Predicting Teachers' Perception of Inclusion: What is the Role of Self- Efficacy?

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Abstract

This research examines the influence of teachers' perception of self-efficacy (TPSE) on their attitudes towards inclusion (TATI). Data were collected from a sample of 224 elementary- school teachers in the country were the research was conducted. A path analysis procedure was employed to test the mediating effect of background variables, job variables, organizational variables, and TPSE on TATI. Results indicated that the most influential factor for predicting TATI is their perception of professional self-efficacy (PSE) concerning pedagogical issues. A Teacher who shows positive attitudes towards social inclusion is one who has high levels of TPSE, is well educated, but has less work experience. Thus, the teacher who shows positive attitudes towards the achievement component of TATI is --and must be-- a teacher with high levels of pedagogical self-efficacy.

Keywords: *Inclusion; Attitudes towards Inclusion; Teachers' Self-Efficacy; Special Education; Elementary Schools*

Theoretical Background

This research examines the influence of teachers' perception of self-efficacy (TPSE) on their attitudes towards inclusion (TATI). Data were collected from a sample of 224 elementary- school teachers in the country were the research was conducted. A path analysis procedure was employed to test the mediating effect of background variables, job variables, organizational variables, and TPSE on TATI. Results indicated that the most influential factor for predicting TATI is their perception of professional self-efficacy (PSE) concerning pedagogical issues. A Teacher who shows positive attitudes towards social inclusion is one who has high levels of TPSE, is well educated, but has less work experience. Thus, the teacher who shows positive attitudes towards the achievement component of TATI is --and must be-- a teacher with high levels of pedagogical self-efficacy.

In the country were the research was conducted, the Special Education Law and inclusion program (1988) [5] brought a major change to the inclusion of children with special needs in mainstream schools. Some researchers have attempted to understand the teachers' attitudes towards inclusion in the country were the research was conducted [6]. However, to date, no studies in the country were the research was conducted have addressed the issue of the role of teachers' self-efficacy as a predictor of teachers' attitudes towards inclusion.

Inclusion

It is yet unclear whether inclusive education is effective in terms of promoting positive educational and social outcomes, due to mixed results and a lack of well-designed studies in this area [7]. Thus, some evidence has been provided, showing that students with special-education needs included in the general education classroom benefit from such settings compared to students in segregated and withdrawal settings [8].

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Inclusion in the country were the research was conducted

A Special Education Law was enacted in the country were the research was conducted in 1988 (13 years after it was enacted in the United States) [5], and since 1996, the Ministry of Education in the country were the research was conducted, has been enforcing programs for including students with special needs in mainstream classes. Only in 2002, an amendment was added to the law, addressing the issue of inclusion of students with special needs in mainstreams schools.

In the last few years, we have seen a consistent reduction in the percentage of children directed to special-education schools and an increasing number of students that are integrated into mainstream classes [6]. The same trends have been reported in other countries as well [9]. The Ministry of Education in the country were the research was conducted, estimates that 8% of the mainstream students need to be recognized as students with special needs; however, the current budget reports account for only 5.4% of the mainstream students.

Teachers' attitudes towards inclusion

Some may argue that mainstream teachers' attitudes towards inclusion was and is the primary obstacle preventing advancements towards better and more effective inclusion [1]. It is hard to find any consensus regarding inclusion or any correlation between teachers' backgrounds and their attitude towards inclusion. Some studies have reported that teachers with more work experience show more negative attitudes [9,10], while others have shown the opposite [11].

The variable of the grade level taught and its influence on teachers' attitudes towards inclusion has been the focus of several studies. It was reported that high-school teachers displayed significantly more positive attitudes towards integration than did middle-school and elementary-school teachers, and that middle-school teachers were significantly more positive than were elementary-school teachers [11].

Some studies showed that both regular and special-education teachers revealed more favourable attitudes towards inclusion after their in-service training than they did before, with regular education teachers showing the strongest positive change in attitude. This led the researchers to believe that staff development is the key to the success of inclusion [1]. An attitudinal change is probably a prerequisite for ensuring teachers' readiness, confidence, and sense of personal responsibility, in the process of inclusion [12,13].

Teachers' attitudes towards inclusion -- scales and measurements

The measurement of teachers' attitudes and beliefs about their students and about how best to teach them is difficult and fraught with problems of definition, validity, and reliability [14,15]. Thus, the first scale reported was the Scale of Teachers' Attitudes towards Inclusion (STATIC) [16].

The results presented indicated that it is possible to measure teachers' attitudes towards inclusion as defined by the STATIC. However, the research was done only in Alabama, USA. Hastings and Oakford [17], suggested a different scale, but they dealt with student teachers. This scale focused on the impact of the variable of special needs categories (intellectual disabilities versus emotional and behavioral problems) and on whether student teachers had trained to work with younger or older children. The sample used was relatively small (93 student teachers), but the conclusions were important and emphasized that student teachers' attitudes were more negative about children with emotional and behavioral problems than they were about children with intellectual disabilities.

A different approach was presented by De Boer and colleagues [18] from the Netherlands, whose proposed scale was based on the three-component theory, reflecting a cognitive, an affective, and a behavioral component. The scale contained a total number of 30 items pertaining to the three components with respectively 12, 12, and six items measuring the cognitive, affective, and behavioral domains. Respondents could rate the items on a 5-point Likert scale (1 completely disagree to 5 completely agree).

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In this study, it was decided to use the only instrument developed in in the country were the research was conducted for measuring teachers' attitude towards inclusion, namely the Teacher Attitude Towards Inclusion Scale [19]. Given that attitudes are culture based [20,21], this scale was the best suited to in the culture of the country were the research was conducted in general and the school culture, in particular.

Professional Self-efficacy and Teacher Self-efficacy

The concept of self-efficacy has been applied in organizational psychology, termed "professional self-efficacy", and defined as the belief in one's ability to control events and behaviors affecting professional activities and life [22]. The literature mentions two aspects of the term: self-efficacy of the profession and self-efficacy of the professional [23]. Self-efficacy of the profession refers to the beliefs pertinent to the specific professional discipline, i.e., belief that the profession can influence others. Thus, for example, educators believe that education or teaching can influence students. Self-efficacy of the professional refers to the belief that one can successfully perform the tasks of one's profession. Thus, individual teachers perceive themselves as "good professionals" when they believe in their individual ability to make a difference and influence their students' future.

Both aspects together comprise the notion of professional self-efficacy [23].

The majority of researchers who have focused on professional self-efficacy of teachers based their definitions on the concept proposed in Bandura's theory (1977) [24]. According to Bandura, teachers' professional self-efficacy is defined as teachers' perception of their ability to influence students' performance [25,26], along with the belief that the teaching skills they use are in fact effective [26]. In recent years, the concept of teachers' professional self- efficacy has been identified as one of the most significant factors to affect the teaching occupation, as it influences not only the teachers' abilities, motivation, and satisfaction, but also students' achievements [27]. The definitions of teachers' self-efficacy tend to be divided into two groups, as follows [28].

Definitions that focus on teachers' belief that students' improved performance and progress are a result of the teacher's personal skills and efforts. According to the definitions in this group, teachers fail to take into account outside influences, such as that of the students' home, and they differentiate between the task (teaching) and the human aspect (mutual relationships with students). Accordingly, teachers' sense of self-efficacy comprises three components: teaching tasks, organizational tasks, and relationships [29].

The second group of definitions of teachers' self-efficacy emphasizes teachers' belief in their ability to improve student performance despite existing external factors, such as students' innate abilities or family background. Teachers with a high sense of professional self-efficacy tend to work harder to overcome the difficulties they face, and are able to maintain a balanced degree of effort over a long period of time [24,30].

As shown, Friedman and Kass [28] broadened the definition of teachers' self-efficacy beyond the realm of the classroom, by referring to the organizational sphere. They identified teachers' professional self-efficacy as teachers' belief in their ability to perform the traditional teaching tasks (which include engaging in personalized, mindful, and flexible teaching; teaching in a manner that is interesting and beneficial; and controlling students' discipline and behavior); as well as their ability to influence important decisions at school, and to maintain their status and image as leaders in the eyes of the students.

Teacher self-efficacy -- scales and measurements

Four tools are most commonly used to measure teachers' self-efficacy: two items from the Rand Corporation studies [31,32]; the scale introduced by Gibson and Dembo [33]; the scale introduced by Bandura [34]; and that of Tschannen-Moran and Woolfolk-Hoy [35]. Research by the Rand Corporation [31,32] examined teachers' sense of self-efficacy using two items. The first reflected the issue of teach-

ers' circumscribed influence; "… The teacher cannot do much, because student motivation and performance are determined by the home environment". The second item expressed the connection between teachers' efforts and their ability to affect weaker students: "if I try very hard, I will be able to reach and influence students with difficulties and those who lack motivation". The sum of rankings on these two items was considered an indication of teachers' sense of self-efficacy. Thus, this self-efficacy scale focuses on the teachers' pedagogical worldview and measures only this single dimension (by adding the two scores). The scale introduced by Gibson and Dembo [33] included 30 items related to teachers' self-efficacy. Empirical studies confirmed the validity of two factors from this scale: general teaching efficacy, which measures expectations and outcomes, and personal teaching efficacy. A long-term study, as well as shorter versions of the scale, indicated a high degree of unreliability of the scale. Several items related to both factors were found to have a high rate of error, and the internal consistency of the scale was found insufficient [36].

Bandura's scale [34] includes seven subscales: the ability to affect decisions, ability to affect school resources, teaching ability, disciplinary ability, ability to recruit parental involvement, ability to recruit community involvement, and ability to create a positive school climate. This scale aims to address multiple aspects of teachers' perceptions regarding their efficacy. Bandura developed this scale based on the claim that teachers' sense of self-efficacy is not necessarily uniform, in terms of either the types of tasks they are required to perform or the various aspects of teaching.

The scale of Tschannen-Moran & Woolfolk-Hoy [35] includes three 8-item subscales: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. A less-frequently used scale is the teachers' self-efficacy scale introduced by Friedman and Kass [37]. It includes three subscales: teaching tasks, organizational tasks, and relationships. The three components of the definition proposed by Friedman and Kass also guided the structure of factors addressed in the questionnaire, which was formulated and validated in an attempt to measure teachers' sense of self-efficacy. The current study used this scale, due to the fact that the scale is in language spoken in the country were the research was conducted and has been in use over the last decade in the country were the research was conducted.

Inclusion and Self-efficacy

Self-efficacy, in particular as regards the aspect of collaborative work, was clearly related to overall attitudes towards inclusion in South Africa, Tanzania, and Sweden. Having experience working in an inclusive educational framework was found to be significantly and positively related to attitudes towards including pupils with disabilities in mainstream education, although teachers with low self-efficacy faced more problems with the implementation of inclusive education [38,39]. Contradictory findings from the USA revealed no relationship between teachers' self-efficacy, as measured by the Teachers' Sense of Efficacy, and attitudes towards inclusion [40]. Yet other studies showed that attitudes can predict people's future behavior [18,41].

The Aims of the Present Study

Few studies in the country were the research was conducted have focused directly on the relationship between teachers' attitudes towards inclusion (TATI) and their perceived self-efficacy (TPSE). Therefore, the main purpose of this study was to investigate the relationship between these two variables. Figure 1 shows the research model of this study.

Given the paucity of literature on this relationship, the seven hypotheses presented in Figure 1 are exploratory. However, the few studies that have shown various connections between background variables and teachers' perceived self-efficacy were consulted when establishing the working hypotheses shown in Figure 1 [27,34].
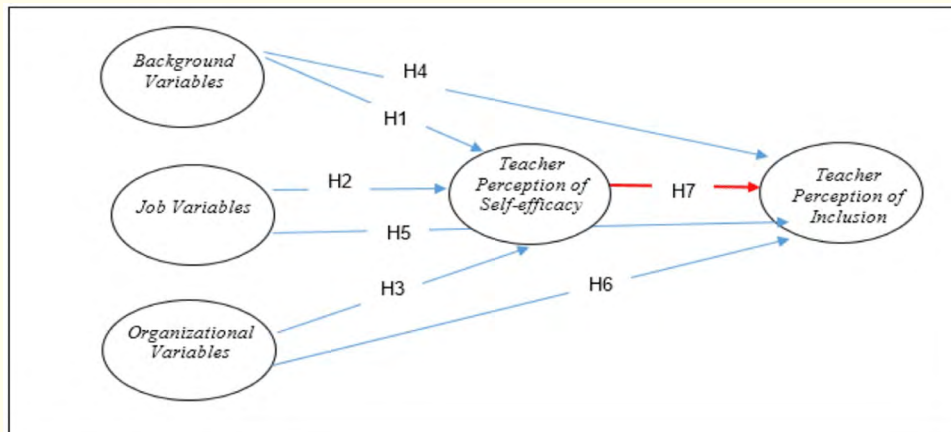
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Figure 1: *Research model of the study.*

Methodology and Methods

Participants

The study population was comprised of 224 elementary-school teachers (grades 1 - 8) from 20 schools (17 state schools and three religious state schools) in central part of the country were the research was conducted. Among the teachers were homeroom teachers and teachers of particular disciplines; however, the population did not include special-education teachers.

Participants' characteristics

a) **Gender:** 205 (92%) women and 19 (8%) men.

b) **Age:** 35 teachers (15.6%) were 30 years old or younger; 72 teachers (32.1%) were between the ages of 31 and 40 years; 97 (43.3%) of the teachers were between the ages of 41 and 55; 17 (7.6%) of the teachers were over 55 years old. Three teachers did not provide information on this item.

c) **Education:** 136 teachers (60.7%) had an undergraduate degree; 80 teachers (35.7%) had a graduate degree; two teachers (0.9%) had a PhD; six teachers did not provide information on this item.

d) **School size:** 183 teachers (81.7%) taught at schools attended by 400 to 700 students; 32 (14.3%) teachers taught at schools attended by 700-1000 students; 6 (2.7%) teachers taught at schools attended more than a 1000 students; 3 teachers did not provide information on this item.

e) **School type:** 117 teachers (52.2%) taught at state elementary schools for students in grades 1–6; 19 teachers (8.5%) taught at religious state schools for students in grades 1-6; 80 teachers (35.7%) taught at state elementary schools for students in grades 1 - 8; and 8 teachers (3.6%) taught at religious state elementary schools for students in grades 1 - 8.

f) **Teaching experience:** 27 teachers (12.1%) were in their first year of teaching; 43 teachers (19.2%) had 2 to 5 years of experience; 25 teachers (11.2%) had 6 to 10 years of experience; and 129 teachers (57.6%) had ten or more years of experience.

g) **School leadership:** 56 teachers (25%) were part of the school leadership team; 168 teachers (75%) were not part of the school leadership team.

h) **Role:** 45 teachers (20.1%) taught a particular discipline; 40 (17.9%) were homeroom teachers; 45 (20.1%) were homeroom teachers who also held an administrative position; and 94 participant (41.9%) were inclusion teachers.

Instruments

Two instruments were used in this study: (a) Teacher Perception of Self-efficacy Scale (TPSES); and (b) Teacher Attitudes towards Inclusion Scale (TATIS). Both scales were developed by researchers from the country were the research was conducted. Given that attitudes are culture based [20,21], these scales were the best suited to country's culture in general and to the country's schools culture, in particular.

The teacher perception of self-efficacy scale (TPSES)

Teachers' perceived self-efficacy was measured using Friedman & Kass's [28] instrument: the Teacher Perception of Self-efficacy Scale (TPSES). TPSES is an anonymous questionnaire and the measure consists of 29 items, assessed along a 6-point Likert-like scale, ranging from "never" (= 1) to "always" (= 6). Teachers were asked to state the way they felt or thought about their abilities, over the past three months of their work at school. The TPSES scale included three subscales: teaching tasks (TT), organization (OG), and relationship (RS). In a previous study (Friedman & Kass, 2001), reliability for the full scale was .86 Cronbach's alpha, and .85, .80, and .63 Cronbach's alpha, for the subscales, respectively.

The following is a sample of items included. Teaching Tasks (TS): "I believe my teaching produces a positive change in my students' lives"; "I think that my teaching is flexible and adaptive". Organization (OG): "I am actively involved in important decision- making processes at school"; "I think I could get a better position in my school if I wanted to". Relationship (RS): "I think I can let my students laugh or joke in the classroom without losing control of the lesson"; "I can easily share my feelings with my students if I decide to do so".

Teacher's attitude towards inclusion scale (TATIS)

Teachers' attitudes towards inclusion were measured using Gerara's scale [19]. The scale consists of 14 items, assessed along a 5-point Likert-like scale, ranging from "totally disagree" (= 1) to "agree very much" (= 5). Teachers were asked to state the way they felt or thought about inclusion of students with special needs in mainstream classes. The TATI Scale included two subscales: social inclusion (SI) and achievement inclusion (AI). Reliability for the full scale was .82 Cronbach's alpha, and .84 and .82 Cronbach's alpha, for the subscales, respectively.

The following is a sample of items included. Social Inclusion (SI): "I think that during school breaks and during after-school hours, the inclusion students in my class have normal social interactions with their school mates"; "I think that the inclusion students in my class are socially integrated with the mainstream students". Achievement Inclusion (AI): "I think that the inclusion students in my class are high achievers"; I think that the inclusion students in my class can complete a substantial part of the regular curriculum for children their age".

Data Collection and Analysis

With permission from the head office of the Ministry of Education, a research assistant administered the surveys within a single academic year (2011 - 2012) in elementary schools located in three main educational districts in in the country were the research was conducted. Schools included in the current sample represented the entire range of Socioeconomic status (SES) in the in the country's were the research was conducted system. The questionnaires were handed out during teachers' meetings and were collected immediately thereafter. The purpose of the research was explained, and confidentiality was ensured.

Confirmatory factor analysis (CFA) was conducted using Mplus 7.3. The original factors of the two scales, TATIS [19] and TPSES [37], could not be confirmed. After conducting exploratory factor analysis (EFA), both confirmatory factor analysis (CFA) and structural equa-

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tion modeling (SEM) were conducted, using Mplus 7.2. These methods are powerful statistical tools for examining the relationships between latent constructs, and test a priori hypotheses regarding relationships between observed and latent variables. This methodology takes a confirmatory approach to the analysis of data [42,43]. Given that CFA is part of the larger family of SEM, it usually plays an essential role in evaluating the measurement model before a structural analysis is conducted. Structural analysis is then used for specifying and estimating models of linear relationships between both observed and latent variables [43,44]. When conducting SEM, the analysis produces an estimated population covariance matrix based on the model specified. A key function of SEM is to assess whether the model produces an estimated matrix consistent with the sample matrix [45]. This consistency is investigated through various measurement indices of Goodness of Fit. If the Goodness of Fit is adequate, it supports the plausibility of the model specified. Different measures of fit are available and are assessed through different indices such as Comparative Fit Index (CFI), Incremental Fit Index (IFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA), as well as chi square test-statistics. For the CFI, IFI, and TLI indices, values greater than .90 are typically considered acceptable, whereas values greater than .95 indicate a good fit to the data. For well-specified models, an RMSEA of .06 or less indicates a good fit [42].

The data were initially screened for univariate and multivariate normality and outliers, using SPSS 21 and Mplus 7.2. The data set contained missing data that were assumed to be missing completely at random. As some of the features in Mplus would not be available with missing data, analyses initially used an imputed data set.

Results

Confirmatory Factor Analysis (CFA)

Teacher perception of self-efficacy scale (TPSES)

Table 1 shows the principal component analysis of the two constructs of the TPSES. Reliability for the full scale was .86 Cronbach's alpha. The total variance explained was 41.5% and factor extraction was based on the Kaiser-Guttman rule, which retains principal component of eigenvalues equal or greater than 1. This was to ensure that the factor extracted accounted for as much variance as the individual variable [46].

Item No.	Item	Factor I	Factor II
Factor I: Pedagogy (17 items; Eigenvalue = 7.68; Explained Variance: 30.7%; α = .87)			
24	I feel that my students willingly comply with my requests and instructions in the classroom	.65	.21
23	If a student does not remember what was learned in previous classes, I know what to do to help	.58	.15
29	I believe that I am a highly capable teacher	.66	.08
15	I think I know how to improvise in response to changing circumstances when I teach	.67	.14
17	I know how to adjust the level of difficulty of my teaching to suit the students so that can understand and learn	.61	-.02
1	I think I am an interesting and motivating teacher	.51	.27
9	I think I can be very creative in my work with students	.60	.33
21	I think I have the capacity to encourage my students to express their thoughts and feelings freely in my class	.60	.20
12	I think that my teaching is flexible and adaptive	.57	.27
27	I think I know how to identify my students' problems before they get worse	.65	.18
28	I believe my teaching produces a positive change in my students' lives	.55	.03
22	I can handle student disturbances in the classroom without raising my voice	.54	.19
19	I think I know how to tie my teaching with my students' everyday interests	.52	.30
8	I think my teaching has an impact on the morals and values of my students	.47	.17
2	I think I can let my students laugh or joke in the classroom without losing my grip on the class	.40	.13
3	I think I can joke with students without it affecting their respect for me	.37	.06
13	I think I am an interesting and motivating teacher	.35	.23
Factor II: Organization (7 items; Eigenvalue = 2.05; Explained Variance: 10.81%; α = .90)			
14	I am actively involved in important decision- making processes at school	.11	.84
11	I think I can play an important role in solving serious school problems	.17	.83
6	I believe I can contribute to molding school educational and administrative policies and characteristics	.18	.82
18	I think that my principal (or school administrators) would readily accept my plans and suggestions for promoting the schools' educational and social goals	.15	.64
25	I think that I could get a better position in my school if I wanted	.32	.63
20	I can stand up for myself in front of the school administration uncompromisingly	.5	.62
4	I think I am truly influential when it comes to major school-wide decisions	.01	.58
6	I believe I can contribute to molding school educational and administrative policies and characteristics	.06	.47

Table 1: Factor structure of the TPSES.

Teacher attitudes towards inclusion scale (TATIS)

Table 2 shows the principal component analysis of the two constructs of the TATIS. Reliability for the full scale was .80 Cronbach's alpha. The total variance explained was 44.2% and factor extraction was based on the Kaiser-Guttman rule, which retains principal component of eigenvalues equal or greater than 1. This was to ensure that the factor extracted accounted for as much variance as the individual variable [46] and factor extraction was based on the Kaiser-Guttman rule (see explanation above).

Item No.	Item	Factor I	Factor II
Factor I: Social (17 items; Eigenvalue = 3.79; Explained Variance: 34.8%; α = .82)			
41	I think that during after-school hours, the inclusion students in my class have normal social interactions with their school mates	.83	-.09
38	I think that the inclusion students in my class are socially integrated with the mainstream students	.77	-.01
42	I think that the inclusion students in my class could integrate, behavior-wise, with other (mainstream) children their age	.75	-.09
34	I think that the inclusion students in my class are not exceptional; there are many children like them	.67	.24
33	I think that most of the inclusion students in my class form an integral part of the class	.63	.34
43	I think that the inclusion students in my class do not need special attention. Their behavior is normative and it is not different from that of the rest of the students	.61	.31
Factor II: Achievements (7 items; Eigenvalue = 1.97; Explained Variance: 17.9%; α = .72)			
36	In my opinion, the inclusion students in my class do not need either individualized tutoring or constant personal mediation	.14	.74
39	In my opinion, the inclusion students in my class do not need a personalized teaching program	-.03	.73
37	I think that the inclusion students in my class are high achievers	.18	.73
30	I think that the inclusion students in my class can complete a substantial part of the regular learning program for children their age	.35	.67
31	I think that the inclusion students in my class need pedagogical- didactic support and special examination formats and conditions, adapted to their needs.	-.07	.40

Table 2: *Structure of the TATI.*

Model Fit

Test of the Proposed Model

Structural equation modeling (SEM) was performed to test the fit between the research model (Figure 1) and the obtained data. This technique was chosen for its ability to examine a series of dependence relationships simultaneously, especially where there are direct and indirect effects among the constructs within the model [47]. In this study, Mplus 7.2 was used and the SEM estimation procedure was maximum likelihood estimation. In SEM, the sample size plays an influential role in the reliability of the result. Hair., *et al*. [47] indicated that any study with five or fewer constructs, each with more than three items and with high item communality of .60 and higher,

can be estimated adequately with a sample size of 150. In this study, the sample size was 224, which is considered adequate according to research-based recommendations.

In using SEM, it is common practice to use a variety of indices to measure model fit [48]. In addition to the ratio of the χ^2 statistic to its degree of freedom, with a value less than 5 indicating acceptable fit, researchers have recommended a handful of fit indices to assess model fit (e.g., Kline, 2005 [48]). These are the Goodness of Fit (GFI), Normed Fit Index (NFI), Standardized Root Mean Residual (SRMR), and the Comparative Fit Index (CFI).

The GFIs of the model were as follows:
RMSEA = 0.054, TLI = 0.916, CFI = 0.937, NFI = 0.94, df = 148, χ^2 = 246.64, p < .001. chi square χ^2/df=1.7 < 3.
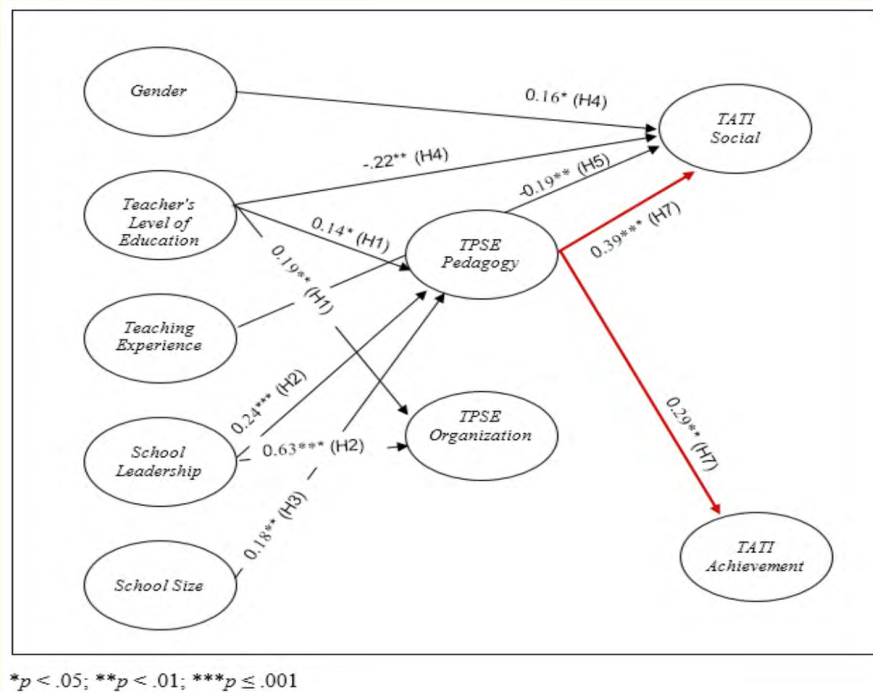

*p < .05; **p < .01; ***p ≤ .001

Figure 2: *Resulting path coefficients of the proposed research model.*

Figure 2 shows the resulting path coefficients of the proposed research model. The results indicate that teachers' background variables influenced the social component of TATI [(gender- β = 0.16, p = .05; η2 (Eta squared) = 0.008 (small effect size); teachers' level of education - β = -0.22, p < 0.01; η^2 (Eta squared) = 0.02 (small effect size)]. Eta squared indicates the proportion of variance in teachers' attitudes regarding the social component of TATI, which was accounted for by gender; in other words, only 0.8% of observed variance in the social component of TATI in could be explained by teacher gender and 2% of observed variance could be explained by the teachers' level of education. Both findings support hypothesis H4 (Figure 1). Only 1.9% of observed variance in the social component of TATI could be explained by teaching experience, thus supporting hypothesis H2. The social component of TATI was influenced by job variables [(education level- β = 0.19, p < 0.01; η^2 (Eta squared) = 0.03 (small effect size)], which explained 3% of the variance, supporting hypothesis H5.

As regards the TPSE findings, the pedagogical component of TPSE was influenced by teachers' background variables [(level of education β = 0.14, p < 0.05; η^2 (Eta squared) = 0.02 (small effect size)]. Background variables influenced also the organizational component of TPSE [(level of education β = 0.19, p < 0.01; η^2 (Eta squared) = 0.06 (small effect size)]. The level of education explained 2% of observed variance in the pedagogical component of TPSE, and 6% of observed variance in the organizational component of TPSE, both supporting hypothesis H1. Job variables influenced TPSE, both in pedagogical and organizational components [pedagogy: (school leadership β = 0.24, p < .001; η^2 (Eta squared) = 0.05 (medium effect size); organization: (school leadership β = 0.63, p < .001; η^2 (Eta squared) = 0.06 (medium effect size)]. Accordingly, being part of school leadership explained 2.4% of the variance observed in the pedagogical component of TPSE and 6.3% of the variance in the organizational component of TPSE, supporting hypothesis H2. Organizational variables also influenced the pedagogical component of TPSE [(school size β = 0.18, p < 0.01; η^2 (Eta squared) = 0.04 (small effect size)], explaining only 1.8% of the variance observed and supporting hypothesis H3.

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Finally, the pedagogical component of TPSE influenced both the social component of TATI [(β = 0.39, p <0.001; η^2 (Eta squared) = 0.21 (large effect size)] and the achievement component of TATI [(β = 0.29, p <0.01; η^2 (Eta squared) = 0.37 (large effect size)]. The influence of the pedagogical component of TPSE on the social component of TATI explains 21% of the variance and 37% of the observed variance in the achievement component of TATI, thus fully supporting hypothesis H7.

Discussion

The main purpose of this study was to investigate the relationship between teachers' perception of their self-efficacy (TPSE) and their attitudes towards inclusion (TATI). Based on previous definitions of the concepts of teachers' self-efficacy [28] and attitudes towards inclusion [19], this study designed and tested a theoretical model that included seven hypotheses, most of them exploratory.

A re-examination of the concept of TPSE showed that that the teachers base their sense of professional self-efficacy on their perceived performance of tasks related to pedagogy (classes and students), on the one hand, and tasks related to the school as an organization, on the other hand. As educators, they feel professional self-efficacy means that it is extremely important to be an interesting and motivating teacher, and adjust the level of difficulty of their teaching to suit the students, to help them understand and learn. They also believe that it means that teaching has an impact on the morals and values of their students. Furthermore, the ability to have a real influence on major school decisions bolsters their sense of self-efficacy.

This study also examined teachers' attitudes towards inclusion. Although, as mentioned in the theoretical background, several studies have examined this issue, very few of these studies were conducted in the country were the research was conducted. This examination showed that TATI encompasses attitudes towards social inclusion and attitudes towards school achievements. The attitudinal prism ranges from believing that inclusion students have normal social interactions with their schoolmates to believing that inclusion students can be high achievers. In fact, it shows that the educational system in in the country were the research was conducted has reached a mature phase and there is no longer any need to maintain the conceptual category of inclusion students. This is a crucial and most important thought, since it was shown that the change of attitudes and the enhancement of openness of educators is a major condition for the successes of inclusion [8].

The theoretical model explored the relationship between TPSE and TATI. After testing that model and based on the findings, the model in Figure 3 is suggested as The Prediction of Teacher Attitudes Towards Inclusion Model (the TATI model). This study's most interesting finding, which had not been tested previously in the country were the research was conducted, was that TPSE could predict TATI. Although only the pedagogy component of the TPSE predicted (both the social and achievement components of) TATI, this finding merits our attention.
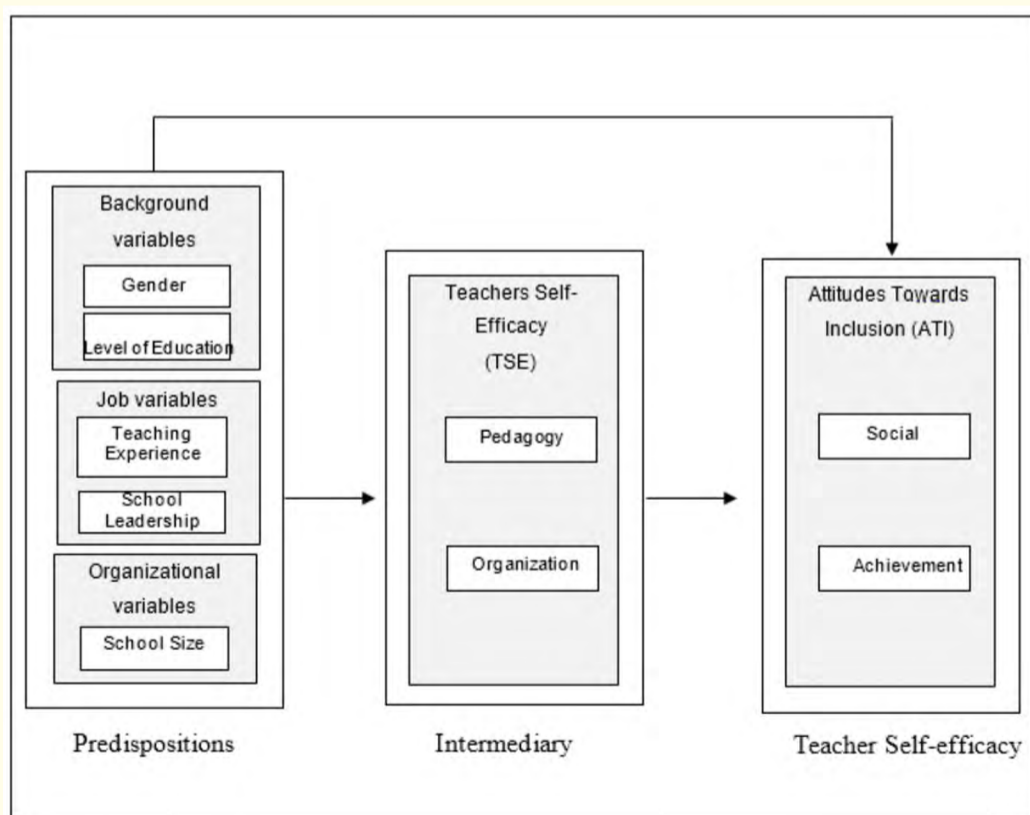

Figure 3: The Prediction of Teacher Attitudes toward Inclusion Model (the TATI model).

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Teachers with higher levels of PSE believe that inclusion students are not exceptional and are an integral part of the class. They believe that inclusion students benefit from such settings, compared to students in segregated and withdrawal settings [8]. It is most interesting that there is no actual difference between the PSE and the TATI of special-education teachers and that of mainstream teachers. As noted, the literature has recently reported [38,39] that experience working in an inclusive educational framework is significantly and positively related to attitudes towards including pupils with disabilities in mainstream education, and that teachers with low self- efficacy faced more problems with the implementation of inclusive education. However, in the country were the research was conducted we found different results, which may lead us to assume that in the country were the research was conducted, mainstream teachers have indeed accepted and acknowledged the importance of inclusion. Perhaps in the country were the research was conducted, society as a whole has become more tolerant of the needs of children and grownups with special needs (Shmueli, 2003).

Background variables, job variables, and organizational variables predicted both TPSE and TATI (as shown in Figure 2). Yet it is important to emphasize a few of these predictions. Teachers' levels of education influence both TPSE and the social component of TATI. The influence of the level of education could be explained by assuming that colleges and universities are giving more attention and have more knowledge about addressing and dealing with the issues of inclusion. Although it is still not mandatory for teachers in in the country were the research was conducted to have a Master's degree, in 2014, 33% of the teachers held either an M.A. or an M.Ed. degree (Statistical Abstract of in the country were the research was conducted, 2014). It is reasonable to assume that acquiring more knowledge and a deeper understanding influences the confidence of these teachers and therefore they feel more capable and tolerant towards inclusion.

In this study, teaching experience did not predict TPSE. The same results were found in another study (Tschannen-Moran & Johnson, 2011). Yet, teaching experience did predict the social component of TATI, such that teachers with less experience showed more positive attitudes towards inclusion than did their counterparts. Could it be that less experienced teachers are less biased? Do teachers with "fresh" ideas tolerate inclusion more than do "burnt out" teachers? Even though such findings have not been reported in other studies, similar ideas were reported regarding the relationship between teaching experience and attitudes towards other school issues, such as parental involvement (Brouwers & Tomic, 2000; Skaalvik & Skaalvik, 2010). As expected, it was found that teachers who were part of the management team demonstrated higher TPSE levels in both components; thus, the TPSE had no effect on TATI. As regards organizational variables in this study, the only one that predicted TPSE was school size and only in the pedagogical component of TPSE. No effect was shown on TATI.

In conclusion, we can learn that the teacher who shows positive attitudes towards social inclusion is one who has high levels of TPSE, is well educated, but has less work experience. The teacher who shows positive attitudes towards the achievement component of TATI is --inevitably-- a teacher with high levels of pedagogical self-efficacy. To ensure that teacher trainees develop positive attitudes towards inclusion, the educational and academic systems will have to develop teacher training programs that do not distinguish between inclusion teachers and mainstream teachers, because it has been proven that both inclusion teachers and mainstream teachers hold the same beliefs and attitudes towards inclusion. Both groups also have the same perception of self-efficacy.

This study highlights the need to address the subject of inclusion in courses offered in teacher education colleges, as well as in professional development programs. Keeping this in mind, it is very important to lead both pre-service and in-service teachers to a deeper understanding of their crucial role in forming the future generation. More specifically, for future generations, the concept of inclusion can no longer mean placing failing students and low achievers who have learning disabilities in the mainstream; rather, it means receiving students who have the ability to integrate into the society and leading them forward. Only once this concept has been inculcated will we be able to have one coherent educational system, without segregation, without labelling, and without stigmas. We still have a long way to go, but it takes only a few true believers to start a process of change.

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Limitations

The study was conducted only in elementary schools. The results need to be replicated with larger samples and in other districts. Therefore the conclusions in this study are partial. Another limitation is that both the TPSE and TATI were tested only in the country were the research was conducted and not in other environments. Although it may be assumed that the components of both scales are pertinent and crucial to all teachers regardless of location or background, the scales need to be tested in different cultures.

Further Studies

To summarize, although this study is a modest first step in the examination of factors related to teachers' perceptions of self-efficacy, the current research findings are encouraging. Given that the TATI model is explained by 58% of the TPSE, a challenge for future research is to identify more characteristics that might affect TATI, so we may have a better understanding of teachers' attitudes towards the inclusion phenomenon.

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