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Inclusion and Social Integration of Students with Educational Challenges: Perspectives of In-Service and Pre-Service Teachers and College Students

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Inclusion and Social Integration of Students with Educational Challenges: Perspectives of In-Service and Pre-Service Teachers and College Students

Abstract

The increasing trend to mainstream students with educational challenges (SEC) has obligated mainstream teachers to develop different approaches to deal with heterogeneous classes. Previous research on in-service and pre-service teachers has shown that successful inclusion is correlated with positive attitudes towards inclusion, a high sense of self-efficacy, and minimal stigmatization of SEC. However, it remains unclear whether training programs for in-service and pre-service teachers can impact initial attitudes towards inclusive education. This study examined the different components of attitudes towards inclusion in three groups: in-service teachers, pre-service teachers, and college students enrolled in non-education majors. An online questionnaire was administered by a survey company to 489 participants: in-service teachers who had at least one SEC in their classes (n=196), pre-service teachers (n=143), and college students (n=150). The results showed that pre-service teachers had the most positive attitude towards inclusion of SEC, whereas in-service teachers had the most negative attitude. Attitudes towards inclusion were predicted by stigmatizing attitudes and self-efficacy. Stigmatizing attitudes were predicted by gender, religion, education, and self-efficacy. Thus, the main route to more inclusive and less prejudiced teachers may lie in strengthening teachers' self-efficacy. These results have implications for training programs, which should focus on eliminating myths, strengthening the concept of inclusion throughout the entire program, and enhancing the expertise of in-service teachers.

Practitioner Notes

1. Across all participants, per and in service teachers and college students, high levels of self-efficacy were correlated with positive attitudes toward SEC inclusion.
2. Among pre- and in-service teachers, stigmatizing attitudes were correlated with negative attitudes toward SEC inclusion.
3. Among in-service teachers, high levels of self-efficacy were correlated with more professional experience and decreasing levels of stigmatizing attitudes.
4. Nevertheless, differences were found between the attitudes of pre-service teachers, in-service teachers, and college students towards SEC in a mainstream inclusive program. Pre-service teachers had the most positive attitudes towards inclusion of SEC, whereas in-service teachers had the most negative. In-service teachers reported lower self-efficacy than college students.

Keywords

inclusion, in-service teachers, pre-service teachers, attitudes

Introduction

The issue of inclusive education for students with educational challenges (SEC) is debated frequently by the public. Inclusion aims to establish schools and other social institutions whose guiding principle is to meet the needs of all learners and users while respecting and learning from each other's differences (UNESCO, 2020). Inclusionary schools seek to educate SEC together with the non-special-needs peers in their neighbourhood. Recently, the controversy over inclusion made headlines in the Israeli media in response to the passing of the 2018 amendments to the Special Education Law. Similar to many other countries, in Israel, SEC were educated in separate schools or boarding schools for many years (Di Giulio, 2022; Miegheem et al., 2018). In the first half of the 20th century, special classes were added to mainstream schools and from the 1970s onwards, the first attempts at inclusion emerged. In 1988 the Special Education Law legislated the rights of SEC to be educated in mainstream schools. However, the Special Education Law in Israel stipulates that individuals aged 3-21 with special needs are entitled to special education services. Individuals who are eligible for special education services are defined as people with intellectual, physical, sensory, cognitive, emotional-behavioral, or developmental disabilities. Note that there is some controversy in the literature over the policy of inclusion (Florian, 2019; Maag et al., 2019). The proponents of segregation claim that inclusion interferes with social integration and cultural identity (Hashimi et al., 2021). Francisco et al. (2020) review recent literature and sum the advantages and disadvantages of SEC inclusion. They point out that a lack of resources and the quality of the current program prevent inclusion. For example, Shauli et al. (2023) reviewed claims that the inclusion of students with hearing loss may lead to language, communication, social normalization, and cultural identity problems. Silvestri and Hartman (2022) emphasized the importance that deaf and hard of hearing students be given access to a safe environment that recognizes their diverse language needs, communication needs, and cultural identities in order to experience authentic inclusion. On the other hand, proponents of inclusion take the opposite stance and warn of social isolation in the case of segregation (Hashimi et al., 2021). Over the past five decades, large-scale academic studies have found that inclusive education is highly effective at improving social and developmental outcomes (de Bruin, 2020). Miegheem et al. (2018) conclude based on a literature review that inclusion of SEC reduces inappropriate behavior, increases individual learning objectives achieved, predicts inclusion in future inclusive environments and social initiations, improves skill acquisition and generalization, and increases friendships. For example, Alshutwi et al. (2020) showed that the self-esteem of students with hearing loss in mainstream schools was significantly higher than that of students with hearing loss in segregated classes.

This study examined possible associations between different aspects of attitudes toward inclusion in three groups (service teachers, trainee teachers, and university students) to achieve three

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objectives: the first was to explore the relationship between general and stigmatized attitudes and self-efficacy and the connections between them, regarding the inclusion of SEC with various sensory, communication, and movement disorders; the second aim was to examine the relationship between these attitudes within and between groups; the third was to examine the relationship between these attitudes and demographic characteristics.

Literature

In 2018, in Israel, a new amendment (Amendment 11) was voted to rectify the budget distribution in the Special Education Law (Ministry of education, 2018). The amendment states that parents of SEC, rather than committees, can choose between three types of possible educational frameworks for their child:

- (1) Special education schools
- (2) Integrative education – a special education class located within the mainstream schools
- (3) Inclusion - Integration of students with special needs individually in a mainstream class with their peers

Students in special education schools as well as students in the integrative model are assisted by a professional team of teachers who have been trained to teach SEC. Students in inclusive education are entitled to personal support from special education teachers and special support hours (Most & Tsach, 2019; Paryente, Flavian, & Flavian, 2020; Tsach & Most, 2016). However, most teachers who teach these students have no training in SEC (Gregory & Noto, 2018).

Amendment 11 to the Special Education Law is expected to increase the number of special education students in mainstream inclusive education. It will require mainstream teachers to develop specific approaches and teaching methods to adapt to these heterogeneous classes that incorporate SEC. Along with the many changes that have taken place in recent years regarding the inclusion of SEC, the inclusion law has thus also elicited opposition from worried teachers who fear that inclusion will lead to a decline in learning and discipline problems and primarily to the social rejection of SEC (Parey, 2019).

Attitudes Towards Students With Educational Challenges

Attitudes impact people's behavior in various situations (Ajzen, 1991), including teaching SEC as shown in a recent cross-national study (Charitaki et al., 2022). Rumalutur and Kurniawati (2019) defined attitude as a person's tendency to embrace or oppose ideas, people, places, circumstances, etc. The influence of teachers' attitudes towards inclusion on the success of SEC has been extensively examined from different angles in numerous studies worldwide (Baguisa & Ang-Manaig, 2019; Heyder et al., 2020). Attitudes are known to be an important component to achieving optimal inclusion and social integration. Heyder et al. (2020) examined the social angle of inclusive students in Germany and found that students with and without special needs reported similar feelings of well-being at school, but the SEC felt less socially integrated. The findings indicated that only students who were taught by teachers with a complete belief in inclusive education reported a sense of social integration. Baguisa and Ang-Manaig (2019) underscored the dependence of SEC's academic success on positive teacher attitudes. Thus, it can be determined that teachers' attitudes toward the inclusion of SEC may have a crucial impact on the

success of these students in different educational settings (Thomas & Uthaman, 2019). However, Heyder et al. (2020) claim that there is not enough research evidence for the link between teachers' attitudes and the success of inclusive SEC.

Stigmatised Attitudes Towards Students With Educational Challenges

The word stigma originates from Greek and means a letter, tag or seal. Goffman (1963) was the first researcher to define 'stigma' as an attribution or behavior that is socially abasing. The extent and intensity of stigma depend on the visibility of the stigmatized feature. Stigmatized characteristics can be either visibly apparent characteristics such as deformity or obesity, or invisible or innate but linked to deviations from acceptable social behavior (e.g., mental illness, learning disabilities). Previous research (Evans & Porter, 2014; Luoma et al., 2007) has categorized three types of stigma: perceived stigma, enacted stigma, and self-stigma. Perceived stigma is defined as the public's negative attitudes toward a stigmatized group, whereas enacted stigma is the direct experience of discrimination due to membership in a stigmatized group. Enacted stigma can lead to different kinds of discrimination in the form of social and interpersonal rejection, avoidance, or denial of employment, housing, or other resources (Veelen et al., 2020). Doubtful attitudes towards inclusion and prejudiced attitudes towards people with special needs are a global phenomenon, including in Israel (Hess, 2015; Mikelsteins & Ryan, 2018; Woodcock & Moore, 2018). Self-stigma refers to the negative thoughts that stigmatized individuals have about themselves, as a result of their identification with a stigmatized group and the behavioral reactions that derive from this (Stynes et al., 2022). Individuals may feel ashamed of their stigmatized attributes and as a result experience lower self-esteem, and avoid social encounters (Paskaleva-Yankova, 2022). A survey conducted in Israel (Netzer, & Halperin, 2018) examining public attitudes toward people with disabilities found that the Israeli public still has prejudices toward people with special needs. Between one-sixth and one-quarter linked mental disabilities to intellectual disabilities, and most respondents (roughly 90%) stated they would only marry a physically healthy person. The Israeli Ministry of Justice published a survey (Admon-Rick, G., & Gordon, 2019; Barlev et al., 2016) indicating that the percentage of people with special needs studying or working in institutions of higher learning was low. One explanation is that the stigmas and stereotypes in Israeli society towards people with special needs prevent their full social inclusion (Netzer, & Halperin, 2018). Teachers' prejudices were shown to negatively influence inclusive attitudes (Woodcock & Moore, 2018).

Teachers' Sense of Self-Efficacy

Teachers' attitudes do not necessarily predict teachers' sense of self-efficacy with respect to their ability to successfully integrate SEC in their classes (Yada & Savolainen, 2017). However, teachers' sense of self-efficacy was found to predict their attitudes toward the inclusion of students with learning disabilities and behavioral problems in mainstream education (Kuyini et al., 2018; Özokcu, 2018). The concept of self-efficacy was coined by Bandura (2010) and is defined as individuals' beliefs about their abilities and the possible outcomes of their efforts in different situations. In the field of education, perceived self-efficacy has been found to predict academic achievement (Vogel & Human-Vogel, 2016), motivation to study (Saeid, & Eslaminejad, 2017), choice of field of study, and professional specialization (Chan, 2018) and other outcomes. Studies that have measured self-efficacy among teachers have reported an association between

teachers' sense of self-efficacy and their professional achievements directly and indirectly. Specifically, teachers with high self-efficacy had a high sense of personal responsibility for their students' achievements (Matteucci et al., 2017), were more satisfied, and satisfied with their work (Türkoğlu et al., 2017). Teachers' sense of self-worth was shown to radiate to students indirectly. Teachers with a high sense of self-efficacy were found to have more students with high academic achievement (Shahzad & Naureen, 2017), positive learning attitudes (Gibbs, 2003), and a better classroom climate (Künsting et al., 2016). The findings support the need for pre-service (trainee teachers) training that motivates teachers to feel self-efficacious. Compared to college students in various subjects, pre-service teachers' sense of self-efficacy can be used as a measuring stick of how well their training is going.

Pre-Service Teachers and College Students

The term college students refers to students for a variety of academic subjects except for education and they are not trained to teach. The term pre-service teachers refers to a trainee teacher who is enrolled in a program for training in education and teaching. While the term in-service teacher refers to teachers who are currently in service. Pre-service teachers constitute the next generation of teachers. This makes it crucial to use their time in training to establish positive attitudes towards SEC inclusion (Yu, SeonYeong & Park, 2020). Generally, Israel's teacher education programs last four years and are based on Bachelors of Arts or Bachelors of Education diplomas (Council for Higher Education, n.d.). In accordance with the educational frameworks and the ages of the learners, a variety of teacher education options are available at various institutions. It is necessary for students applying to teacher-training programs to choose in advance the specific program that they are interested in pursuing: mainstream education programs or special education programs. A pre-service teacher learning in a mainstream education program is instructed about inclusion (Council for Higher Education, 2008). This topic is covered in a variety of ways by specific institutions and programs, ranging from a single theoretical course on diversity in education to a full division of ten semester-long courses. Additionally, during their practicum within the education system, preservice teachers encounter the issue of inclusion to some extent. Training programs for teaching in special education frameworks, however, place a strong emphasis on inclusion, both in theory and in guided practicum sessions. It is nevertheless worth noting that pre-service teachers in Israel have a wide support network that includes, for example, a supportive in-service teacher, an academic moderator, students supportive groups in college, etc (Gilor & Katz, 2019). However, in-service teachers in Israel complain about the lack of rescues and support networks necessary for successful SEC inclusion (Cooc, 2019).

As a group, college students and pre-service teachers are similar: young adults in their first academic and professional steps, with no significant differences in their demographic characteristics. Comparing college students reveals the key elements of teacher training programs that need to be amended, whereas comparing preservice and in-service teachers (service teachers) reveals insights into attributes of teachers' expertise. Sánchez et al. (2019) showed that one of the obstacles to the optimal mainstreaming of inclusive SEC is the lack of adequate teaching staff training. Cummings' et al. (2001) research further emphasizes the importance of comparing students from a variety of different majors to pre-service teachers in college. In their study, preservice teachers were found to have lower moral reasoning ability than

their peers with other majors. The results are consistent with other worldwide studies (Al-Disi & Rawadieh, 2019; Bronikowska & Korcz, 2019) that found that students in different education programs display different moral reasoning levels. Sánchez et al. (2019) investigated pre-service teachers' attitudes during their training in a teachers' college. They found that at the end of the first year of practicum, pre-service teachers' attitudes regarding inclusion fluctuated. The pre-service teachers acknowledged the benefits of inclusion and noted that children without special needs learned to respect others' differences. Integrative students gained from the learning methods of the inclusive class. On the other hand, the pre-service teachers expressed the concern that not all the inclusive students benefitted from the process, and expressed their fears of social and academic impediments to the inclusive students. Other studies have reported similar uneven attitudes among pre-service teachers with respect to the inclusion of SEC (AlMahdi & Bukamal, 2019; Krischler & Pit-ten Cate, 2019).

This raises the overall question of whether training programs for pre-service teachers and the expertise of in-service teachers are sufficient for today's requirements from teachers in inclusive classes. One way to probe this question is to compare the sense of self-efficacy, attitudes, and prejudices toward SEC inclusion in three groups: in-service teachers, preservice teachers, and college students. College students on average are similar as a group to pre-service teachers. The comparison between preservice and in-service teachers can shed light on the attributes of teachers' expertise, whereas the comparison to college students is likely to reveal the key components of the teacher training program to modify. To explore these issues, the current study examined the following questions:

- (1) Are there any differences between the attitudes of pre-service teachers, in-service teachers, and college students towards a student with special education needs in an inclusion program in a mainstream educational framework?
- (2) Is there an association between in-service teachers' and pre-service and college students' attitudes toward students with special education needs and their stigmatizing attitudes? If so, what is the nature of this link?
- (3) Is there a correlation between attitudes towards inclusion, sense of self-efficacy, stigmatization and the participants' demographic characteristics such as gender, education level, experience in special education, and religion?

Method

Sample

In 2020, there were 194,273 students enrolled in bachelor's degree programs in Israel, including 30,885 pre-service teachers (Council for Higher Education, 2021). There were 190,281 in-service teachers in 2020, of whom only 2% were teaching in a special education school (Central Bureau of Statistics, 2021). About 260,000 SEC were enrolled in schools in Israel in 2019. Of these, 14% were students with severe disabilities enrolled in mainstream school inclusion programs. These students make up about 20% of all students in Israel (Ministry of Education, 2021). It is thus reasonable to assume that about the same percentage of teachers teach students with severe disabilities in their classes. Thus, there are about 37,000 teachers who teach at least one student with a severe disability. The sample (aalldata, 2022) was composed of three different groups: in-

service teachers who had at least one student with special needs in their classes (n=196), pre-service teachers (n=143), and college students (n=150) enrolled in varied Departments. The sample represented about 0.5% of each segment of the research population. The participants were randomly recruited by a survey company from all over the country (Table 1). A survey company has an Internet panel, that are rewarded for completing company's surveys (the reward is by points for online shopping). The company, that protects the privacy of her respondents, sends mails to the population with the required characteristics (for example, teachers, students, etc.). The participants completed an online questionnaire. The online questionnaire, along with demographic information, consisted of a scale assessing sentiments, attitudes, and concerns about inclusive education, prejudices, as well as a scale measuring teachers' self-efficacy in implementing inclusive practices.

Table 1

Characteristics of the Research Participants

Participants' characteristics		Pre-service teachers (%) (n=145)	In-service teachers (%) (n=196)	College students (%) (n=150)
Gender	male	29 (20)	60 (31)	36 (24)
	Female	116 (80)	136 (69)	114 (75)
Education	High school	93 (64)	10 (5)	65 (43)
	Tertiary	15 (10)	16 (8)	21 (14)
	B.A.	31 (21)	88 (45)	52 (35)
	M.A.	5 (3)	79 (40)	0
	Ph.D.	0	2 (1)	1 (0.6)
	other	1 (0.7)	1 (0.5)	11 (7)
Religion	Jewish	122 (84)	190 (97)	105 (70)
	Christian	2 (1)	1 (0.5)	4 (3)
	Muslim	13(9)	3 (1.5)	36 (24)
	other	6 (4)	2 (1)	5 (3)
Mean age		30.92	42.07	29.76
Mean years of teaching		0	12.5	0
Year of Study	First year	44 (30)	-	34 (23)
	* Second year	44 (30)	-	28 (19)
	Third year	28 (19)	-	43 (29)
	Fourth year	22 (15)	-	35 (23)

*Missing data - seven participants did not report their year of study

Ethical Considerations

The study was approved by the Chief Scientist of the Ministry of Education in Israel (no. 11616; 02.02.21) and by the Institutional Review Board (no. 3339; 21.02.21).

Research Tool

The questionnaire consisted of five parts: attitudes towards inclusion, self-efficacy, stigmatizing and labelling attitudes, a demographic section and open-ended dilemmas during vignettes

depicting challenging situations in inclusive class forcing decision-making. In this paper only the first four parts are discussed.

Attitudes towards the inclusion of students with educational challenges in mainstream classes

This questionnaire was adapted from Leyser and Kirk (2004) who employed the scale to test attitudes towards the combination of ORM - Opinions Relative to Mainstreaming by (Antonak & Larrivee, 1995) and devised an 18 item 5- point Likert scale ranging from 'Strongly Disagree' (lowest) to 'Strongly Agree' (highest). The items are divided into positive statements and negative statements. The latter are worded so that a 'disagree' response expresses a position of support. The items encompass three dimensions: contributions or benefits of integration, satisfaction with the implementation of integration, and perception of the abilities of teachers instructing an integrated child. The questionnaire was translated into Hebrew and has been used in several studies in Israel led by Prof. Shlomo Romi and Prof. Yona Lazer (Romi et al., 2009). The authors reported a reliability coefficient of 0.82. In the current study, the reliability coefficient was 0.776. Examples include: "Inclusion is intended to prepare students with disabilities for real life", "In inclusion classes, students with disabilities receive less academic assistance."

Self-Efficacy

Based on a questionnaire by Ezioni- Hoffenbartal (2014), this scale is composed of eight statements that probe the perception of ability to cope and is ranked on a 6-point Likert scale. Etzioni-Hoffenbartal (2014) reported a reliability coefficient of 0.762. In the current study, the reliability coefficient was 0.878. Examples of items include: "To what extent do you assess your ability to dedicate the needed time to a child with special needs in the mainstream classroom?", "To what extent do you assess your ability to reassure a child with special needs who erupts in anger against you, without relinquishing your authority?"

Stigmatising and Labeling Attitudes

This instrument was developed by the authors. The procedure followed the recommended steps for educational research by Artino et al. (2014); namely, (1) conducting a literature review, (2) conducting interviews with three students and three teachers (3) synthesizing the literature review and interviews (4) developing items, (5) collecting expert feedback on the items, (6) conducting cognitive interviews to ensure respondents understand the items and (7) conducting pilot testing. For each item in the questionnaire, the cognitive pretesting interview protocol (Karabenick et al., 2007) consisted of three questions: reading it aloud, explaining its meaning, and answering it. This method was used to test all questions, and unclear items were modified. The final version of the questionnaire consisted 12 labelling statements on a 5-point Likert scale and the participants were asked to rate their agreement with them. For example: "No student with a communication disability is to communicate at all", which assessed labelling attitudes toward students with sensory impairments, developmental intellectual disabilities, communication disorders, and cerebral palsy. The reliability coefficient was 0.804.

Demographics

Participants provided background information on age and gender, year and field of study, educational background, marital status, religion, and presence/absence of diagnoses of various special needs.

The questionnaire was validated in two successive steps:

(1) Qualitative content validity was established on the pre-final version of the questionnaire, which was commented on by six education experts. Their recommendations concerning grammar, vocabulary, word order, and scoring method were adopted and the pre-final version was modified.

(2) The cognitive validity of the modified pre-final version was established with three teachers and three students (Karabenick et al., 2007). The cognitive pretesting interview protocol consisted of three questions on each item in the questionnaire: reading aloud the question, explaining it in their own words, and answering the question. Unclear items were modified.

Statistical Analysis

To compare the sub-groups and the research variables, a one-way ANOVA followed by a Tukey post-hoc test for multiple comparisons were conducted. For the quantitative variables, the means and standard deviations (SD) were calculated. Categorical variables are presented as percentages. Comparisons between the percentages implemented a chi-square test. A Bonferroni adjustment for multiple comparisons was applied when needed. SPSS version 24 was used for statistical analysis. $P < 0.05$ was considered statistically significant.

Results

Three scores were calculated for each participant: attitudes towards inclusion, attitudes expressing prejudice towards SEC, and sense of self-efficacy, based on the mean scores of the variables. The relationship between the scores, the 3 groups, and their demographic characteristics are presented below in the order of the research questions.

Attitudinal Differences Between Pre-Service Teachers, In-Service Teachers, and College Students

To examine the differences between the pre-service teachers, in-service teachers, and college students, attitudes towards inclusion, stigmatizing attitudes, and sense of self-efficacy scores were calculated and compared using a one-way ANOVA (Table 2).

Table 2

Differences between in-service teachers, pre-service teachers, and college students in their attitudes towards inclusion, stigmatizing attitudes and self-efficacy

	In-service teachers		Pre-service teachers		College students		One-way ANOVA
	M	SD	M	SD	M	SD	F
Attitudes towards inclusion	3.27 ^a	0.56	3.48 ^b	0.58	3.36 ^{a,b}	0.55	5.83**
Stigmatizing attitudes	1.58 ^a	0.51	1.66 ^{a,b}	0.56	1.74 ^b	0.60	3.48*
Self-efficacy	3.22	0.77	3.39	0.93	3.26	0.82	2.22

a, b – Significant on the Tukey post-hoc test for multiple comparisons | * $p < .05$. ** $p < .01$

As shown in Table 2, the one-way ANOVA revealed significant differences for attitudes towards inclusion scores in the three groups, $F(2,486)=5.83$, $p=0.003$. Post-hoc multiple comparison analysis with a Tukey adjustment indicated a significant difference between in-service teachers ($M=3.27$, $SD=0.56$) and pre-service teachers' ($M=3.48$, $SD=0.58$) mean scores. The differences between in-service and pre-service teachers and college students were not significant. The findings showed that pre-service teachers had the most positive attitudes towards inclusion of children with SEC, whereas in-service teachers had the most negative attitudes.

Similarly, the mean scores for stigmatizing attitudes towards SEC also differed across groups, $F(2,486)=3.48$, $p=0.032$. Post-hoc multiple comparisons with a Tukey adjustment revealed a significant difference between in-service teachers' ($M=1.58$, $SD=0.51$) and pre-service teachers' ($M=1.74$, $SD=0.60$) mean scores. The most stigmatizing attitudes were found in the group of college students and the least stigmatizing attitudes were found in the group of in-service teachers. There was no significant difference in self-efficacy between groups, $F(2,481)=2.216$, $p=0.110$. Note, however, that in-service teachers had the lowest levels of self-efficacy, and the college students had the highest.

Inclusion, Stigmatising Attitudes, Sense of Self-Efficacy, and Demographic Characteristics

To examine the relationships between the scores for attitudes towards inclusion, stigmatizing attitudes, self-efficacy, and demographics, Pearson correlations were conducted for each group of respondents (Table 3).

Table 3

Pearson correlation between attitudes towards inclusion, stigmatizing attitudes, self-efficacy, participants' age and years of teaching of each group of respondents

Group	Variables	1	2	3	4
In-service Teachers	1 Inclusion				
	2 Stigmatizing attitudes	-.228**			
	3 Self-efficacy	.352**	-.186**		
	4 Participants' age	.108	-.250**	.136	
	5 Years of Teaching	.022	-.206**	-.017	.794**
Pre-service Teachers	1 Inclusion				
	2 Stigmatizing attitudes	-.212*			
	3 Self-efficacy	.332**	-.111		
	4 Participants' age	-.154	.042	.017	
	5 Years of Teaching	-.109	-.127	.108	.512**
College Students	1 Inclusion				
	2 Stigmatizing attitudes	-.148			
	3 Self-efficacy	.235**	.040		
	4 Participants' age	-.075	-.077	-.067	
	5 Years of Teaching	-.048	-.265	-.194	.759*

**p< 0.001, * p< 0.05

Table 3 revealed significant negative correlations between inclusion and stigmatizing attitudes among in service and preservice teachers ($r=-0.228$, $p<0.001$; $r=-0.212$, $p<0.005$, respectively) and a significant positive correlation between inclusion attitudes and self-efficacy among all the

participants groups. There was a significant negative correlation between stigmatizing attitudes and age ($r=-0.155$, $p=0.001$) and experience ($r=-0.206$, $p=0.001$) among in-service teachers. As expected, a significant positive correlation was revealed between age and years of teaching among all the groups. No other demographic characteristics were significantly correlated with attitudes or self-efficacy. The results indicated that younger, less experienced in-service teachers were more stigmatizing, while in-service teachers who scored higher on self-efficacy also had higher positive attitudes towards inclusion. As the pre-teacher's stigmatizing attitudes decreased and his self-efficacy increased, he expressed more positive attitudes toward inclusion. Higher self-efficacy scores were also associated with positive attitudes toward inclusion among college students.

To examine the relationship between attitudes toward inclusion and stigmatizing attitudes in terms of demographic characteristics a general linear model was conducted (Table 4, 5).

Table 4

General linear model of major demographic variables and self-report variables associated with stigmatizing attitudes (n=486)

	Stigmatizing attitudes		
	<i>df</i>	<i>F</i>	<i>Partial Eta²</i>
Corrected Model	19	8.755**	.300
Group (Teacher in-service/ pre-service or college students)	2	1.187	.006
Religion (Jew/ Non-Jew)	1	30.027***	.072
Education Level	3	5.340**	.040
Gender	1	4.263*	.011
Self-efficacy	1	10.501**	.026
Age	1	1.938	.005
Group*Gender	2	2.949	.015
Group*Religion	2	3.261*	.016
Group*Education	6	1.645	.025
R Squared	.265		

*** $p < .001$, ** $p < .01$, * $p < .05$

The linear regression, as detailed in Table 6, shows that religion, education level, gender and self-efficacy emerged as the predictors of stigmatizing attitudes and explained 26.5% of the variance. Three interaction variables were added to the model to examine whether stigma score varies across groups based on gender, religion, and education levels. Stigmatizing attitudes were shown to be higher for male, non-Jewish college students with a tertiary education and to drop

with increases in self-efficacy. Age and group did not emerge as predictors of stigmatizing attitudes. Jewish and non-Jewish students showed significant differences in the predicted score of stigmatizing attitudes among the college students and pre-service teachers. The predicted stigmatizing attitudes score was higher for non-Jews than for Jews. The difference between college students and teachers was significant only among Jews.

To examine attitudes toward SEC inclusion in terms of demographic characteristics, a general linear model was conducted (Table 5).

Table 5

General linear model of major demographic variables and demographic variables associated with inclusion attitudes (n=486)

	Inclusion attitudes		
	<i>df</i>	<i>F</i>	<i>Partial Eta²</i>
Corrected Model	20	4.702**	.195
Group (Teacher in-service/ pre-service or college students)	2	2.043	.010
Religion (Jew/ Non-Jew)	1	.290	.001
Education Level	3	1.389	.011
Gender	1	.274	.001
Stigma	1	10.633**	.027
Self-efficacy	1	41.159**	.096
Age	1	.123	.000
Group*Gender	2	.826	.004
Group*Religion	2	.023	.000
Group*Education	6	2.829*	.042
R Squared	.154		

**p< 0.01, *p< 0.01

The linear regression, as detailed in Table 5, showed that attitudes towards inclusion were predicted by stigmatizing attitudes and sense of self-efficacy. The model explained 15.4% of the variance. Positive inclusion attitudes rose when self-efficacy rose and decreased when stigmatizing attitudes increased.

After the Bonferroni correction for multiple comparisons, the interaction between group and education was not significant.

Discussion

There has been a growing trend in the last few decades to incorporate students with educational challenges in heterogeneous classrooms in mainstream education (Hallahan et al., 2020). This study explored the possible associations between different facets of attitudes towards inclusion in three groups: in-service teachers, pre-service teachers, and college students to respond to three objectives: The first was to identify the associations between general and stigmatizing attitudes and the sense of self-efficacy with respect to the inclusion of SEC with varied sensory, communication, and motor disabilities; The second aim was to examine the associations between these attitudes within and across groups. The third was to examine the relationship between these attitudes and demographic characteristics.

Four main results emerged from the analyses. First, across all participants, high levels of self-efficacy were correlated with positive attitudes toward SEC inclusion. Second, among pre and in service teachers stigmatizing attitudes were correlated with negative attitudes toward SEC inclusion. Third, among in-service teachers' high levels of self-efficacy were correlated with more professional experience and decreasing levels of stigmatizing attitudes. Nevertheless, differences were found between the attitudes of pre-service teachers, in-service teachers, and college students towards SEC in a mainstream inclusive program. Pre-service teachers had the most positive attitudes towards inclusion of SEC, whereas in-service teachers had the most negative. In-service teachers reported lower self-efficacy than college students. Ismailos et al. (2019) also reported more favorable attitudes towards inclusion and greater confidence in their ability to teach SEC in pre-service teachers than in in-service teachers. Similarly, the Ruth et al. (2020) overview of the literature suggested that pre-service teachers do not receive sufficient training in inclusive teaching, but that they have positive attitudes towards inclusion. Ignath et al. (2022) suggest that a negative effect on the attitudes of in-service teachers toward SEC inclusion is a result of struggles with SEC inclusion throughout their schoolwork due to insufficient training. Leonard and Smyth (2022) expand on the previous argument and conclude that insufficient teacher support severely impacts teachers' attitudes towards inclusion. Al Jaffal (2022) revealed that one of the main factors negatively influencing attitudes toward inclusion of students diagnosed with autism spectrum disorder is the lack of resources and support network. This study findings support the last argument. In-service teachers in Israel often complain that they lack resources and support networks (Cooc, 2019).

This research challenge the claim that negative attitudes are a result of teachers' burnout (Saloviita & Pakarinen, 2021). According to this study, growing age and professional experience were positively correlated to positive attitudes. It must be noted that although the in-service teachers were not as positive as pre-service teachers concerning mainstream inclusion, they were less stigmatizing. The group of college students presented with the most stigmatizing attitudes. These results underscore the importance of exposure to knowledge and actual experience with different SEC to overcome stigmatizing beliefs.

A linear regression revealed that religion, education level, gender, and self-efficacy were predictors of stigmatizing attitudes. Note that when religious groups are broken down by respondent group, the cell sizes are very small. Nevertheless, differences between Jews and non-Jews were reported in the literature. Barnoy et al. (2017) study explored attitudes and beliefs

toward inclusion education in mothers of Down syndrome children and found that Jewish mothers had significantly more positive attitudes and beliefs towards inclusion than Muslim mothers. Cultural differences have been shown to be predictors of stigma and misconceptions (Gillespie-Lynch et al., 2019; Tilahun et al., 2019). Race and ethnicity also emerged as predictors of stigmatizing attitudes of teachers towards Attention-Deficit/Hyperactivity Disorder students (Kang & Harvey, 2020). Jansen-van Vuuren and Aldersey (2020) reviewed the literature over the last four years related to reducing stigma and increasing acceptance in the community and across diverse cultures towards people with Intellectual and Developmental Disabilities (IDD). They concluded that socio-cultural background has a significant impact on stigmatizing perceptions and acceptance of an IDD person. High levels of stigmatizing attitudes have been linked to different socio-demographic characteristics, making the results inconsistent. For example, Pingani and associates (Pingani et al., 2016) showed that stigmatizing attitudes decrease with age whereas Lo and associates (Lo et al., 2021) found that older people were more stigmatizing than younger people. The same inconsistency has been reported for the influence of culture on stigmatizing attitudes. Zolezzi and associates (Zolezzi et al., 2018) showed that stigmatizing attitudes towards mental illness were common in Muslim dominated countries while Obeid and associates (Obeid et al., 2015) showed that American students had more apparent misconceptions regarding Autism Spectrum Disorder than Lebanese students.

Attitudes toward inclusion of SEC in mainstream classes were predicted by stigmatic attitudes and self-efficacy, as shown using a linear regression. It echoes previous research pointing to the impact of stigma and stereotypes on teachers' perceptions and behavior (Matheis et al., 2019). Toye et al., (2019), for example explored attitudes and stigmatizing beliefs towards inclusive education of students with ADHD among education professionals. The findings indicated that stigmatizing beliefs and knowledge impacted teachers' attitudes towards inclusion.

Conclusion

The findings here thus shed light on a situation in Israel that needs attention. Attitudes towards the inclusion of SEC were predicted by stigmatizing attitudes and sense of self-efficacy. Stigmatizing attitudes were predicted by gender, religion, education, and self-efficacy. Thus, the main route to more inclusive and less prejudiced teachers lies in strengthening teachers' self-efficacy. Teachers' high self-efficacy was correlated to fewer stigmatizing attitudes and positive inclusive attitudes.

These findings should alert teacher educators and policymakers. In Israel pre-service teachers, in contrast to in-service teachers, have a support network during their practicum in schools and in their colleges or universities. Thus, pre-service teachers differ from in-service teachers in their experience and support network. College students differ from pre-service teachers in their knowledge. In-service teachers will benefit from better training and more support. Pre-service teachers, tomorrow's class leaders, are expected to shape positive attitudes towards inclusion during their training years. The process of forming attitudes and shifting behaviors is critical during this phase.

Current and future teachers' favorable attitudes towards inclusive SEC education might be fostered through better training programs and support network, as shown in the Wei et al. (2020)

and Al Jaffal (2022) studies. Wei et al. (2020) concluded that mental health literacy programs impact pre-service teachers' knowledge, attitudes, and stigmatizing perceptions. Al Jaffal (2022) inferred that a support network for a practicing teacher is crucial for positive attitudes and behavior toward inclusive SEC students.

Moreover, in this paper, we discuss one of the two parts of the questionnaire used in this study. The second part of the questionnaire dealt with open-ended dilemmas in the form of vignettes illustrating challenging situations in inclusive classes and require decisions to be made. In Shauli, Heiman and Olenik-Shemesh's study (2023), they found significant interactions between participants' sensitivity to the feelings of SECs, their overall tendency to be supportive of inclusion, their attitudes towards inclusion, their prejudices, and their self-efficacy. Those most sensitive to the feelings of inclusive SEC demonstrated a positive attitude towards inclusion, minimal stigmatizing attitudes, and a high sense of self-efficacy.

The study was conducted in only one country and during the COVID-19 outbreak. The participants of this study answered anonymously a questionnaire that in order to avoid social desirability bias, its aim was ambiguously formulated (Brenner & DeLamater, 2016); however, this bias may still be a limitation of this study. Nevertheless, these limitations do not detract from the methodological and practical importance of this study. The methodological contribution lies in the comparison of sense of self-efficacy, attitudes, and stigmatizing attitudes towards SEC inclusion in three groups of in-service teachers, preservice teachers, and college students. The findings showed that the training level of pre-service teachers is good but that they still lack the practical experience, which may account for the higher level of stigmatizing beliefs and lower sense of self-efficacy found for in-service teachers. Also, it emphasizes the importance of providing in-service teachers with a support network that at least mirrors that of pre-service teachers. The comparison between preservice and in-service teachers sheds light on the negative attitudes and very low and fragile confidence and of in-service teachers in their ability to teach inclusive SEC probably because of the lack of support network. The implications of this worrying result should alert stakeholders. Future research should focus on the effects of these perceptions on teachers' decision-making during the teaching of SEC. In addition, the present study suggests that examining the differences between countries and religions may be an important avenue for future research.

Conflict of Interest

The authors disclose that they have no actual or perceived conflicts of interest. The authors disclose that they have not received any funding for this manuscript beyond resourcing for academic time at their respective university. Artificial intelligence was not used in the preparation of this paper.

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