

Pre-service Teachers' Willingness to Engage in Inclusive Teaching: An Explanatory Model

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Abstract

In this article, we report on a study that sought to examine the willingness of pre-service teachers to apply the inclusion policy for students with disability. The study considered the Theory of Planned Behavior (Ajzen, 1985, 1991) as a means to explain the willingness of pre-service teachers in general and of the subgroups to engage in inclusive teaching. Participants were 580 pre-service teachers enrolled in various types of programs in three different teacher education colleges in Israel. They completed a paper copy questionnaire with 55 items. It was constructed according to Theory of Planned Behavior (TPB) guidelines. It was found that the model, based on the TPB, explains the degree of willingness of pre-service teachers to engage in inclusive teaching. It emerges that attitudes toward inclusion, perceptions of social norms regarding inclusion, and a sense of the competence of pre-service teachers to teach inclusive classes explain most of the variance in the willingness to engage in inclusive teaching and serves as leading factors manifesting this willingness. The discussion is focused on the need to increase pre-service teachers' willingness by using this model.

Key Words: Inclusion, Teacher Education, Self-efficacy, Attitudes, Theory of Planned Behavior, Teaching, Social Norms

PRE-SERVICE TEACHERS' WILLINGNESS TO ENGAGE IN INCLUSIVE TEACHING: AN EXPLANATORY MODEL

A major approach to teaching and to education, which is prominent both locally and globally, seeks to include students with disability in mainstream educational frameworks (Ainscow & Miles, 2008; Reiter, 2007). An education system that implements the inclusion approach seeks to grant the learner with disability the right to enjoy the same educational benefits that are available to learners without disabilities (Avramidis & Norwich, 2002; Florian, 2009; Reiter, 2007). This means that the goal is to enable students with a disability to learn in inclusive classes, by offering them the necessary support and additional resources. Creating a reality in which inclusive education

is the norm requires inclusive teaching, which in turn requires teaching skills that were not necessary in the past. Inclusive teaching means accepting the differences that exist among students in the class and adjusting the curriculum and the learning environment so as to meet the needs of all learners (Florian, 2009).

The current study considers the willingness to teach inclusive classes a prerequisite for successfully implementing inclusive teaching; hence, it is necessary to understand factors that can explain such willingness. In this case, the willingness is manifested in the teachers' intent to invest a concerted effort to ensure that their lessons address students with disability too. Teachers' willingness is the major factor for successfully implementing the inclusive education policy (Soodak, Podell, & Lehman, 1998).

The Theory of Planned Behavior

To examine the willingness to teach inclusive classes is to examine participants' willingness to engage in a human social behavior. Therefore, as we come to examine the variables that constitute the willingness to engage in inclusive teaching, we must consider the relationship between these variables and the beliefs that lead to their formulation. In other words, we wish to identify the factors that lead a person to choose a certain behavior. Fishbein and Ajzen (2010) presented an up-to-date approach for predicting social human behavior. This approach is based on the Theory of Planned Behavior (TPB) (Ajzen, 1985, 1991). This theory's assumption is that human behavior is characterized by volitional control, and is directed by a systematic processing of one's available knowledge. The TPB presents a model for predicting behavior by identifying the individual's beliefs. This is not to suggest that people's actions are always rational and planned; rather, there is an awareness of the fact that there are behaviors that are spontaneous and automatic. Nevertheless, the theory assumes that the process, which starts with the formation of one's beliefs and culminates in a certain behavior, is a planned and a predictable process. According to this theory, the individual's willingness, or as Fishbein and Ajzen refer to it – the individual's behavioral intentions, are considered the central variable in the model for predicting the individual's actual behavior (Ajzen, 1985, 1988, 2002a; Fishbein & Ajzen, 2010). The approach offers a theoretical framework for predicting a person's willingness and behaviors. Significant empirical support for the model has been garnered from systematic reviews of research studies (e.g., Armitage & Conner, 2001; Webb & Sheeran, 2006).

This model was utilized in many studies. Search in Proquest and Academic Search databases shows that 24 articles were published in academic journals just in May 2017. The studies were engaged in various fields that sought to understand and predict behaviors such as marketing (Burr, Hubler, & Cottle, 2017), Entrepreneurship (Fietze, & Boyd, 2017), medicine (Sale, Cameron, Thielke, Meadows, & Senior, 2017), and social sciences (Leonard, Riemenschneider, & Manly, 2017).

According to the TPB (Fishbein & Ajzen, 2010), a person's willingness to perform a certain type of behavior is determined by three different variables: attitudes towards this behavior, subjective perception of social norms, and perception of behavioral control. As a general rule, the more favorable the attitude and subjective norm with respect to a behavior, and the greater the perceived behavioral control, the stronger should be an individual's intention to perform the behavior. According to the TPB model, these three variables are mediating variables. They contribute to the willingness to engage in a certain behavior, and are guided by a set of three types of beliefs

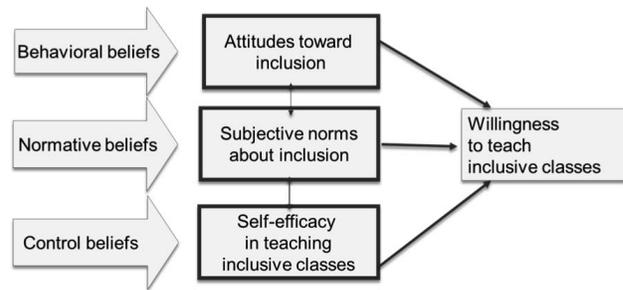


Figure 1: The graphic representation of the TPB implemented with regard to inclusive teaching

which are: (a) behavioral beliefs (i.e., beliefs about the expected outcome of this behavior and assessment of the outcome); (b) normative beliefs (i.e., beliefs regarding the expectations of significant others and desire to conform to these expectations); and (c) control beliefs (i.e., beliefs regarding control over the presence or absence of factors that can facilitate or delay the performance of said behavior).

Accordingly, the proposed analysis of the willingness to teach inclusive classes using the TPB model refers to mediating variables and belief variables that we find suitable to presented in Figure 1. The model includes two stages. The first stage deals with the relationship between the three belief variables and the three mediating variables, namely attitudes towards inclusion, subjective norms about inclusion, and pre-service teachers' self-efficacy in the context of inclusive teaching. The second stage deals with the relationship between the three mediating variables and the willingness to engage in the behavior of inclusive teaching.

The TPB model was utilized in recent studies that seek to understand the teachers' and other professionals' intentions about inclusion. These studies' findings revealed that the TPB significantly predicted the staff intentions to apply the inclusion approach (Jeong & Block, 2011; Filho, Monteiro, Silva, & Hodge, 2013; MacFarlane & Woolfson, 2013; Wang, Wang, & Wen, 2015; Yan & Sin, 2015). Results also show that not all three mediating factors make the same contribution. This is in line with the claim of Fishbein and Ajzen (2010) that the TPB model behaves differently in different situation, or in different population.

Previous studies that sought to understand the factors contributing to efficient inclusion identified and examined two major variables: attitudes and sense of self-efficacy (Avramidis & Norwich, 2002; Hernandez, Hueck, & Charley, 2016; Malinen, Savolainen, & Xu, 2013; Scruggs & Mastropieri, 1996; Sharma, Loreman, & Forlin, 2012). Many of the previous studies were based on Bandura's Social Cognitive Theory. Bandura (1986; 1988) maintains that one of the most important self-discipline mechanisms is self-efficacy. This is an individual's capability to judge whether he or she can achieve a certain goal. Therefore, we

replaced the term of the behavior control variable by the term 'self-efficacy'.

As can be expected, the first variable, teachers' attitudes towards inclusion, affects teachers' ability to teach students with disability; hence, positive attitudes towards inclusion are characteristic of teachers who successfully manage inclusive teaching, whereas negative attitudes are characteristic of teachers who do not successfully engage in inclusive teaching (Sze, 2009). The second variable, which too has been thoroughly studied in the professional literature, is the sense of professional self-efficacy. Teachers with a poor sense of self-efficacy are more likely to label students as having learning disability than are their counterparts who have a strong sense of professional self-efficacy (Chester & Beaudin, 1996). Teachers in mainstream education frameworks who have a strong sense of professional self-efficacy tended to see the mainstream framework as suitable for students described as having a learning disability, a behavioral problem, or both (Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998).

One of the features of a strong sense of self-efficacy is the ability to continue performing a task despite obstacles and difficulties on the way (Bandura, 1986, 1988). Indeed, it was found that teachers with a strong sense of self-efficacy tend to define appropriately-challenging goals for themselves and for the students; they take responsibility for students' achievements and continue striving towards their goal even when faced with obstacles (Ross, 1995). The variable of self-efficacy is referred to in the TPB as *perceived behavioral control* (Ajzen, 1985, 1988; Fishbein & Ajzen, 2010). In educational research, the term *perceived behavioral control* has additional connotations, which are not relevant to the current study. Therefore, we will persist in using the term *self-efficacy*, which in this case, is equivalent to the term *perceived behavioral control* when applied to the context of teacher education research. Support for this conceptual substitution can be found in the work of Fishbein and Ajzen (2010), which reviewed several studies in an attempt to differentiate between the variable of perceived behavioral control as defined by TPB and the variable of self-efficacy as defined in Bandura's theory of self-efficacy. The conclusion they drew from their review was that there was no significant difference between the two concepts.

In contrast to previous studies that examined the factors that contribute to inclusion, the TPB indicates the existence of a third factor that contributes to creating a willingness to adopt a certain behavior, namely, the factor of subjective norms (Fishbein & Ajzen, 2010). This factor relates to the way in which the individual views the attitudes of significant others in one's life. In the context of inclusive teaching behavior, the factor of subjective norms relates to the degree to which teachers find support and encouragement in their environment for the inclusion of

students with a disability. In this study, we seek to find if the teacher education program can serve as one vehicle to consolidate subjective norms.

The Role of the Teacher Education Program

The current study seeks to examine whether and how the factors derived from the TPB explained the willingness of pre-service teachers to engage in inclusive teaching. According to the theory, the three mediating factors do not have the same contribution in any situation or in any population (Fishbein & Ajzen, 2010). The current study's focus on the population of pre-service teachers who are enrolled in initial training derives from the fact that formulating and shifting the attitudes and behaviors is significant in this stage. We tried to distinguish our research from other studies that examined perceptions of in-service teachers concerning inclusion. A prior study that examined pre-service teachers' attitudes towards and willingness to teach inclusive classes found that most of the pre-service teachers demonstrated a willingness to teach students with a disability and that they formed their attitudes in the course of their training, especially after the guided practicum module (Wilczenski, 1994).

Israeli teacher education programs are conducted towards Bachelor of Arts (B.A) or Bachelor of Education (B.Ed.) diplomas, lasting four years, in universities and in academic colleges specializing in teaching training (Council for Higher Education, n.d.). The various institutions offer several options for teacher education according to the various educational frameworks as well as the learners' age groups. Thus, there are programs for teaching in mainstream settings (early childhood education, primary school education, and high school) or in special education frameworks. Students applying to the teacher-training programs must choose in advance the particular professional training program which they wish to pursue. In the training programs for teaching in mainstream educational frameworks pre-service teachers learn about the issue of inclusion (Council for Higher Education, 2008). However, the scope of this topic varies according to specific programs and institutions and can range from a single theoretical course on aspects of diversity in education to an entire division of 10 single-semester courses. In addition, pre-service teachers encounter the issue of inclusion, to a certain extent, during their practicum within the education system. By contrast, in the training program for teaching in special education frameworks, the issue of inclusion is a focal point, in the theoretical module as well as in the guided practicum module (Avissar, Gilor, Licht, & Shavit, 2013).

Hence, the goal of this study is to explain pre-service teachers' willingness to engage in inclusive teaching using the TPB. Hence, the first study's hypothesis is that the TPB model will explain the willingness to engage in the behavior of inclusive teaching among pre-service teachers,

Table 1

Pre-service Teachers by Type of Training Program and Year of Study - Numbers (percentages)

Training programs	1 st Year	2 nd Year	3 rd Year	4 th Year	Total
Inclusive Early Childhood	47 (34.1) ^a	33 (23.9)	31 (22.5)	27 (19.6)	138 (23.8) ^b
Inclusive Primary Schools	27 (19.7)	29 (21.2)	42 (30.7)	39 (28.5)	137 (23.6)
Inclusive High Schools	35 (26.5)	17 (12.9)	32 (24.2)	48 (36.4)	132 (22.8)
Special Education Frameworks	72 (41.6)	36 (20.8)	47 (27.2)	18 (10.4)	173 (29.8)
Total by Year of Study	181 (31.2)	115 (19.8)	152 (26.2)	132 (22.8)	580 (100.0)

^a Percent by year in each training program (rows in the table).

^b Percent of all participants.

in particular: (A) The relationships between the three belief variables and three mediating variables will correspond to the relationships described by the TPB model; (B) The three mediating variables will explain the variance in pre-service teachers' willingness to teach inclusive classes. The second hypothesis is that there will be differences in the degree to which students from the different teacher education programs are willing to engage in inclusive teaching. Willingness to teach inclusive classes will be stronger among pre-service teachers in the special education programs compared to the willingness of those in the programs for teaching in mainstream educational frameworks.

METHOD

Participants

Pre-service teachers ($n = 580$) studying at three different teacher education academic colleges located in Israel's central region participated in this study. They were recruited by the colleges' administration. All participants were studying for a B.Ed. degree and were enrolled in four different teacher-training programs (early childhood education, mainstream primary schools, mainstream high schools, and special education frameworks) and were at different stages of progress within the four-year program (which includes the guided practicum module). The gender ratio in the entire cohort was 96% women ($n = 557$) and 4% men ($n = 23$). This is the typical gender ratio at teacher education programs in Israel (Central Bureau Statistics, 2013). The participants belong to three different sectors: secular Jewish, religious Jewish and Arab. The age range was between 19-59 years, women aged 22-28 constituting highest percentage of in all sectors. More than a third of the participants in the study (37.5%) reported

that they had met a child or adolescent with disabilities in the family, in their work or in the place where they had volunteered before entering college. One fifth of the participants (20.3%) did not report an experience of acquaintance with persons with disabilities so far. Most of those (95.1%) who reported that they had not yet met a person with disabilities are enrolled in the program for teaching in mainstream settings. Participants' choice of training program, and their stage of progress in the four-year program are described in Table 1.

Variables

In this study, we seek to explain the willingness of pre-service teachers to engage in inclusive teaching, using the TPB model. The explaining factors include the belief variables (behavioral, normative, and control beliefs), mediating variables (pre-service teachers' attitudes towards inclusion, subjective norms, and sense of self-efficacy regarding inclusive teaching), and the background variables of the pre-service teachers. Background variables include the particular teacher-training program (mainstream programs and special education program) and year of study (years 1 - 4 of the program).

Instrument

Data were collected using a paper and pencil questionnaire that was constructed especially for the purpose of the current study. To this end, a preliminary pilot study was conducted, which consisted of two stages, as presented by the TPB guidelines (Ajzen, 2002b). In the first stage, an open-ended questionnaire was completed by 34 pre-service teachers. In light of the findings, a close-ended questionnaire was constructed. In the second stage, the questionnaire with close-ended questions was completed by 35 pre-service teachers. Participants in the pilot

study were enrolled in four different teacher-training programs. There was no overlap of participants, either between the two stages of the pilot study or between the pilot study and the actual study. Three statements in the questionnaire were changed so as to be more similar to the phrasing indicated in the TPB guidelines for constructing a questionnaire (Ajzen, 2002a). In addition, participants of the pilot study noted that the questionnaire was too long; hence, the questionnaire was redesigned and thus the number of pages was reduced.

The questionnaire of the survey consisted of two parts. In the first part, background data were collected regarding pre-service teachers' training program and year of study, age, sex, contact with a child or adolescent with disabilities in the family, in their work or in the place where they had volunteered before entering college. In the second part of the questionnaire, there were 55 statements examining beliefs regarding the inclusion of students with a disability in mainstream education, attitudes towards inclusion, subjective norms about inclusion, self-efficacy in teaching inclusive classes, and willingness to teach inclusive classes (for examples see table 2). Responses were marked on a seven-point Likert-like scale, indicating the degree to which the participant agreed with the statement or considered it important, whereby 1="completely disagree" or "completely unimportant", and 7="completely agree" or "extremely important". An introduction to the questionnaire presented the goal of the study and promised to maintain participants' anonymity.

Procedure

The questionnaire was completed during the last month of the 2011 academic year (11 May 2011 – 10 June 2011) by 582 participants enrolled in three teacher-training colleges located in central Israel. Participants completed the questionnaire during a class: in most cases it was during a theoretical lesson and in a few cases during a didactic lesson. The participation was on a volunteer basis. In all instances, one of the researchers or a representative on behalf of the researchers was present while questionnaires were being completed, usually accompanied by the course lecturer. Questionnaires were returned to the researchers as soon as they were completed. Permission to distribute the questionnaires was preapproved by a senior management member of each college, as well as by the lectures whose classes were interrupted for the purpose of questionnaire distribution (one lecturer refused to be interrupted, due to time constraints related to the end of the academic year. Students in his class did not participate in the survey). Completion of the questionnaire took approximately 15 minutes. Only five students refused to participate. Two questionnaires were eliminated, because of all their answers were in the same pattern (like they all were 7). Finally, 580 questionnaires were transferred to SPSS software.

Data Analysis

The correspondence of questionnaire statements to the research variables was conducted according to the formulation indicated by the TPB model (Ajzen, 2002b). The three variables of beliefs (behavioral, normative, and control beliefs) were gathered using duplicate statements; hence, there is a broad range of values and means. According to the guidelines of the model, there should be two statements for each idea: one statement is used to inquire about the extent to which the participant agrees with the statement, while the other statement is used to ask about the extent to which the participant considers the statement important. The following is an example of such duplication. In Statement 1, participants were asked to indicate the extent to which they agree with the following statement: "the inclusion of students with a disability in the mainstream framework fosters tolerance". In Statement 2, participants were asked to indicate the extent to which they consider the fostering of tolerance among students to be important.

A test of the questionnaire's internal reliability found a high rate of reliability regarding each of the independent variables, with the exception of the variable of self-efficacy in the context of inclusive teaching. The latter was comprised of three statements and was of moderate reliability $\alpha=.433$. Upon examination, it was found that the omission of one of the three statements led to an increased internal reliability for this variable, which thus rated $\alpha=.583$. Consequently, that third statement was eliminated. The statements for measuring the dependent variable -willingness to teach inclusive classes - and those for measuring each of the independent and mediated variables are shown in Table 2, alongside the reliability rates obtained for each scale.

Similar reliability rates were obtained in previous studies that utilized the TPB model to examine a variety of behaviors (Ajzen, 1985; Obrusnikova, Dillon, & Block, 2011; Pickett et al., 2012; Yunhi & Heesup, 2010).

The relationships between belief variables, mediating variables, and willingness to teach inclusive classes were examined simultaneously, using the method of structural equation modeling (SEM).

RESULTS

The first goal of the study was to examine whether the Theory of Planned Behavior model explains willingness to engage in inclusive teaching. Therefore, in accordance with the TPB model, we examined the relationships among the study variables and their reciprocal effects, both in the context of the entire cohort, as well as in the context of the subgroups categorized by training program. In the first part of this section we present the findings related to the entire cohort. Here, the relationships between the belief variables

Table 2
Reliability of the Variables Based on Statements in the Questionnaire

Variable type	The variable	Number of related statements	Example statement	Reliability (Cronbach's Alpha)
Dependent Variable	Willingness to teach inclusive classes	3	In the future, I plan to include in my classes students with disability	.928
Mediating Variables	Attitude towards inclusion	6	For me, as a future teacher, including students with disability in the mainstream class is a positive and important action	.745
	Subjective norms about inclusion	2	Most of the people who I care about think that the inclusion of students with disability has more advantages than disadvantages	.775
	Self-efficacy in teaching inclusive classes	3	Any teacher who wishes to include students with disability can do so successfully	.433
Belief Variables	Behavioral beliefs	18	The inclusion of students with disability in a mainstream class hinders the progress of the entire class	.846
	Normative beliefs	4	When considering whether to include students with disability, to what extent do you take into consideration the opinions of your family members?	.855
	Control beliefs	19	I expect the school to provide the necessary support and assistance when I include students with disability in my classes	.670

and the mediating variables, as well as the latter's ability to explain the willingness to teach inclusive classes, were examined sequentially. In the second part of this section, we present the findings pertaining to the subgroups of the training programs .

Explaining the Willingness of Pre-service Teachers to Engage in Inclusive Teaching Using the TPB Model

Findings of the study indicate a strong positive correlation between behavioral belief variable and attitudes towards the behavior of inclusive teaching ($r = .638, p < .001$). In other words, the stronger pre-service teachers' belief that inclusive teaching is advantageous, the more positive were their attitudes towards inclusive teaching. A strong positive correlation was also found between normative beliefs and subjective norms ($r = .561, p < .001$). Thus, the higher the pre-service teachers' motivation to go along with expectations of significant

others the more will they be inclined to adopt their approach as social norm. A positive correlation was found also between control beliefs and self-efficacy ($r = .462, p < .001$). Pre-service teachers who believed they had the necessary resources and opportunities to engage in inclusive teaching and believed that they have the power to influence the factors that facilitate or delay inclusion were likely to have a strong sense of self-efficacy in teaching inclusive classes. To summarize, significant positive relationships were found between belief variables and mediating variables, as proposed by the TPB model.

Next, we examined the ability of the mediating variables (attitudes, subjective norms, and self-efficacy regarding inclusive teaching) to explain willingness to engage in inclusive teaching. This was done using a multiple regression analysis. All three mediating variables were entered into the model in a single step, which was followed by a second step, in which the background variables (three mainstream teaching training programs

Table 3
Regression Analysis for Predicting Willingness to Teach Inclusive Classes

	B	SE.B	Beta
Attitudes towards inclusive teaching	0.39	0.05	0.26 ***
Subjective norms about inclusion	0.18	0.04	0.16 ***
Self-efficacy in teaching inclusive classes	0.61	0.04	0.52 ***
Summary of Step 1: $R^2=0.706$, $F_{(3,555)}= 444.399$, $p<.001$			
Attitudes towards inclusive teaching	0.35	0.05	0.23 ***
Subjective norms about inclusion	0.17	0.04	0.15 ***
Self-efficacy in teaching inclusive classes	0.57	0.04	0.50 ***
Training for mainstream schools	-0.57	0.10	-0.17 ***
Training for mainstream kindergartens	-0.64	0.10	-0.16 ***
1st year	-0.20	0.10	-0.05
2nd year	-0.06	0.11	-0.01
3rd year	-0.29	0.11	-0.08 **
Summary of change: (Cumulative) summary of Step 2:	$R^2_{\text{change}}=0.026$, $C_{\text{change}(5,550)} = 10.670$, $p<.001$ $R^2=0.732$, $F_{(8,550)}= 187.836$, $p<.001$		

*** $p<.001$ ** $p<.01$

were compared to the special education program) and the year of study (years 1, 2, and 3 were compared with year 4) were entered into the model. Findings of the multiple regression model are presented in Table 3.

According to the data shown in Table 3, the three mediating variables - attitudes towards inclusive teaching, subjective norms about inclusion, and self-efficacy regarding inclusive teaching - explained 70.6% of the variance in willingness to teach inclusive classes. Each of these three variables was found to have a significant and positive explanatory power. Self-efficacy regarding inclusive teaching was the strongest predictor of willingness to teach inclusive classes among the three mediating variables ($\beta = .54$, $p < .001$). The variable of perception of social norms was found to be the weakest predictor of willingness to teach inclusive classes; nevertheless, its effect was significant ($\beta = .17$, $p < .001$). In other words, the mediating variables did not have an identical explanatory effect on forming the willingness to teach inclusive classes.

After the background variables (training program and year of study) were entered into the model, no change was noted in either the value of the mediating variables' coefficients or in their level of significance. Of the two background variables, the training program had a significant contribution to explaining variance in willingness to teach inclusive classes. This variable was construed as two dummy variables – special education (0) vs. mainstream schools (1) and special education (0) vs. mainstream kindergarten (1). Thus, the negative betas in Table 3 indicate that willingness to teach inclusive classes is higher among pre-service teachers in special education programs

in comparison with other pre-service teachers. We can conclude that the training programs differ in the extent to which they promote inclusive teaching among pre-service teachers. The year of study variable was construed as three dummy variables – fourth year against each of the three preceding years. As Table 3 shows, it was found that year of study did not significantly contribute to explaining the variance in willingness to teach inclusive classes. In other words, progress along the course of the training program did not significantly contribute to differences in pre-service teachers' willingness to teach inclusive classes. To summarize, findings indicate that sense of self-efficacy regarding inclusive teaching, attitudes towards inclusion, and subjective norms are the main factors that explain the willingness to teach inclusive classes. Furthermore, it appears that of these three variables, pre-service teachers' self-efficacy regarding inclusive teaching is the most influential factor that contributes to their willingness to teach inclusive classes.

Differences Between the Various Types of Teacher-Training Programs

Hypothesis 2 states that differences will be found among pre-service teachers in different training programs regarding their degree of willingness to engage in inclusive teaching. A higher degree of willingness to teach inclusive classes was expected among pre-service teachers in the special education training program. A one-way analysis of variance was conducted to see if the means differ significantly. The means and standard deviations for each of the training-program subgroups are presented in Table 4, alongside the ANOVA's results.

Table 4
Means (M), Standard Deviations (SD), and Findings of One-way ANOVA Comparing Willingness to Teach Inclusive Classes by Training (N = 580)

Variable	Training programs	Number of participants	M	SD	df	F	p
Willingness to teach inclusive classes	Early Childhood	138	5.0	1.56	3,570	53.175	< .0001
	Primary School	137	4.4	1.69			
	High School	132	4.3	1.76			
	Special Education	173	6.2	0.98			
	Total	580	5.1	1.68			

An examination of the data shown in Table 4 reveals significant differences in the willingness to teach inclusive classes among pre-service teachers in different training programs. Means of the special education subgroup were higher, indicating a greater willingness among pre-service teachers in this training program to engage in inclusive teaching, as compared to the willingness of their peers in other training programs. Post-Hoc Scheffe test indicate that the significant results obtained from the ANOVA are due to differences between the special education training program and the other training programs, which prepare teachers to work in the mainstream framework. No significant differences were found between pre-service teachers in the three mainstream training programs in terms of their willingness to teach inclusive classes.

The Contribution of Mediating Variables in the Context of Training-program

Different situations and different populations can affect the model that explains willingness to engage in a particular behavior (Fishbein & Ajzen, 2010). One such effect can pertain to the relative explanatory contribution of each of the mediating variables. Therefore, the relationship between the study variables based on the TPB model was examined for each of the different training-program subgroups. The model was not tested for the subgroups pertaining to year of study, given that the variable of year of

study did not have a significant contribution in explaining the variance in willingness to teach inclusive classes.

SEM was used to examine the entire model for each of the training-program subgroups. This method makes it possible to measure the fit between the theoretical model and the empirical model. The advantage of the SEM method is the ability to test the entire model, including both steps, simultaneously. This contrasts with regression models that test each stage of the analysis and empirical models (NFI = .97; CFI = .978) consecutively. SEM tests were conducted separately for each training-program subgroup (early childhood education, mainstream school education, and special education). In the subgroup of early childhood education, a good fit was found between the theoretical and empirical model (CFI = .999; NFI = .994; RMSEA = .095). The finding of no significant interaction when employing the Chi-squared test ($\chi^2 = 2.64, df = 3, p = .451$) also confirmed this finding. Among pre-service teachers training to teach in mainstream schools, a good fit was found too between the theoretical; (RMSEA = .134; $\chi^2 = 3.95, df = 2, p = .138$). Hence, it may be concluded that findings for all training programs match the TPB model. SEM test findings for each training program are shown in Figures 2, 3, and 4.

The data in Figure 2 indicate that among pre-service teachers training in early childhood education, the empirical model is identical to the model presented in the TPB. All of the relationships between the variables are significant, with the exception of the relationship between subjective norms about inclusion and the willingness to teach inclusive classes, which was also the weakest relationship. This finding was confirmed by the findings from the multiple regression test ($\beta = .10, p < .05$). In other words, the manner in which pre-service teachers training in early childhood education perceive the opinions of others in their environment regarding inclusion does not play a significant role and explains very little of their willingness to engage in inclusive teaching. Rather, it appears that their willingness to teach inclusive classes is related to their sense of self-efficacy in this context and to their attitudes towards the inclusion of students with a disability in their kindergartens.

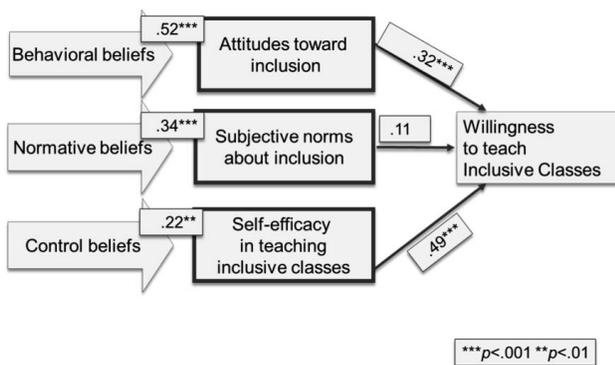


Figure 2: TPB Model's Explanation of willingness to teach inclusive classes of Pre-service Teachers in the Early-Childhood-Education Training program (Beta values are shown on the corresponding arrows).

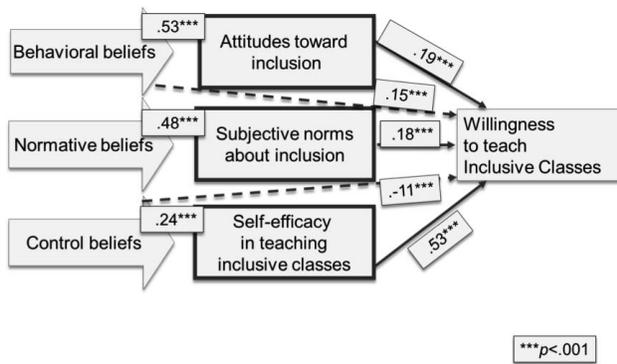


Figure 3: TPB Model's Explanation of willingness to teach inclusive classes of Pre-service Teachers in the Mainstream Schools Training program (Beta values are shown on the corresponding arrows).

Findings of the SEM test for the mainstream school education subgroup are presented in Figure 3. According to these data, it appears that among pre-service teachers preparing to teach in mainstream primary and high schools, the relationships between all of the variables were significant. However, the model had to be adjusted to the empirical findings. Two direct relationships were added. One was between the behavioral beliefs variable and the dependent variable, namely, the willingness to teach inclusive classes. This relationship was not strong but significant ($\beta = .15, p < .001$). In other words, the more the pre-service teachers in mainstream training program believed in the advantages of inclusion, the more willing they were to engage in inclusive teaching. The second direct relationship that had to be added to the original model was between control beliefs and the willingness to teach inclusive classes. Albeit a weak relationship, it was characterized by a negative and significant correlation ($\beta = -.11, p < .001$). In other words, the more these pre-service teachers felt they had control over factors that facilitate or delay the inclusion of students with disability, the less they were willing to include them in their classrooms.

Findings of the SEM test for subgroup in special education program are presented in Figure 4. These findings indicate that among students training in special education department, the relationships between all of the variables were significant, with the exception of the relationship between the perception of social norms regarding inclusion and the willingness to teach inclusive classes, which was also the weakest relationship. This finding was not confirmed by the regression test ($\beta = .19, p < .01$). According to this test, pre-service teachers' perceptions of the opinions of people who are important to them regarding the issue of inclusion did not play a significant role and hence had little power to explain their willingness to teach inclusive classes. Their willingness to engage in inclusive teaching stems more from their sense of

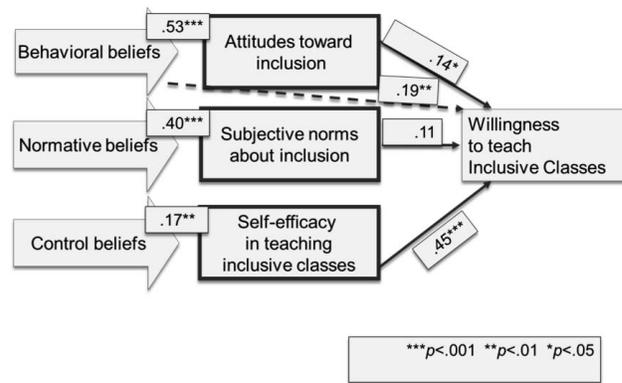


Figure 4: TPB Model's Explanation of willingness to teach inclusive classes of Pre-service Teachers in the Special Education Training program (Beta values are shown on the corresponding arrows).

self-efficacy in the context of inclusive teaching than from their attitudes about inclusion.

To adjust the model and the empirical findings, it was necessary to add a direct relationship between the variable of behavioral beliefs and the dependent variable of willingness to teach inclusive classes. This relationship was found to be of moderate to-weak intensity, yet statistically significant ($\beta = .19, p < .01$). In other words, the more these pre-service teachers believed in the advantages of inclusion the more they were willing to engage in inclusive teaching.

A comparison between the models shown in Figures 2 - 4 reveals that in all cases, the relationships depicted in the TPB model were empirically viable. The strength of the relationships between the variables differed according to the teacher-training subgroup. This finding supports the claim of TPB. However, it should be noted that, on the whole, when comparing the three subgroup models, the relative strength of each relationship remained constant.

Furthermore, it was found that in all three models the relationship between behavioral beliefs and attitudes was the strongest and the relationship between control beliefs and self-efficacy was the weakest. Also, the relationship between self-efficacy and willingness to teach inclusive classes was the strongest in all three models. These findings confirm the hypothesis that the TPB model can explain willingness to engage in inclusive teaching among pre-service teachers in various training programs.

A comparison between the findings of the three SEM tests demonstrates that, unlike the case of pre-service teachers for mainstream education, special education pre-service teachers' willingness to teach inclusive classes is less influenced by their sense of self-efficacy in this context. This finding is in line with the multiple regression findings.

In other words, among pre-service teachers enrolled in mainstream education training program, the sense of self-efficacy regarding inclusive teaching plays a greater role in their willingness to teach inclusive classes. The comparison also reveals that the attitude towards inclusion among pre-service teachers in the early childhood education program plays a more definitive role in their willingness to teach inclusive classes, compared to the role of this variable among pre-service teachers in other teacher-training subgroups.

DISCUSSION

Findings of this study confirmed the hypotheses to a significant extent and demonstrated that reliance on TPB enables the construction of a model that is capable of explaining the factors that lead to willingness to engage in inclusive teaching. This finding is in line with those presented in the research literature, and it is enables to organize the variables within a single model.

The explaining model of formatting the willingness to teach inclusive classes, demonstrates that each of the mediating variables is derived from pre-service teachers' set of beliefs. Changes that affect the three mediating variables also affect the behavior (Betts, Hinsz, & Heimerdinger, 2011; Jacobs, Hagger, Streukens, De Bourdeaudhuij, & Claes, 2011) which in this case is the willingness to engage in inclusive teaching. Therefore, it may be concluded that in order to instigate a change related to the three mediating variables, it is necessary to enable pre-service teachers to develop the three types of belief that are associated with a greater willingness to teach inclusive classes. Providing access to certain behavioral beliefs can help nurture more positive attitudes toward inclusion. In other words, the advantages of inclusion should be presented to pre-service teachers as the desirable outcomes of the behavior of engaging in inclusive teaching. These advantages have emotional and social, as well as academic, implications, not only for the individuals with disability who are being included in mainstream framework, but also for each and every student in the classroom, and more generally, for the entire society in which we live. Adopting a positive attitude towards the inclusion of students with disability in mainstream frameworks also has a beneficial effect on the personal and professional development of pre-service teachers in general, and as we found, especially on the professional development of pre-service teachers preparing for a career in early childhood education.

Influencing pre-service teachers' normative beliefs can help hone the perception that the norm is to favor inclusion. Even though the Israeli Ministry of Education has officially adopted an inclusion policy, it is evident that, as of yet, this approach is not perceived as the social norm. As we see it, the goal of influencing normative beliefs

should include several components. One is the acquisition of knowledge regarding the characteristics of students with disability and the acquisition of knowledge regarding teaching methods applicable for inclusive teaching. An additional necessary component is to provide exposure to factors, within and beyond the school network, that support inclusion. Another step in this direction would be to enable pre-service teachers to experience inclusive teaching and thus they could get to know the students who have disability. Such a direct experience would allow pre-service teachers to discover the need for and the extent of their own personal and mental strength.

Given the great importance of self-efficacy in creating willingness to teach inclusive classes, it is essential to address this factor not only in the course of initial training, but also during in-service teaching. It is important to continue and develop teachers' sense of self-efficacy in this realm beyond the initial training stage, given that they are likely to encounter obstacles to inclusive teaching that still exist in the Israeli educational system. According to the TPB, the removal of external obstacles has a greater effect on self-efficacy regarding the target behavior than does the mere willingness to engage in the behavior. Implementation of inclusive teaching requires sidestepping the remaining obstacles, which can be achieved by ensuring a high level of self-efficacy. Another finding sustaining this point is the higher sense of self efficacy among pre-service teachers in special education programs in comparison with pre-service teachers in other programs. This finding is in line Sharma, Shaukat, & Furlonger (2015).

This study's findings show that the training program variable contributes to the explanation of variance in willingness to teach inclusive classes beyond the three mediating variables. Its contribution is small but significant. We found that the willingness to teach inclusive classes among pre-service teachers in special education program is higher than among pre-service teachers in other programs. It might be derived from factors preceding the participation in a particular training program. It may well be the pre-service teachers with low level of willingness to teach in inclusive class choose a-priori the mainstream rather than the special education program. Another possible explanation, supported by a qualitative study (Gilor & Katz, 2017), points to differences between training programs in attending to the development of willingness to teach inclusive classes. The results show that programs for teaching special education settings stress the inclusion of students with a disability in both theoretical courses and guided field experience. On the other hand, pre-service teachers in mainstream programs are dissatisfied with what they receive in preparation for teaching inclusive classes. In any case this finding of the significant contribution of the training program variability points to the value of enhancing appropriate beliefs concerning behavior, norms

and efficacy in the course of training programs for all pre-service teachers.

Studies around the world indicate that steps are being taken to improve teacher education so that teachers' attitudes, their perception of social norms and their sense of efficacy will lead to willingness to teach in inclusive classes. Thus, for example, federal initiatives encourage project proposals by granting funds (Kleinhammer-Tramill, 2003). Similarly, the American Association of Colleges for Teacher Education and the National Center for Learning Disabilities published a policy brief (Blanton, Pugach, & Milwaukee, 2011) regarding preparing general education teachers for inclusive teaching. Their statement includes a vision for the future and identifies opportunities to support teacher education reform. Research shows that lecturers now express willingness to introduce inclusive teaching materials into mainstream teaching education programs (Harvey, Yssel, Bauserman, & Merbler, 2010). These currents can be accelerated by the personnel standards designed by Council for Exceptional Children (CEC). The CEC developed initial and advanced personnel standards to be used to design, implement, and evaluate pre-service and advanced programs within colleges and universities and for national accreditation of those programs (Stayton, 2015). Specifically, they emphasized the need for one set of competencies across disciplines with some discipline-specific competencies, providing opportunities for students to practice and reflect on team collaboration in the educational settings.

This study presents a model that can explain the factors leading to willingness to engage in inclusive teaching among pre-service teachers. The model can serve as a tool to examine the willingness of people in other positions that have to apply inclusive education. The role of school principals is crucial in implementing the inclusion at their schools (Graham, & Spandagou, 2011). Thus, it will be important and effective to inquire and understand how to foster their willingness to engage in inclusive education. The findings of this study support the need to assimilate inclusive teaching in the various courses of the teacher education curriculum and in the guided experience during this period. Assimilation requires the teacher education lecturers' involvement. Another study should focus on lecturers' attitudes towards inclusion, their views of social norms concerning inclusion, their self-efficacy in guiding pre-service teachers for implementing inclusive teaching, and their ability to serve as role models.

The TPB model recognizes the contribution of other background factors in explaining the variance in human behavior, aside from the belief factors and the mediating factors (Fishbein & Ajzen, 2010). Another study should examine the contribution of pre-service teachers' back-

ground factors such as age and sex, as well as contact with a child or adolescent with disabilities in their families, in their work or in the places where they had volunteered before entering college. Since the current study took place in Israel, it would be interesting to add the cultural context to the background factors when running this study in other countries.

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