabilities did not influence justice ratings. Some experiences with persons with disabilities in a professional context can be linked to more critical justice ratings, namely teaching experience in special needs schools, having observed one's colleagues teaching in a diverse classroom, and taking care of persons with disabilities outside of school. Again, literature

about attitudes toward inclusion helps to understand these findings since a positive effect of professional contact to persons with disabilities could be found (de Boer et al., 2011; Ruberg and Porsch, 2017). Thus, rating these interactions less just could be due to more experiences and in turn a heightened awareness for the needs of students with SEN. However, several other factors regarding private and professional experiences with persons with disabilities did not seem to affect the teachers' justice ratings. All in all, these findings do not follow a clear pattern. Besides the self-reported experiences with person with disabilities, primary school teachers consistently rated the text vignettes lower as their colleagues teaching secondary students. The further development of inclusive education in primary schools and the corresponding longer experience with the needs of children with SEN could be a reason for this (Avramidis and Norwich, 2002; de Boer et al., 2011; Hellmich and Görel, 2014). Another reason might be, that needs-based instruction is more appropriate at the primary level than at the secondary level, where the focus is on achievement. Accordingly, a violation of the needs principle in the vignettes provokes more negative justice ratings among primary teachers than among secondary teachers (Ehrhardt et al., 2016). In conclusion, it remains unclear whether personal and professional experiences with persons with disabilities can be linked to a heightened awareness for the individual needs of children with SEN in terms of justice. In this study, a clear pattern that supports this claim could not be found.

In line with hypothesis 4, pre-service teachers were less critical of the described classroom interactions and rated them generally more just than practicing teachers. This difference could be explained by practicing teachers' enhanced ability to notice and interpret situational factors relevant to teaching in general, due to their teaching experience (König et al., 2014; Paseka and Hinzke, 2014; Voss et al., 2015). Their extensive knowledge about diverse learners in theory and practice could have led to them more strongly preferring a needs-based justice rating of the described interactions. We further inspected an influence of teaching experience by focusing on in-service secondary teachers in their first 15 years of teaching. This was again inspired by research on attitudes toward inclusion (Avramidis and Norwich, 2002; de Boer et al., 2011). However, we found no effect of teaching experience in the first 15 years on justice ratings. Following hypothesis 2, this was surprising since teachers with less teaching experience were found to have more positive attitudes toward inclusion in the literature (Avramidis and Norwich, 2002; de Boer et al., 2011) which should have led to higher justice ratings with increasing teaching experience. Therefore, hypothesis 4 could only partly be verified.

Limitations

The generalizability of these results is subject to certain limitations. For instance, the effects found in line with hypothesis 1 are partly limited by the design of our instrument. In the investigated interactions, the student in focus is treated the same as his classmates (principle of equality). Whether an increase in attention from the teacher would also be judged as fairer is unclear. According to the literature, a negative deviation from equal treatment is potentially more likely to cause

perceived injustice than a positive deviation (Gollwitzer and van Prooijen, 2016). Therefore, a positive deviation from equal treatment of all students could lead to other effects, especially in inclusive education and in terms of the need principle. Further investigating the effects of SEN with a positive deviation from the principle of equality is in preparation.

Regarding hypothesis 4, the reported effects are limited by the different specializations of the two samples we compared. A part of the pre-service teachers studying to teach in secondary schools is specializing to teach in Grammar Schools which are usually less inclusive (forsa Politik- und Sozialforschung GmbH, 2017; Allan and Sturm, 2018). On the contrary, all of the in-service secondary school teachers worked in comprehensive secondary schools with a focus on inclusive education. The described effects could, therefore, be due to this difference in specialization. Nonetheless, an enhanced ability of in-service teachers to notice and interpret situational factors relevant to teaching regardless of their specialization can be assumed; still, further research with Grammar School teachers is needed here.

Another limitation is the subject-wise unbalanced manipulation, since the participants rated two of the three variations of the manipulation. LMMs generally cope well with unbalanced designs and yield plausible results (Singmann and Kellen, 2019). Nonetheless, the number of ratings were evenly distributed across each manipulation and vignette (around 700 per cell), so the subject-wise imbalance is subordinate.

It is unfortunate that we could not include more vignettes in the study. A higher number of vignettes would have been useful to better account for the variance of the individual vignettes in the model. Following the recommendations, 10–20 vignettes could have yielded plausible estimates as random effects in our model (Bates et al., 2015a; Singmann and Kellen, 2019). Nevertheless, to control for the differences of the two situations at least partially in the present study, we modeled them as a fixed effect. This allowed for a more accurate estimate of the effects of the implemented manipulation. A higher number of vignettes places significant demands on a study design. However, feasibility should be thoroughly examined in future studies.

Implications and Prospects for Future Research

This study has shown that in-service teachers are aware of justice issues in inclusive teaching settings. Due to its experimental approach, it is unclear whether these findings can be generalized to real life teaching situations. However, other vignette studies have shown that the obtained results can be transferred to real life actions (Eifler, 2008; König et al., 2014). Consequently, a transfer to real classroom situations is very likely. It seems important here to acknowledge that the instrument we used simplifies the complex reality of student-teacher interactions. Even with teachers' best intentions to act justly in the classroom, feelings of injustice can arise in students. Interactions in the classroom are very complex and their perceptions are influenced by various factors, such as previous experiences. How students perceive similar situations and assess their fairness is another important research objective to learn more about justice cognitions of different participants of everyday school life.

The results presented here also indicate a link between attitudes toward inclusion and awareness for justice in inclusive teaching interactions. Whether teacher training on inclusion, possibly mediated by attitudes toward inclusion, would influence teachers' justice awareness in inclusive teaching settings is a further research question that arises from this study. Similarly, how experiences with persons with disabilities might be connected to justice ratings needs to be further explored.

Following the reported link between attitudes toward inclusion and justice ratings in this study and findings on the effect of positive attitudes toward inclusion and its impact on student outcomes (Savage and Erten, 2015), investigating whether teachers' awareness for justice in interactions on a school-level can be linked to student outcomes appears to be a promising objective for further studies.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR CONTRIBUTIONS

SK wrote the first draft of the manuscript, designed the study, analyzed the data, and revised the manuscript. MK co-designed the study and contributed substantially to the manuscript. MK, AE, JL, AH, and NS designed and coordinated the project of which this study is a part, reviewed, and edited the manuscript. All authors read and approved the final manuscript for submission.

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Barriers general education teachers face regarding the inclusion of students with autism

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As the number of students diagnosed with autism spectrum disorder (ASD) present in general education (GE) classrooms has increased in the past few decades, GE teachers must adapt to meet the needs of these students. Laws and regulations require students with ASD to be educated in the least restrictive environment, as well as that they be instructed by the teachers who were qualified to teach them. Unfortunately, GE teachers face the challenges supporting students with ASD in GE settings. This qualitative research investigates the barriers that prevent teachers from successfully implementing an inclusive environment in the GE classroom. In total, four elementary school teachers at a school in the northeast of the United States were interviewed and observed. The data were analyzed to identify emerging themes. The findings showed that GE teachers lack training in how to work with students with ASD in their GE classrooms, lack collaboration opportunities with their special education colleagues to better support their students with ASD, and are not provided sufficient resources by their schools and programs to create an appropriate inclusive environment in their GE classrooms. Based on these findings, certain improvements in professional development offerings for in-service general educators on how to teach students with ASD are recommended, such as providing broader training programs that give teachers the opportunity to practice interventions and teaching plans for inclusive classrooms and receive feedback from the training instructor(s). Furthermore, certain additions to the curriculum of pre-service university education programs for GE teachers are suggested. In addition, the research found that schools must make certain resources, including technology, available to GE teachers to meet the requirements of United States law regarding educating students with disabilities, including ASD, in the least restrictive environment, which is the GE classroom.

KEYWORDS

autism spectrum disorder, ASD, inclusive education, students, qualitative research, least restrictive environment, inclusion, general education teachers

Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by deficits in social communication and the presence of restricted interests and repetitive behaviors (American Psychiatric Association., 2013). Moreover, the condition may impact the educational performance of the child with ASD, due to the disorder being characterized by resistance to any change in the daily routine or environment, non-typical responses to all kinds of sensory experiences, and the engagement in activities of a repetitive nature [34 C.F.R. 300.8 (c) (1)]. The Individuals With Disabilities Education Act (Individuals with Disabilities Education Act [IDEA]., 2004) aimed to ensure that all children with disabilities have access to free and appropriate education in the least restrictive environment and are supported by related services designed to prepare them for the future. In addition, this legislation outlines the requirements for the assessment of these children. Furthermore, it ensures that educators have all the required tools to improve the education of students with disabilities (Trohanis, 2008; Yell, 2012). IDEA brought about significant changes to the nation's school systems as a whole (Moores-Abdool, 2010). It also increased the number of students with ASD in general education (GE) classrooms.

Reporting conducted for the Centers for Disease Control and Prevention (CDC; Maenner et al., 2020) estimated that 1 in 54 children has been identified as having ASD in the United States. In addition, the number of individuals with ASD who are school-aged is about 1 in 50 (Blumberg et al., 2013). Many students with disabilities are now included in GE classes for most of the school day (National Center for Education Statistics., 2021). Goodman and Williams (2007) stated that "The increased numbers of students with ASD that educators encounter in mainstream settings result not only from legal and empirical support for this placement option but also from increases in the incidence of this disorder" (p. 53). Furthermore, the right of students with ASD to be educated with their typical peers in the GE classroom is endorsed by many teachers and parents (Hasson et al., 2022). Thus, in the present day, it is expected that general educators be capable of accommodating these students in their classrooms (Boyle et al., 2022). Unfortunately, despite these expectations and legislative requirements, few models and procedures have been developed to facilitate the successful placement and maintenance of students with ASD in GE classrooms (Moores-Abdool, 2010; Klibthong and Agbenyega, 2022).

Students with ASD face a range of challenges in the inclusive setting, involving social, academic, and behavioral issues (Allen and Yau, 2019). They struggle with social and communication skills delay as well as issues with play and learning (Mody and Belliveau, 2013); certain typical ASD behaviors might also affect the ability of these students to participate in classroom learning activities and engage with peers (Conallen and Reed, 2017).

For example, individuals with ASD might experience language delay, but even more relevant in the classroom setting is that their difficulties with communication skill development can manifest as "social withdrawal" and a "lack of social reciprocity"—failure to engage in conversation and social interactions in a way that is typical—causing them to be isolated from their peers in the classroom during group activities or play (Mody and Belliveau, 2013, p. 159). Moreover, the verbal outbursts and resistant behavior that children with ASD might exhibit can cause disruptions in the GE classroom for teachers as well as draw negative reactions from the children's typical peers (Mody and Belliveau, 2013).

Not all students with ASD are exactly the same, which creates additional challenges for teachers when these students are in GE classrooms (Finlay et al., 2022; Leonard and Smyth, 2022). Clearly, for students with ASD to receive appropriate education in GE classrooms, modifications to curricula and instruction are necessary; however, these can vary significantly depending on the level of functionality of the individual student (Moores-Abdool, 2010). Meeting the needs of these students presents unique challenges for teachers (Hodges et al., 2020). Moreover, this can be a daunting task without clear guidelines (Simpson et al., 2003; Van Der Steen et al., 2020). This study examined the barriers the GE teachers encounter when students with ASD are present in the GE classroom. In addition, it aimed to find out what GE teachers require to overcome the identified barriers and achieve successful inclusive classroom environments.

Literature review

When students with ASD are included in the GE classroom, their GE teachers are responsible for addressing their needs, just as they are responsible for addressing the needs of their typical peers (Boyle et al., 2022). However, research has found that GE teachers lack the training and professional development to successfully create an inclusive setting (Gómez-Marí et al., 2021, 2022). Furthermore, teachers themselves have highlighted the need for better collaboration opportunities with special education professionals and more technology to meet the requirements of legislation such as IDEA (Mulholland and O'Connor, 2016).

Pre-service training

Most universities only require that university students studying to become GE teachers take a few classes in special education; therefore, most teachers start their careers with less to no training in the field of autism and ASD (Morton and Campbell, 2008; Barned et al., 2011; Busby et al., 2012). This lack of training at the college level often leaves the

teachers ill-equipped to effectively teach students with ASD (Suhrheinrich, 2011). Numerous studies have found that a lack of training at the university level is also a barrier to successful implementation of interventions (Morrier et al., 2011; Alexander et al., 2015). Moreover, even when teacher education programs have expanded their offerings regarding the education of those with disabilities over the years, they often still fall short of training GE teacher students to the specific degree needed (Scheuermann et al., 2003).

Barned et al. (2011) conducted a study to evaluate and assess pre-service early childhood education teachers regarding the inclusion of students with ASD that included conducting a survey with 15 such pre-service teachers at Southeastern University to assess their knowledge and attitudes toward the inclusion of students with autism. In addition to completing the survey, four of the teachers were also interviewed. The results showed that there is a lack of knowledge on the part of pre-service teachers regarding ASD, as well as certain misconceptions about the condition and the needs of students with ASD in inclusive classrooms. The participants showed an interest in obtaining a better understanding of ASD and demonstrated the support of the inclusive classroom. However, their attitudes toward the inclusion of students with severe disabilities were ambiguous. The findings from this study indicated that pre-service teacher preparation programs should be expanded to deliver additional knowledge about ASD and foster more inclusive attitudes toward these students (Barned et al., 2011). To add to this, general educators have expressed different insecurities about teaching children with autism due to feelings of inadequacy regarding their university education and training (Roberts and Webster, 2022). It is critical that this lack in teacher training be addressed, so that first-year teachers are adequately prepared to teach students with ASD (McCray and McHatton, 2011).

Professional development

The research has consistently shown that ineffective professional development is a barrier to successful implementation of interventions for students with ASD in GE settings (Boyle et al., 2022). Although programs often provide training on interventions, there are many other obstacles that may limit effective implementation (Alexander et al., 2015). The traditional method of delivering professional development involves lectures and handouts that often prove to be ineffective as they fail to supply attendees (teachers) with actual methods for applying the information provided to the real word of the classroom (Bethune and Wood, 2013). Researchers also have found a need for more supportive professional development environments, such as ones that incorporate opportunities for teachers to practice the interventions they have learned during the sessions and obtain feedback from the

instructor regarding their performance prior to being expected to successfully apply such practices in the classroom; this type of feedback as well as the provision of manuals and online support could increase the utilization of new instructional strategies in the classroom (Odom et al., 2010; Simonsen et al., 2010). Therefore, teachers may attempt to adapt these newly acquired skills to what they are already doing while neglecting the core components necessary to create an effective intervention (Odom et al., 2010). In addition, some educators may also be reluctant to try new interventions because they may not fit with the strategies they currently use (Lang et al., 2010). Odom et al. (2010) indicated that in the past, professional development often involved one-time workshops or presentations where no ongoing support was provided. This type of professional development has been shown to be ineffective in providing teachers with a full understanding of how to implement the program for the benefit of students (Chung et al., 2015; Bates and Morgan, 2018).

In a study by Brownell et al. (2013), it was found that educators often know more about the subjects they teach than the evidence-based practices (EBPs) that have been developed for creating effective instruction to teach those subjects. The ability to integrate new strategies and ideas into an easy-to-follow, comprehensible instructional approach has been found to be most influenced by the degree to which teachers analyze current practices and student needs and apply them to the content they are teaching (Brownell et al., 2013). The authors stated that "Teachers' analysis seemed dependent on knowledge of special education practice and curriculum, knowledge for teaching reading, desire to learn, persistence in implementation, and use of PD (professional development) strategies to improve practice" (Brownell et al., 2013, p. 42).

Teacher collaboration

It is not just pre-service teachers' attitudes or their training as much as it is the structures of special and GE programs at the university level. Researchers assert that the reality of separate departments for special education and GE in teacher education programs contributes to the issues that arise in educating pre-service teachers how to collaborate to meet the needs of children with special needs (Silverman, 2007; Pülschen and Pülschen, 2015). For teachers to successfully implement interventions for students with ASD in the GE setting, collaboration between general and special education is essential (Simpson et al., 2003).

Instructing those with learning difficulties poses challenges for GE teachers, and it is important for them to have the ability to work with others within their schools with expertise in special education to enhance the inclusive environment of the GE classroom (Majoko, 2019). Due to the varying needs of children in the GE classroom, it is not possible for the general educator to work in isolation (Vakil et al., 2009). Without

collaboration, it may be impossible to successfully implement certain interventions for students with ASD in the GE setting (Finlay et al., 2022).

A study was conducted by Able et al. (2015) to identify the needs of students with ASD in the GE classroom and the requirements of teachers to facilitate the success of their students. The researchers utilized two focus groups to explore and understand teacher preparation practices and teachers' perspectives of the social support needs of students with ASD in the GE classroom. This study revealed that GE teachers indicate the need for more knowledge of ASD and of individualized instruction strategies for students with ASD in inclusive settings. They also emphasized the need for increased collaboration between general and special educators to include the students with ASD in GE settings (Able et al., 2015).

Although several studies have found that teachers hold positive attitudes toward students with ASD (e.g., Park and Chitiyo, 2011; Boyle et al., 2022), other research has found that teachers have negative perceptions of students with ASD, including that these students have low levels of academic achievement and emotional and social development (Gómez-Marí et al., 2021, 2022). As a result, teachers may be influenced by this prejudice toward students with ASD when such students are present in their classrooms, even if they do not realize it (Chung et al., 2015). Teachers have reported the feelings of frustration and guilt regarding the amount of time required to ensure that students with disabilities are accommodated, including the time required to modify lesson plans and curricula. They express concern regarding the perceived time such activities take away from students without disabilities who tend to comprise the majority of most classrooms (Lopes et al., 2004; Cassady, 2011).

Materials and methods

Setting and participants

This study took place in a private elementary school located in the northeast of the United States. This private school has a total enrollment of 120 students in grades pre-school through seventh grade and 20 GE teachers. The school does not have special education teachers, and some students with autism have enrolled at the school in the last 2 years. The students with ASD in the school are fully included in GE classrooms. The school community comprises low- to middle-income students of various ethnicities. Case studies, as Merriam (1988) described them, contain "an intensive, holistic description and analysis of a bounded phenomenon" (p. 8). Merriam also stated the main characteristic of a qualitative case study is that it presents a rich and in-depth description of the phenomenon or phenomena being investigated. Therefore, the private school that was the setting of this case study was chosen because the researcher

had worked with staff there in the past to implement a positive behavioral interventions and supports (PBIS) program. Moreover, the researcher's relationship with the staff made it possible to observe the phenomenon of the inclusion of students with ASD in the GE classroom in an in-depth manner. This program was also deemed to involve an appropriate population from whom to obtain qualitative data on the research topic, namely, GE teachers who have direct interactions with students with ASD in inclusive settings. In total, four of the 20 GE teachers at the school were recruited using a purposive sample of the educators to explore the phenomenon of the inclusion of students with ASD in the GE classroom and to obtain their insights into the barriers they encounter regarding teaching students with ASD in this setting. Purposive sampling method is commonly employed in qualitative research due to its usefulness in selecting individuals who possess the background and knowledge necessary to support the goals of the study and to provide the researcher with the ability to obtain the most appropriate sample to address the aims of the research (Marshall, 1996; Tashakkori and Teddlie, 2003).

In addition, all of these factors meet the requirements of Robinson (2014) regarding how to obtain an appropriate sample in qualitative research by ensuring that the population from which the sample is drawn is capable of providing insight and clarification of the identified phenomenon to be explored by the research. Inclusion criteria for participation in this study were as follows: general educators with at least 1 year of experience teaching students with ASD and who have students with ASD in their primary classroom. In addition, the teachers had to have at least a bachelor's degree in education. Each teacher was sent the interview questions by an email a week before the interview to prepare for the questions. The teachers who participated in this study are designated as Teacher 1, Teacher 2, Teacher 3, and Teacher 4, to protect their privacy and for ease of reporting the data obtained from the interviews. Please refer **Table 1** for the demographic information of the participants.

Study design and data collection

Qualitative research design was chosen for this study. Specifically, a case study involving teachers at a private school was conducted. The semi-structured interview questions were based on the review of the existing literature (Lindsay et al., 2013; Able et al., 2015; Van Der Steen et al., 2020) and designed to answer the research questions. The interview questions were reviewed by three professors with expertise in inclusive education and their suggestions were used to edit and improve the original questions. For instance, the reviewers suggested adding a question on the teachers' beliefs regarding the inclusion of students with ASD, as this has been identified as a critical factor in overcoming barriers to successful inclusion of these students (refer to **Appendix A** for the interview questions). The

TABLE 1 Demographic data of the participants.

	Teacher's role	Gender	Qualifications	Years of teaching	Years with students with ASD
1	General educator	Female	Bachelor's degree in education	4	2
2	General educator	Female	Bachelor's degree in education	6	2
3	General educator	Female	Bachelor's degree in education	3	2
4	General educator	Female	Bachelor's degree in education	4	2

interviews were audiotaped to allow the researcher to gather rich information about teachers' experiences and opinions of the inclusion of students with ASD in GE classrooms in a format that could be referenced later. Each teacher was interviewed for 30–45 min to obtain an understanding of their barriers and needs regarding the inclusion of students with ASD in the GE classroom. To accommodate the participants' schedules, two of the interviews were conducted in a private room at the school and the rest were conducted by cellphone. In addition to the interviews, the researcher used observation as another data collocation method. Thus, the four teachers were observed and notes were taken regarding how the individual teachers interacted with and instructed their students with ASD. The observations occurred over 1 day for each teacher.

Data analysis

Data were analyzed based on the thematic analysis of what the participants said regarding the what, why, and how of their views about the specific topic. Following the thematic analysis, as proposed by Braun and Clarke (2006), data coding was accomplished by the researcher as follows. First, the audio recordings of the interviews were transcribed verbatim and the transcriptions were reviewed. As a part of this initial process, member check was performed by showing the transcription of their interview to each teacher interviewee, so that they could review it for accuracy and make any changes regarding misinterpretation, if needed. During the review of the transcriptions, the researcher's notes from the interviews were also consulted so as to become familiarized with the data; notes were taken during this process to begin to identify themes. Next, all the data were coded to describe the content by highlighting and extracting key phrases from each of the interviews. After this, the researcher combined the similar coded phrases into a single theme; codes that only appeared once were excluded. This process involved thematic analysis using an indicative coding method that allows the researcher to generate themes and descriptors (Creswell, 2014). The data analysis also involved highlighting the themes and patterns and utilizing deductive coding to connect the findings to the literature review. The researcher also related the themes to the observations and the lesson plans to enhance the credibility of the data. Finally, the data were grouped and the themes

were identified and conceptualized in relation to the research questions and the literature review. The observation and lesson plans supported the themes identified by the study. Additionally, double coding was conducted for each interview by a colleague of the researcher to review and confirm the coding forms. This individual is an associate professor with expertise in the field of special education.

Findings

This research endeavored to identify the barriers the GE teachers' state impact the teaching and inclusion of students with ASD in the GE setting. In addition, the study aimed to identify the tools these educators require to create a successful inclusive classroom environment for students with ASD. From the data obtained from the survey answers, interviews, and observations, three themes emerged:

1. Teachers' lack of training regarding students with ASD.
2. Teachers' lack of collaboration opportunities.
3. Lack of resources provided by schools.

Each of these themes is discussed in greater detail in the following sections (also please refer to Table 2).

Teachers' lack of training regarding students with autism spectrum disorder

Teachers have reported the feelings of frustration and guilt over the amount of time required to accommodate and modify the lessons for students with autism (Cook and McDuffie-Landrum, 2020). Additionally, teachers state they feel this time takes away from the majority of their students who do not have disabilities (Lopes et al., 2004). It is not surprising teachers feel frustrated because they are unprepared to teach these students. Teachers in this study emphasized that training on how to teach students with ASD is important for providing an appropriate education for these students. In addition, they agreed that GE teachers are unprepared to teach students with ASD. For example, Teacher 1 stated that "I think that teachers who do not have any specialized background are unprepared (to teach

TABLE 2 Presentation of themes and related recommendations.

Theme	Relevant quote(s)	Recommendation	Method(s) of implementing recommendation
Theme 1: Teachers' lack of training regarding inclusion of students with ASD	Teacher 3: "I think definitely general education teachers need training because I believe that general education teachers are not prepared to deal with students with ASD." Teacher 4: "Many courses must be taught to undergraduate students since they will be teachers in the future."	Advocate for better training and preparation of general education teachers.	Implement expanded instruction at both the pre-service (during university programs) and in-service (professional development, school-provided program) levels.
Theme 2: Teachers' lack of collaboration opportunities.	Teacher 2: "Collaboration is very important because it will help me to teach all the students." Teacher 1: "It is very hard to work alone in the classroom."	Advocate for greater collaboration between GE teachers and their colleagues with specialization in special education.	Implement at both the pre-service and in-service levels, by: (a) incorporating more SE curriculum into the course programming for GE teaching students; and (b) providing regular opportunities within the school week or month during which GE teachers and SE personnel can consult to discuss overall issues with students with disabilities, including ASD, as well as specific students with ASD.
Theme 3: Lack of resources provided by schools.	Teacher 4: "Lack of support and resources is a big issue." Teacher 1: "Our private school does not receive fund form government it only depends on the enrollment and donation."	Advocate for funding and specialized equipment.	School administrators/directors should seek additional funding from appropriate entities (or redirect existing funding) to support the necessary expansion of services to students with disabilities, including ASD, and to ensure the availability of necessary resources for these students through greater support for their GE teachers.

students with ASD). I think GE teachers do not know how to adapt the curriculum or come up with a behavior management plan that is effective." Teacher 3 stated that "I think definitely GE teachers need training because I believe that GE teachers are not prepared to deal with students with ASD." The researcher's observation data and the teachers' lesson plans showed the teachers had difficulty addressing the needs of students with ASD. For instance, during one observation, a student with ASD was seen crying and trying to avoid doing a particular task. The teacher being observed was unable to implement any helpful strategy to support the student and chose to simply put the student in time out. It is notable that all the study participants showed positive attitudes toward the inclusion of students with ASD in the GE classroom, but only as long as they felt that they had been provided with the support necessary to be successful. For example, Teacher 3 stated that "Definitely, students with ASD should be included in the GE classroom because this is the real world. But I feel unprepared to work with students with ASD in the inclusive classroom with such minimal support."

Teachers' lack of collaboration opportunities

To successfully include the students with ASD in the GE setting, collaboration between general and special education teachers is essential. To obtain positive results for all their students, it is critical that general educators have the opportunity to work with others (e.g., special education teachers, therapists, etc.) to enhance the inclusive environment of the classroom (Majoko, 2019). Teachers who participated in this study agreed that collaboration is essential when teaching students with

disabilities in inclusive settings. Furthermore, they emphasized that they are not provided with the necessary support personnel to create a successful classroom environment when students with ASD are present in the GE classroom. For example, Teacher 2 stated the following:

I need special education teachers to collaborate with and help me to see what works for the student (with ASD) and what does not work for him, and also to see how my student can benefit (from different practices). I think special education teachers will definitely help, I think collaboration is very important because it will help me to teach all the students.

Similarly, Teacher 4 stated the following:

The minimum support I need is an aide, I need a person with me in the class for example, when I am teaching I need that person to help the student to open (the student with ASD's) textbook to a certain page and tell the student what to do. It is very hard to work alone in class without collaborators.

Researcher observation supported that the teachers had difficulty in providing the needed level of support to the students with ASD in the classroom while also meeting the needs of their other students.

Lack of resources in schools

Working with students with ASD in inclusive settings can be challenging for teachers; inadequate knowledge of ASD and the lack of access to support and the advice of professionals (e.g., therapists and paraprofessionals) with expertise in supporting these students only makes the job of the general educator even more difficult (de Boer, 2009). All teachers indicated that the lack of resources makes inclusion almost impossible to

implement. For example, Teacher 3 said that, "The school has a lack of resources and this impacts students with disabilities in the school. Private schools do not receive funds from government. The only funds we receive are just for books and materials." Furthermore, Teacher 4 stated the following:

We do not receive funds for hiring and training teachers. We depend on enrollment and donations. If you need to bring on a person as a counselor that will cost a lot, lack of support and resources is a big issue.

It was clear that the school lacks services and equipment to support students with ASD in the GE classroom. During the observation and the review of the lesson plans, it was also noted that the students at the school with ASD do not have Individualized Education Programs (IEPs). According to the teachers, they had submitted a formal request in writing to the public school district for support with evaluations and IEPs.

Discussion

The research question that guided this study was, "What barriers are encountered by GE teachers when teaching students with ASD?" In addition, the purpose of the study was to find out what GE teachers need to overcome these barriers and successfully teach students with ASD in the inclusive classroom. The results of this study were consistent with those of similar studies (e.g., Lindsay et al., 2013; Hsiao and Sorensen Petersen, 2019; Van Der Steen et al., 2020) that found general educators need more knowledge, collaboration opportunities, and resources to support students with ASD in GE classrooms. In total, three main themes emerged from this qualitative study: teachers' lack of training for students with ASD, teachers' lack of collaboration opportunities, and the lack of resources in schools.

Examination of the themes

First, the teachers' lack of knowledge and training regarding how to work with students with ASD has been identified as a barrier the general educators face by other researchers, including Van Der Steen et al. (2020). As was mentioned in the findings, this was an issue the participants emphasized with statements such as, "I think that teachers who do not have any specialized background (in working with students with disabilities) are prepared at all" (Teacher 1). To help GE teachers be comfortable and successful in the teaching of students with ASD, teacher training programs should develop courses that allow their students to obtain more teaching experience with students with ASD (Park and Chitiyo, 2011). Thus, pre-service programs for GE teachers must develop courses that train teachers on how treat students with ASD in the GE environment. In addition to expanding pre-service training, professional development must

be provided on an ongoing basis to GE teachers to improve their knowledge and confidence regarding teaching students with ASD. As has been stated in other research, "Very few teacher preparation programs offer more than 6-h training in EBPs" (Hsiao and Sorensen Petersen, 2019, p. 205). Such additional training has also found that the confidence and knowledge was higher in teachers working with students with ASD after they had completed effective trainings on fundamental ABA techniques (Leblanc et al., 2009). Given that teacher preparation programs have been found to be lacking in how they prepare (or fail to) teachers to work with students with ASD, teachers must have access to professional development that trains them in EBPs to support these students (Hsiao and Sorensen Petersen, 2019; Hasson et al., 2022).

Another theme identified in this study was the lack of collaboration opportunities with other educators and professionals who have expertise in special education and/or ASD. This issue was also noted during the observations, which revealed that general educators cannot provide the needed level of support to all students in the classroom, including those with ASD. In teacher training, the lack of collaboration could be overcome by creating opportunities for faculty from both special education and GE to work together to deliver the instruction to future teachers (Able et al., 2015; Majoko, 2019). By building relationships across disciplines, teacher educators can strengthen programs to support collaboration. This would allow for instructional strategies and accommodations for students with disabilities to be integrated into the pre-service GE curriculum. GE teachers would thereby be better able to maintain instruction and learning for all the students in the classroom through collaboration with other professionals with expertise in supporting students with disabilities such as ASD (Van Mieghem et al., 2020).

The last theme that emerged from the interviews was the need for resources. As Teacher 4 mentioned, the inability to meet the needs of students with ASD is often related to a lack of resources, especially in private programs. It is important for schools to provide the necessary resources to allow teachers to support all students, including those with disabilities, while also meeting the standards established for the provision of education to them (Wilson and Landa, 2019). The research found that teachers identify a number of resources (e.g., psychologists, therapists, and certain types of materials/equipment including technology) as necessary to the establishment of a successful inclusive classroom (Lindsay et al., 2013; Klibthong and Agbenyega, 2022; Leonard and Smyth, 2022). Furthermore, this research found that teachers encounter funding difficulties when it comes to the need for teaching resources and assistive technology devices for their students with ASD. This finding is supported by that of Hasson et al. (2022), who stated that students with ASD must receive the necessary funding to ensure they are well-educated (Lindsay et al., 2013; Hasson et al., 2022). In the case of private schools, such as that involved in this study,

it is necessary that such programs seek funding from appropriate entities, such as state and federal government agencies, to ensure the availability of necessary resources for students with ASD.

Conclusion, limitations, and future research

Students with ASD are now included in the GE setting in response to the requirements of legislation such as the Individuals with Disabilities Education Act [IDEA]., 2004. This qualitative research discussed the barriers the GE teachers face regarding teaching students with ASD in their GE classrooms. The researcher identified three themes and examined each in-depth. Based on the examination and analysis of these identified themes, this study found that GE teachers seek to be provided effective training, specialized equipment/technology, and opportunities to collaborate with their special education colleagues to properly support their students with ASD in their GE classrooms.

This study was limited by a few factors. For example, since case study methodology was employed, the researcher interviewed only four female teachers so as to acquire a deep understanding of the perceptions of the teachers. The duration of the interviews was also limited, only 30–45 min, due to the teachers' availability. Had the interviews been longer, it is possible more data could have been obtained. Another limitation of the study is the setting, and private schools operate under different funding constraints and have different requirements under the law than do public schools, which impacts how teachers view the inclusion of students with ASD in the GE classroom. Future research should investigate what specific training for teachers of students with ASD would be most useful and effective in supporting teachers in creating an inclusive environment for students with ASD in the GE classroom.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by King Saud University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

MA contributed to the design and implementation of the research, as well as to the analysis of the results and to the writing of the manuscript. The author confirms being the sole contributor of this work and has approved it for publication.

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Conflict of interest

The author declares 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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Appendix

Appendix A

Text of general education teacher Participant interview questions.

- Can you tell me about your beliefs on inclusion?
- In your opinion, what are some of the pros and cons of inclusive school programs?
- In your opinion, do general education teachers have positive or negative attitudes toward inclusion of autism? If yes, what makes you say that? If no, how do you know?
- In your opinion, are general education environments ready to support students with ASD?
- Do you feel that you have the knowledge that allow you to use various accommodations and modifications to help adapt the environment for students with ASD in the general education classroom? If yes, can you explain please? If no, Why?
- Can you tell me about some barriers that you face when teaching students with ASD in your classroom?

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