

Original scientific paper

UDC:

376.1-056.26/.36-053.4(497.11)

373.2.011.3-051(497.11)

Received: September 01, 2024.

Revised: December 15, 2024.

Accepted: December 17, 2024.

 [10.23947/2334-8496-2024-12-3-621-632](https://doi.org/10.23947/2334-8496-2024-12-3-621-632)



# Beliefs and Experiences of Serbian Preschool Educators on Inclusive Education

Bojana Dimitrijević<sup>1</sup> , Jelena Starčević<sup>1\*</sup> 

<sup>1</sup>Faculty of Education, University of Kragujevac, Jagodina, Serbia  
e-mail: [bojana.dimitrijevic@pefja.kg.ac.rs](mailto:bojana.dimitrijevic@pefja.kg.ac.rs); [jelena.starcevic@pefja.kg.ac.rs](mailto:jelena.starcevic@pefja.kg.ac.rs)

**Abstract:** The purpose of this study is to examine a range of preschool educators' experiences and beliefs regarding inclusive education in public preschool institutions in Serbia. The research aimed to: a) determine the relationship between educators' self-assessed experience and competence, the availability of support systems, educators' beliefs about the parents of children with developmental difficulties, and their beliefs about inclusion; b) identify significant predictors of the educators' beliefs about the benefits of inclusion; c) explore whether nurses and preschool teachers differ in their experiences and beliefs. The sample consisted of 201 preschool educators: 145 preschool teachers and 56 nurses working with younger children. Principal Component Analysis with Oblimin rotation was employed, along with parallel analysis, which pointed to a four-factor structure: Teaching Experience and Competence, Availability of Expert Support, Negative Beliefs about Parents, and Inclusion Benefits. The results indicate that preschool educators report mildly positive experiences and beliefs about inclusive education, but they also hold a negative view of the parents of children with developmental difficulties. Negative beliefs about parents show the strongest (negative) correlation with beliefs in the benefits of inclusion and are the best predictor in the regression model, followed by self-assessed experience and competence and the participants' occupation (i.e., nurse or preschool teacher). Preschool teachers report that they have more experience and competence in working with children with developmental difficulties than nurses do, while other differences were not significant. The implications of the obtained results are discussed.

**Keywords:** *inclusive education; children with developmental difficulties; preschool teachers; nurses specialized in early education and child care; preschool educators' beliefs and attitudes; parents of children with developmental difficulties.*

## Introduction

Inclusive education in Serbia was first introduced with the *Law on the Fundamentals of the Education System (2009)*, and this orientation has been retained in the current law (2023). This law stipulates that students and children who need additional support for any reason have the right to be educated in regular schools and preschools, with access to individualized instruction and individual education plans. Educational stance towards inclusive approach and democratic values is also reflected in the *Law on Preschool Education (2010)* and in the recent *Rulebook on the Fundamentals of Preschool Education and Care Programs (2018)*. However, the laws also include the possibility of education in special education schools and their preschool equivalents in the Serbian context-developmental groups within preschool institutions.

Early inclusion is considered significant because it increases the likelihood that children with developmental delays and disabilities will be better prepared for school, face real-life circumstances, and be more readily accepted by peers exposed to diversity early on (Buisse and Bailey, 1993; Odom et al., 2011). The social and behavioural effects of inclusion in regular preschool education lead to positive outcomes, such as increased verbalization, improved peer interactions, and greater social participation (Buisse and Bailey, 1993; Odom et al., 2004; Kwon et al., 2011). Additionally, children who are included

\*Corresponding author: [jelena.starcevic@pefja.kg.ac.rs](mailto:jelena.starcevic@pefja.kg.ac.rs)



in regular preschool settings have been observed to exhibit less object-directed behaviour, more peer-directed behaviour, use toys more appropriately, and require less teacher attention (Buysse and Bailey, 1993).

According to the findings of the *National Report on Inclusive Education in the Republic of Serbia for 2019-2021* (UNICEF, 2022), typically less than 30% of all children under three years old and up to 66% of all children between the ages of three and five and a half years attended preschool. The highest enrolment was in the mandatory preparatory preschool program, with up to 98% of six-year-old children participating. However, it is noted that the enrolment of children with developmental delays and disabilities, Roma children, and children from families with low socioeconomic status is even lower in comparison to their typical peers, placing these children at greater risk of discrimination (UNICEF, 2022). During the monitored period, the number of children in regular groups exceeded the number of children in developmental groups (ibid.), indicating that most children with developmental delays and disabilities who do enrol in preschool attend regular groups with typical peers and are educated by preschool teachers. This could possibly be partially assigned to the lack of developmental groups in some of the preschool institutions that are inclined to the idea of inclusive education.

This study examines a range of preschool educators' experiences and beliefs regarding inclusive education in public preschool institutions in Serbia: a) amount of experience they have in working with children with developmental difficulties, b) self-assessed competencies and knowledge for working with these children, c) availability of support from other experts, d) beliefs about parents of children with developmental difficulties and cooperation with these parents, and e) beliefs about benefits of inclusion. Of particular interest are the potential predictors of beliefs about the benefits of inclusive education. We will examine some predictors that have already been explored in the literature, as well as some that appear to be new, such as the specific occupation of preschool educators – whether they are nurses specialized in early education and child care, or preschool teachers working with older children. Given the lowest enrolment rate in preschool groups for the youngest children, from six months to three years of age (UNICEF, 2022), and considering the importance of optimal child care and early intervention especially during infancy and toddlerhood (Berk, 2017), we will further explore whether nurses differ in experiences and beliefs from preschool teachers\*.

### *Beliefs of Preschool Educators Towards Inclusion*

Various authors suggest that teachers' professional beliefs and attitudes are predominantly implicit, stable, and rooted in personal experience (Kagan, 1992; Kane et al., 2002). However, they are also influenced by prevailing societal stereotypes (e.g., Dimitrijević et al., 2017; Zachos, 2017). These beliefs are thought to contribute to the selection, interpretation, and evaluation of relevant information, thereby guiding teachers' actions (Fives and Buehl, 2012; Pajares, 1992; Richardson, 1996). It is therefore considered important to explore teachers' beliefs and attitudes, especially about vulnerable groups of students.

There are limited data about relationships between teachers' attitudes and beliefs about inclusion and their potential or actual behaviour. Some research results indicate that teachers' positive attitudes were strongly and positively associated with observed application of inclusive education practices (Sharma and Sokal, 2016), predicted teachers' declared readiness to include children with severe socio-emotional and behavioural problems (MacFarlane and Woolfson, 2013), and that student-teacher interaction as well as quality of teaching strategies and instruction were dependent of teachers' attitudes towards inclusion (Jordan et al., 1997).

The results of research on samples of in-service preschool educators (Bruns and Mogharreban, 2007; Chiner and Cardona, 2013; Dias and Cadime, 2016; Lee et al., 2015; Scanlon et al., 2022; Stančić and Stanisavljević Petrović, 2013; Štemberger and Kiswarday, 2018), preservice early education teachers (Yu and Cho, 2022), as well as numerous research studies and reviews of research on samples of primary and secondary school teachers (Avramidis et al., 2000; Avramidis and Kalyva, 2007; Avramidis and Norwich, 2002; Bowman, 1986; Đević, 2009; Forlin, 1995; Ward et al., 1994) indicate that attitudes toward inclusion generally range from neutral to positive. There are, however, factors that influence teachers' and preschool educators' beliefs and attitudes, such as the perceived severity of the difficulties (Avramidis et al., 2000; Avramidis and Kalyva, 2007; Avramidis and Norwich, 2002; Bowman, 1986; Chiner and Cardona, 2013;

---

\* For the purposes of this paper, we use the term 'preschool educators' to refer collectively to nurses and preschool teachers.

Đević, 2009; Forlin, 1995; Ward et al., 1994), or the specific developmental domain in which the difficulties are most prominent. Intellectual or behavioural difficulties, for example, are often perceived as less appropriate for inclusion in regular classes (Avramidis and Norwich, 2002; Đević, 2009; Karić et al., 2014).

Results on preschool educator samples indicate that on average all three components of attitudes (cognitive, affective, and behavioural) are generally positive, suggesting good understanding of inclusion principles, a high readiness to adapt their work with children needing additional support, and a low level of discomfort working with these children (Štemberger and Kiswarday, 2018), or in some studies that behavioural aspects of attitudes are more positive in comparison to other components (Dias and Cadime, 2016; Scanlon et al., 2022). However, it was also found that while preschool educators have predominantly positive attitudes toward including children needing additional support in regular groups and assess their competence for inclusive education as high, they feel less competent regarding specific knowledge and skills, such as alternative communication techniques or characteristics of children with motor development disabilities (Bruns and Mogharreban, 2007).

In Serbia, a study found that 57.8% of preschool educators expressed a positive attitude toward inclusion in general, yet 60% were unwilling to accept a child with disabilities into their own preschool group (Stančić and Stanisavljević Petrović, 2013). This indicates that while educators support the concept of inclusion, they may not be fully willing to implement it in their own classrooms. The study also noted that respondents generally agree that social inclusion is a benefit of inclusive education (68.9%), but only 30.4% respondents believe it will significantly contribute to the development of the potentials of children needing additional support (Stančić and Stanisavljević Petrović, 2013).

#### *Professional experience with diversity as a predictor of attitudes towards inclusion*

In studies involving primary school teachers, having experience with students with developmental difficulties, engaging in inclusive education, or participating in projects promoting inclusivity have been linked to more positive attitudes towards these students (Avramidis et al., 2000; Avramidis and Kalyva, 2007; Karić et al., 2014; Đević, 2009). However, empirical findings regarding the relation between professional experience and attitudes towards inclusion are not unambiguous. For example, some research indicate that teachers who have had positive personal experiences demonstrating more positive attitudes (Rajović and Jovanović, 2010), while professional experience did not influence their beliefs (Rajović and Jovanović, 2010; Starčević et al., 2018). In Scottish research experience in teaching students with severe socio-emotional and behavioural difficulties predicted lower willingness to include these children into regular classes (MacFarlane and Woolfson, 2013).

Research studies on samples of preschool educators indicate similar inconsistencies regarding the influence of experience. In several studies professional experience was related to more positive attitudes and beliefs (Galović et al., 2014; Scanlon et al., 2022; Stančić and Stanisavljević Petrović, 2013). Specifically, educators who believed they had “some” or “a lot of experience” with inclusion held more positive behavioural readiness (i.e., were more willing to adapt their behaviour to facilitate inclusion) than those who stated that they had “no experience” or “little experience” (Scanlon et al., 2022). In research conducted in Serbia (Stančić and Stanisavljević Petrović, 2013), educators with prior experience working with children needing additional support statistically more often believe that including these children in regular groups contributes to the development of humanity and empathy in other children. However, when assessing the benefits of inclusion for the well-being of children requiring additional support, there are no statistically significant differences between experienced and inexperienced educators (ibid.). Galović and colleagues (2014) found a non-linear relationship between amount of experience and attitudes: educators with less than one year of experience in an inclusive context had more positive expectations than those with no experience, but no significant differences were observed compared to more experienced educators. Furthermore, study in Hong Kong showed that self-assessed professional experience with developmental difficulties in children did not predicted acceptance of children into regular preschool classes (Lee et al., 2015), while a Portuguese study found that experience working with children with developmental disabilities was a negative predictor of the behavioural component of preschool teachers' attitudes (Dias and Cadime, 2016).

Such discrepancies between the results of studies suggest that certain variables may modify the relationship between professional experience and attitudes. The quality of experience is, unsurprisingly, one such variable: those who rated their experience as extremely positive had more favourable attitudes

towards inclusion and more positive expectations compared to those who rated their experience as negative (Galović et al., 2014).

### *Self-assessed competences and knowledge as a predictor of attitudes towards inclusion*

The perception among teachers that they are incompetent and inadequately trained to work with students with developmental difficulties has been recognized as a barrier to the implementation of inclusive education both by the experts in this field (Macura-Milovanović et al., 2009), as well as by the teachers themselves (Avramidis and Kalyva, 2007). In a number of studies a variable of teachers' self-efficacy (how competent they perceive themselves to be) was a significant predictor of or correlated with their attitudes towards inclusion (Avramidis et al., 2000; Desombre et al., 2019; Saloviita, 2020; Savolainen et al., 2020; Starčević et al., 2018), although in some of the studies teachers' self-efficacy had only weak association with attitudes (Saloviita, 2020).

In research on samples of preschool educators, results were not unequivocal regarding whether self-assessed knowledge, skills, or self-efficacy are connected to their beliefs and attitudes. In a study by Slovenian authors, preschool educators and teachers who had attended training for working with children needing additional support generally had more positive beliefs about this group of children compared to those who had not (Štemberger and Kiswarday, 2018). In research conducted in Hong Kong on a sample of preschool educators, authors analysed whether knowledge, self-efficacy, and the prevalence of various government initiatives were predictors of acceptance of children with difficulties and resistance to inclusive education. The only significant predictor was self-efficacy (Lai-Mui-Lee et al., 2014).

On the other hand, some reports indicate that self-assessed knowledge, skills, and self-efficacy were not related to attitudes and beliefs of preschool educators. In a Spanish study with preschool educators and teachers in primary and secondary schools, self-assessed skills and knowledge did not influence attitudes towards inclusion (Chiner and Cardona, 2013). In already mentioned study in Hong Kong (Lee et al., 2015) self-accessed knowledge did not predicted acceptance of children into regular preschool classes. In a study with somewhat different research design, there were no significant differences among groups of preschool educators and teachers at all educational levels (including secondary school) that rated themselves as having no training, little training, or moderate to extensive training, concerning their perception of inclusion, inclusive practices, and outcomes of inclusion (Galović et al., 2014).

### *Availability of support as a predictor of attitudes towards inclusion*

Although teachers tend to hold positive attitudes towards inclusion they also express the need for support from other experts, additional training, more time and less students in their classes (Avramidis et al., 2000). Research results on samples of preschool educators indicate similar tendencies (Chiner and Cardona, 2013; Odom et al., 2011; Stančić and Stanisavljević Petrović, 2013). In the study by Stančić and Stanisavljević Petrović (2013), preschool educators ranked support from professionals in other fields (psychologists, pedagogues, special education teachers) as the second most frequent form of assistance needed for implementing preschool inclusion (61.5%), right after reducing the number of children in the group. Odom and colleagues (2011) highlight that professional collaboration among all actors is one of the characteristics of high-quality inclusive preschool education and may be more significant factor influencing the effects of early inclusion than the characteristics and difficulties of children. Those educators who are willing to personally engage in inclusive preschool education consider the availability of support from other professionals to be more significant than those who are not willing to engage personally (Staničić and Stanisavljević Petrović, 2013).

The availability of support within the schools where they work has been shown to be a significant predictor of attitudes of teachers towards inclusion (Avramidis and Norwich, 2002). In a study by Spanish authors, which included preschool educators and primary and secondary school teachers, the perceived availability of support from special educators (but not from school psychologists) influenced attitudes towards inclusion: Educators who felt they had sufficient support had more positive attitudes toward inclusion compared to those who were uncertain or felt they did not receive enough support (Chiner and Cardona, 2013).

### *Teachers' perceptions of parents and collaboration with parents as predictors of beliefs towards inclusion*

To our knowledge, no studies have yet examined the relationship between teachers' beliefs about the parents of children with developmental difficulties and their attitudes or beliefs about the inclusion of these children in preschool classes. Still, this is an important question that should be examined. It is known that parents of children with developmental difficulties are often perceived by teachers and preschool educators as denying the existence of their child's difficulties, which, according to teachers, complicates collaboration (Janjić et al., 2012). In research by Jeremić and colleagues (2022), preschool educators expressed beliefs that parents of children with developmental difficulties are rarely interested in improvement of their pedagogical competencies, are lacking interest in their children's participation in preschool activities, and are less interested in participation in preschool activities as spectators or participants. This is an even more undesirable when considering that 50.4% of educators view collaboration as a key factor for successful inclusion, following the belief that peer acceptance and educator expertise are significant factors (Stančić and Stanisavljević Petrović, 2013). Additionally, educators who view inclusion as an appropriate framework for preschool education support the belief that collaboration with parents is a key factor for the success of inclusion more strongly compared to those who do not support inclusion. Finally, 47.3% of educators believe that improving collaboration with parents is a necessary change for improving inclusive education and teaching (ibid.). In line with this, Vasiljević-Prodanović and colleagues (2023) found that preschool teachers perceive cooperation with parents of typical children as more successful than cooperation with parents of children with developmental difficulties regarding three aspects: school-based involvement, home-based involvement, and school-home conferencing. In contrast, a minority of studies, including one by Turkish authors, have found no differences in the perception of cooperation with parents of children with disabilities compared to parents of typically developing children (Sucuoğlu and Bakkaloğlu, 2016).

### *Teaching position and grade level as predictors of attitudes towards inclusion*

Current research results, both in Serbia and elsewhere, do not provide insights into how different groups of preschool educators, such as nurses and preschool teachers, perceive early inclusion in mainstream groups. However, differences between other teaching positions have been subjected to empirical investigations. Research results indicate that the teaching position (class teachers or subject teachers, special or regular education), as well as the age of the children teachers work with and the grade level at which they teach (preschool, primary, or secondary education) are related to attitudes towards inclusion. Typically, educators that work with younger students at lower levels of education, had more positive attitudes towards inclusion (Chiner and Cardona, 2013; Garriott et al., 2003; Štemberger and Kiswarday, 2018), although there are studies that suggest otherwise (Gaines and Barnes, 2017). Specifically, some studies have found that preschool teachers have more positive attitudes towards inclusion compared to secondary school teachers, though no statistically significant differences were found when compared to primary school teachers (Chiner and Cardona, 2013). Preschool teachers perceive they have more time compared to secondary school teachers to teach all their students, while both preschool and secondary school teachers believe they have more material resources than primary school teachers (ibid.). A study by Slovenian authors found that preschool teachers show more positive beliefs about inclusion compared to primary school teachers, particularly in the cognitive dimension of attitudes, though no differences were observed in the affective and behavioural components (Štemberger and Kiswarday, 2018). The most positive attitudes in this study were found among preschool teachers with no experience working with children needing additional support who had received training in inclusive education (ibid.). However, in the study by Gaines and Barnes (2017), kindergarten and elementary school teachers, considered as a single group, exhibited more negative attitudes compared to secondary school teachers.

In research conducted in Serbia, differences among preschool teachers and other teacher groups were also noted. Specifically, concerning core beliefs and expected outcomes of inclusion, preschool teachers have less negative attitudes than secondary school teachers and more positive expectations of inclusion compared to primary school teachers (Galović et al., 2014).

### *The Present Study*

This paper deals with the preschool educators' experiences and beliefs regarding inclusive education within public preschool institutions in Serbia. The research aimed to: a) determine the relationship between educators' self-assessed experience and competence in working with children with developmental difficulties, the availability of support system (i.e., other experts' support), educators' beliefs about the parents of children with developmental difficulties, and their beliefs about the inclusion, i.e., whether inclusion provides benefits for the children with developmental difficulties; b) identify significant predictors of the educators' beliefs about benefits of inclusion; c) explore whether nurses and preschool teachers differ in their experiences and beliefs regarding inclusion.

## **Materials and Methods**

### *Participants and Procedure*

This study was conducted on a convenience sample of 201 preschool educators at a time employed in public preschool institutions in Serbia: 145 preschool teachers (72.1%) working with children aged three to seven years and 56 nurses (27.9%) working with younger children. One hundred ninety-nine participants (99%) identified as female, one as male, and one participant chose not to respond. The average teaching experience of 15 years ( $M = 15.26$ ,  $SD = 9.78$ ) indicate that our sample, on average, have been working as long as the inclusive education have been developing in Serbia. Almost 90 percent of nurses, and none of the preschool teachers, have a secondary vocational education in nursing and early education. Only 10.7 percent of nurses hold a higher education degree, whereas all preschool teachers, as it is formally expected, have either a bachelor's or master's degree.

The questionnaire regarding inclusion of children with developmental difficulties was distributed electronically at the beginning of 2024. Participants were informed about the research through their professional association. Additionally, potential participants were notified via emails sent to the management of preschool institutions across various regions of Serbia. All participants were informed about the purpose of the study and were assured of anonymity upon consenting to participate.

### *Instrument*

A questionnaire exploring different aspects of the experiences and beliefs of preschool educators regarding the early inclusion of children with seven types of difficulties (cognitive/intellectual domain, speech development and communication, fine motor skills, gross motor skills, perception and senses development, emotional development, and social development and interpersonal relations) was created for the purpose of this research. The questionnaire comprises 35 items with responses given on a 5-point Likert scale. The experience, competence, availability of expert support as well as perception of benefits of inclusion were explored via single item applied to seven domains of developmental difficulties: "How much experience do you have in working with children who have difficulties in the following developmental domain", "How much knowledge and skills do you have in working with children who have difficulties in the following developmental domain", "To what extent is the support from other experts – from your institution as well as external experts, available for you when it comes to working with children who have difficulties in the following developmental domain" and "Children who experience developmental difficulties in following domain benefit greatly from attending mainstream preschool education classes". Beliefs about parents and cooperation with them were explored via seven heterogeneous items (e.g. "Parents of children with difficulties do not want to acknowledge that their child has a problem").

Principal Component Analysis with Oblimin rotation was employed along with parallel analysis. Both pointed to the four-factor structure that explained total of 78.05% of data variance. Each of the items loads strongly on only one factor, and each factor is represented by a number of strongly loading items (with values between .98 and .68). The items concerning experience in teaching children with developmental difficulties were combined into one factor with the items concerning competence in teaching these children. Moderate to high intercorrelations between items from these two sets of data were established, in the range of  $.55 \leq r \leq .74$ . In the final, the four scales out of whole questionnaire were discerned and

labelled as Teaching Experience and Competence (14 items), Availability of Expert Support (seven items), Negative Beliefs about Parents (seven items) and Inclusion Benefits (seven items).

### Data Analysis

SPSS 20.0 was used for data analysis.

## Results

### I Descriptive Statistics

Descriptive statistics for the four scales are presented in the Table 1. The range of achieved scores matches the theoretical range of scales' scores (from one to five). Kolmogorov-Smirnov tests indicate that the distributions of scales' scores deviate from the normal curve. Still, both skew and kurtosis values in all cases were lower than 1.0, i.e., within the acceptable range (George and Mallery, 2020). All mean scores are above the theoretical mean, the highest is on the scale Negative Beliefs about Parents and the lowest is on the scale Availability of Expert Support. An inspection of the distribution of scores on Inclusion Benefits revealed that 55.1% of preschool educators have an average score above 3 on items expressing benefits for children with developmental difficulties, indicating a positive view on the scale.

**Table 1.** Descriptive statistics for four scales

Scales	N	M (SD)	Range	Skew	Ku	K-S
Teaching Experience and Competence	200	3.45 (0.84)	1-5	-.78	.48	.14**
Availability of Expert Support	201	3.13 (1.06)	1-5	-.20	-.68	.17**
Negative Beliefs about Parents	201	3.68 (0.84)	1-5	-.68	.82	.07*
Inclusion Benefits	198	3.55 (0.99)	1-5	-.32	-.25	.16**

Note. K-S – Kolmogorov-Smirnov test; \*\* $p < .001$ , \* $p < .05$

### II Internal Consistency and Correlations of Measures

In Table 2, bivariate correlations of the four scales are presented. The Cronbach's alpha coefficients of the scales are appearing in parentheses along the diagonal of the table. Internal consistencies for the scales with one item applied to different domains of developmental difficulties are very high, while the internal consistency of the Negative Beliefs about Parents is good, considerably surpassing .80 (George and Mallery, 2020).

**Table 2.** Scale reliabilities and inter-correlations

Scales	TEC	AES	NBP	IB
Teaching Experience and Competence (TEC)	(.97)			
Availability of Expert Support (AES)	.10	(.99)		
Negative Beliefs about Parents (NBP)	-.03	-.24**	(.87)	
Inclusion Benefits (IB)	.26**	.14	-.35**	(.98)

\*\*  $p < .01$

Perception of inclusion as being beneficial for children with difficulties is moderately and negatively correlated with negative beliefs about parents of children with (unspecified) difficulties as well as positively correlated with (self-assessed) experience and competence in working with children with difficulties. Besides, a significant correlation is observed between negative beliefs about parents and the availability of support from other experts (with a negative sign).

### III Predictors of the beliefs about inclusion benefits: Regression analysis

To identify significant predictors of the beliefs about benefits of inclusion of children with developmental difficulties in mainstream preschool classes, a standard multiple regression analysis was em-

ployed. Two scales/variables that significantly correlated with the Inclusion Benefits scale, as well as the participants' occupation, were entered into the regression equation. Initial analyses were performed to confirm that the assumptions of normality, linearity, multicollinearity, and homoscedasticity were not violated. The main findings are presented in Table 3. The model explains 21.5% of the variance in beliefs about benefits of inclusion, with the occupation uniquely explaining 3.2%, Teaching Experience and Competence uniquely explaining 8.5%, and Negative Beliefs about Parents uniquely explaining 12.0% of the variance. Adjusted R square, as an estimate of the true population value, points to the similar amount of explained variance, i.e., 20.3%.

**Table 3.** Regression analysis summary for predicting beliefs about inclusion benefits

Variables	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
Occupation	-2.92	1.04	-.19	-2.80	.006
Teaching Experience and Competence	.18	.04	.31	4.58	.000
Negative Beliefs about Parents	-.41	.08	-.35	-5.42	.000

#### *IV Differences among subsamples with different occupation*

In order to discover whether participants with different occupation – nurses with specialization in early education and preschool teachers – differ in respect to experience and competence, availability of support system, as well as their beliefs about the parents of children with difficulties, and beliefs about benefits of inclusion, t-tests for independent samples were conducted. The results have shown that there are statistically significant differences between participants from different subcategories only regarding the teaching experience and competence, with medium effect size (see Cohen, 1988). Preschool teachers perceive themselves as more experienced and competent in working with children with developmental difficulties in comparison to nurses. Although nurses have slightly more positive beliefs in inclusion benefits ( $M=25.70$ ) than the preschool teachers do ( $M=24.54$ ), the difference does not reach the level of significance. The differences are even smaller when it comes to availability of expert support and negative beliefs about parents.

**Table 4.** Differences between nurses and preschool teachers

Scales	$n_1$	Nurses		$n_2$	Preschool teachers		<i>t</i> ( <i>df</i> )	<i>p</i>	<i>d</i>
		$M_1^*$	$SD_1$		$M_2^*$	$SD_2$			
TEC	55	41.91	13.48	145	50.77	10.18	-4.42 (78.471)	.000	0.74
AES	56	22.23	6.68	145	21.76	7.68	.41 (199)	.685	0.06
NBP	56	26.04	6.20	145	25.65	5.79	.42 (199)	.677	0.06
IB	56	25.70	7.81	142	24.54	6.53	.98 (86.902)	.330	0.16

Note. TEC – Teaching Experience and Competence; AES – Availability of Expert Support; NBP – Negative Beliefs about Parents; IB – Inclusion Benefits; \* Mean of the composite score which resulted from summing the values of items.

## Discussions

Fifteen years after the first law introduced inclusive education in Serbia, this study explores preschool educators' experiences and beliefs regarding inclusion in public preschool institutions. The study specifically addresses the predictors of beliefs about the benefits of inclusive education. The differences between the two groups of preschool educators – nurses with a specialization in early education and child care, and preschool teachers – were also examined.

Although experience and competence are usually considered as distinct variables in empirical research, the principal component analysis of the questionnaire data in this study suggest that these two variables can be integrated. Items concerning experience and items concerning competence were relatively highly correlated with each other, and in the process of extracting the main components, they were linked to one and the same component.

Descriptive statistics of main study variables revealed that preschool educators report mildly positive experiences and beliefs about inclusive education, as results of previous research on preschool educators samples mostly report (e.g. Bruns and Mogharreban, 2007; Chiner and Cardona, 2013; Dias and Cadime, 2016; Lee et al., 2015; Scanlon et al., 2022; Stančić and Stanisavljević Petrović, 2013; Štemberger and Kiswarday, 2018), but they also hold a negative view of the parents of children with developmental difficulties which is also in line with results of some research (Jeremić and colleagues (2022)). The percentage of educators expressing positive attitudes towards inclusive education (specifically, towards benefits of inclusion for children with the need for additional support) is slightly lower than the percentage determined 11 years ago (Stanić and Stanisavljević Petrović, 2013). The mean values for the Teaching Experience and Competence and Availability of Expert Support are on the positive side of the scale, but they remain relatively low, particularly concerning perception of availability of support from other experts. The very high internal consistency of the Availability of Expert Support scale indicates that insufficient support is reported for working with children across all domains of developmental difficulties (cognitive/intellectual domain, speech development and communication, fine motor skills, gross motor skills, perception and senses development, emotional development, and social development and interpersonal relations). Similarly, the teachers in research by Chiner and Cardona (2013) on average thought that support was insufficient and rated availability of supports even lower than participants in our research.

The correlations analyses indicate that preschool educators who tend to view parents negatively are more likely to believe that their children would not benefit from inclusion and that they, as teachers, receive less expert support. Beliefs in the benefits of inclusion are significantly connected to teaching experience and competence, contributing to the body of research that signals the same pattern in relation to experience (e.g., Galović et al., 2014; Scanlon et al., 2022; Stančić and Stanisavljević Petrović, 2013), as well as to studies that found significant connection between beliefs in inclusion benefits and self-assessed competence (e.g., Štemberger and Kiswarday, 2018; Lai-Mui-Lee et al., 2014).

This study revealed a new variable of significance for attitudes towards inclusive education: the (negative) perception of parents of children with developmental difficulties. Negative beliefs about parents show the strongest (negative) correlation with beliefs in the benefits of inclusion and are the best predictor in the regression model, explaining the highest percentage of variance in beliefs about inclusion benefits. This aligns with the finding that about half of educators consider collaboration with parents to be among the three most important factors for successful inclusion (Stanić and Stanisavljević Petrović, 2013). Given that the role of the perception of parents in relation to attitudes towards inclusive education has not been investigated, the results of this study highlight a somewhat neglected area in developing teachers' attitudes towards inclusive education. Improving cooperation with parents could involve the professional development of preschool staff, as well as fostering a supportive atmosphere and procedures within preschool institutions.

Following the perception of parents, the most important predictor of beliefs in inclusion benefits is self-assessed experience and competence in working with children with difficulties, a well-established factor in the literature (Galović et al., 2014; Scanlon et al., 2022; Stančić and Stanisavljević Petrović, 2013). Lastly, occupation of participants was also a significant predictor though it explains only the small percentage of the criterion variance but indicates that being a nurse is predictive of more positive beliefs about inclusion benefits for children with developmental difficulties.

Finally, this study aimed to examine whether nurses with specialization in early education and preschool teachers differ in their experiences and beliefs regarding inclusive education. As expected, given the enrolment rates at different levels of preschool education, preschool teachers more often report having experience and competence in working with children with developmental difficulties than nurses do. Regarding the other variables—availability of expert support, negative beliefs about parents, and beliefs in inclusion benefits—no significant differences were found.

The variable of particular interest was beliefs about the benefits of inclusion. It is known that those working with younger children and at lower educational levels generally hold more positive beliefs about inclusion compared to those working with older children (e.g. Chiner and Cardona, 2013; Garriott et al., 2003; Štemberger and Kiswarday, 2018). This may be attributed to the more holistic approach taken by lower-grade teachers, who focus more on the development of individual students rather than predominantly focusing on the subject matter (Avramidis and Norwich, 2002). However, research also indicates that educators who receive more training in the field of inclusive education and in addressing students'

needs for additional support tend to have more positive beliefs compared to those with less training (e.g. Scanlon et al., 2022). To become a nurse specialized in early education and child care, a completed secondary vocational medical school is required, while preschool teachers must obtain a higher education degree. It is possible that most participants with postsecondary degree have completed compulsory courses dealing with typical development as well as exceptional children development and education, and therefore feel more competent. These opposing influences—working with younger children at a lower educational level and having less formal education—may have contributed to the lack of statistically significant differences in beliefs about inclusion benefits between groups of nurses and preschool teachers.

Additionally, the insignificant differences in the (seemingly scarce) availability of expert support and the non-negligible presence of negative beliefs about parents suggest systemic shortcomings that affect both preschool teachers and nurses. Developing an effective support network of experts both within and outside institutions is recommended, but with caution to avoid further stigmatizing children with difficulties. The support network should aim to maximize these children's involvement in joint educational and social activities with their peers.

## Conclusions

The study on preschool educators' experiences and beliefs regarding inclusive education revealed predominantly neutral to mildly positive attitudes, which is a somewhat disappointing result considering the efforts made to develop inclusive education over the past 15 years in Serbia. At the same time, the study highlights areas for improvement to advance inclusive education. In addition to building experience and competence in working with children with developmental disabilities, support for preschool educators in inclusive practices must also focus on strengthening their cooperation with parents of these children (and likely with parents in general). Future initiatives should also consider more appropriate approaches to organizing a support network of experts to facilitate inclusive education while simultaneously avoiding the risks of stigmatization and exclusion. Apart from the greater opportunities that preschool teachers have had to develop experience and competence, both preschool teachers and nurses express similar professional needs and beliefs about inclusive education, indicating a need for systematic interventions.

## Acknowledgements

This research was funded by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia (Contract No. 451-03-65/2024-03/ 200140).

## Conflict of interests

The authors declare no conflict of interest.

## Author Contributions

Conceptualization B.D. and J.S.; methodology, B.D. and J.S.; software, J.S. and B.D.; formal analysis J.S. and B.D.; writing—original draft preparation, B.D. and J.S.; writing—review and editing J.S. and B.D. All authors have read and agreed to the published version of the manuscript.

## References

- Avramidis, E., Bayliss, P., & Burden, R. (2000). A survey into mainstream teachers' attitudes towards the inclusion of children with special educational needs in the ordinary school in one local education authority. *Educational Psychology*, 20(2), 191–211. <https://doi.org/10.1080/713663717>
- Avramidis, E., & Kalyva, E. (2007). The influence of teaching experience and professional development on Greek teachers' attitudes towards inclusion. *European Journal of Special Needs Education*, 22(4), 367–389. <https://doi.org/10.1080/08856250701649989>
- Avramidis, E., & Norwich, B. (2002). Teachers' attitudes towards integration/inclusion: A review of the literature. *European Journal of Special Needs Education*, 17(2), 129–147. <https://doi.org/10.1080/08856250210129056>
- Berk, L. E. (2017). *Development through the lifespan* (7<sup>th</sup> ed.). Pearson.

- Bowman, I. (1986). Teacher training and the integration of handicapped pupils: Some findings from a fourteen nation UNESCO study. *European Journal of Special Needs Education*, 1(1), 29–38. <https://doi.org/10.1080/0885625860010105>
- Bruns, D. A., & Mogharreban, C. C. (2007). The gap between beliefs and practices: Early childhood practitioners' perceptions about inclusion. *Journal of Research in Childhood Education*, 21(3), 229–241. <https://doi.org/10.1080/02568540709594591>
- Buysse, V., & Bailey, D. B. (1993). Behavioral and Developmental Outcomes in Young Children with Disabilities in Integrated and Segregated Settings: A Review of Comparative Studies. *The Journal of Special Education*, 26(4), 434–461. <https://doi.org/10.1177/002246699302600407>
- Chiner, E., & Cardona, M. C. (2013). Inclusive education in Spain: how do skills, resources, and supports affect regular education teachers' perceptions of inclusion?. *International Journal of Inclusive Education*, 17(5), 526–541. <https://doi.org/10.1080/13603116.2012.689864>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2<sup>nd</sup> ed.). Lawrence Erlbaum Associates, Publishers
- Desombre, C., Lamotte, M., & Jury, M. (2019). French teachers' general attitude toward inclusion: The indirect effect of teacher efficacy. *Educational Psychology*, 39(1), 38–50. <https://doi.org/10.1080/01443410.2018.1472219>
- Dimitrijević, B., Petrović, D., & Leutwyler, B. (2017). Implicitna uverenja nastavnika o učenicima romske i mađarske kulturne grupe. *Zbornik instituta za pedagoška istraživanja*, 49(1), 55–76. <https://doi.org/10.2298/ZIPI1701055D>
- Đević, R. (2009). Spremnost nastavnika osnovne škole da prihvate učenike sa teškoćama u razvoju. *Zbornik Instituta za pedagoška istraživanja*, 41(2), 367–382. <https://doi.org/10.2298/ZIPI0902367D>
- Dias, P. C., & Cadime, I. (2016). Effects of personal and professional factors on teachers' attitudes towards inclusion in preschool. *European Journal of Special Needs Education*, 31(1), 111–123. <https://doi.org/10.1080/08856257.2015.1108040>
- Fives, H., & Buehl, M. M. (2012). Spring cleaning for the “Messy” Construct of Teachers' Beliefs: What are they? Which have been examined? What can They Tell us? In K. R. Harris, S. Graham, & T. Urdan (Eds.), *APA Educational Psychology Handbook: Vol. 2. Individual Differences and Cultural and Contextual Factors*, (pp. 471–499). American Psychological Association
- Forlin, C. (1995). Educators' beliefs about inclusive practices in Western Australia. *British Journal of Special Education*, 22(4), 179–185. <https://doi.org/10.1111/j.1467-8578.1995.tb00932.x>
- Gaines, T., & Barnes, M. (2017). Perceptions and attitudes about inclusion: Findings across all grade levels and years of teaching experience. *Cogent Education*, 4(1), 1313561. <https://doi.org/10.1080/2331186X.2017.1313561>
- Galović, D., Brojčin, B., & Glumbić, N. (2014). The attitudes of teachers towards inclusive education in Vojvodina. *International Journal of Inclusive Education*, 18(12), 1262–1282. <https://doi.org/10.1080/13603116.2014.886307>
- Garriott, P. P., Miller, M., & Snyder, L. (2003). Preservice teachers' beliefs about inclusive education: What should teacher educators know? *Action in Teacher Education*, 25(1), 48–54. <https://doi.org/10.1080/01626620.2003.10463292>
- George, D., & Mallery, P. (2020). *IBM SPSS Statistics 26 Step by Step: A Simple Guide and Reference* (16<sup>th</sup> ed.). Routledge. <https://doi.org/10.4324/9780429056765>
- Janjić, B., Milojević, N., & Lazarević, S. (2012). *Priručnik za zaposlene u vrtićima i školama - primena i unapređenje inkluzivnog obrazovanja u Srbiji*. Udruženje studenata sa hendikepom
- Jeremić, B., Milenović, Ž., Petrović, J., & Markov, Z. (2022). Partnership of parents of children who need additional support in learning and preschool teachers in preschool institutions from the perspective of the integrated approach to learning. *International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE)*, 10(1), 29-34. <https://doi.org/10.23947/2334-8496-2022-10-1-29-34>
- Jordan, A., Lindsay, L. & Stanovich, P. J. (1997). Classroom teachers' instructional interactions with students who are exceptional, at risk, and typically achieving. *Remedial and Special Education*, 18(2), 82-93. <https://doi.org/10.1177/074193259701800202>
- Kagan, D. M. (1992). Implications of research on teacher belief. *Educational Psychologist*, 27(1), 65–90. [https://doi.org/10.1207/s15326985ep2701\\_6](https://doi.org/10.1207/s15326985ep2701_6)
- Kane, R., Sandretto S., & Heath, C. (2002). Telling half the story: a critical review of research on the teaching beliefs and practices of university academics. *Review of Educational Research*, 72(2), 177–228. <https://psycnet.apa.org/doi/10.3102/00346543072002177>
- Karić, T., Mihić, V., & Korda, M. (2014). Stavovi profesora razredne nastave o inkluzivnom obrazovanju dece sa smetnjama u razvoju. *Primenjena psihologija*, 7(4), 531–548. <https://doi.org/10.19090/pp.2014.4.531-548>
- Kwon, K. A., Elicker, J., & Kontos, S. (2011). Social IEP objectives, teacher talk, and peer interaction in inclusive and segregated preschool settings. *Early Childhood Education Journal*, 39, 267–277. <https://doi.org/10.1007/s10643-011-0469-6>
- Lai-Mui-Lee, F., Tracey, D., Barker, K., Fan, J., & Yeung, A. S. (2014). What predicts teachers' acceptance of students with special educational needs in kindergarten?. *Australian Journal of Educational and Developmental Psychology*, 14 (Special Issue), 60–70.
- Lee, F. L. M., Yeung, A. S., Tracey, D., & Barker, K. (2015). Inclusion of children with special needs in early childhood education: What teacher characteristics matter. *Topics in Early Childhood Special Education*, 35, 79–88. <https://doi.org/10.1177/02711214145666014>

- MacFarlane, K., & Woolfson, L. M. (2013). Teacher attitudes and behavior toward the inclusion of children with social, emotional and behavioral difficulties in mainstream schools: An application of the theory of planned behavior. *Teaching and Teacher Education*, 29, 46–52. <https://doi.org/10.1016/j.tate.2012.08.006>
- Macura-Milovanović, S., Gera, I., & Kovačević, M. (2010). Mapiranje politika i praksi za pripremu nastavnika za inkluzivno obrazovanje u kontekstu društvenih i kulturnih različitosti, Nacionalni izveštaj za Srbiju [Mapping Policies and Practices for Preparing Teachers for Inclusive Education in the Context of Social and Cultural Diversity, National Report for Serbia]. *Torino: European Training Foundation*.
- Nacionalni izveštaj o inkluzivnom obrazovanju u Republici Srbiji: Za period od 2019 do 2021. godine [National report on inclusive education in the Republic of Serbia: From 2019 to 2021]. Ministarstvo prosvete, Delegacija Evropske unije, UNICEF, 2022.
- Odom, S. L., Buysse, V., & Soukakou, E. (2011). Inclusion for young children with disabilities: A quarter century of research perspectives. *Journal of early intervention*, 33(4), 344-356. <https://doi.org/10.1177/1053815111430094>
- Odom, S. L., Vitzum, J., Wolery, R. A., Lieber, J., Sandall, S. R., Hanson, M., Beckman, P. J., Schwartz, I., & Horn, E. (2004). Preschool inclusion in the United States: A review of research from an ecological systems perspective. *Journal of Research in Special Educational Needs*, 4(1), 17–49. <https://doi.org/10.1111/J.1471-3802.2004.00016.x>
- Osnove programa predškolskog vaspitanja i obrazovanja [Rulebook on the Fundamentals of Preschool Education and Care Programs], *Sl. Glasnik RS – Prosvetni glasnik*, br. 16/2018.
- Pajares, F. M. (1992). Teachers' beliefs and educational research: cleaning up a messy construct. *Review of Educational Research*, 62(3), 307–332. <https://doi.org/10.3102/00346543062003307>
- Rajović, V., & Jovanović, O. (2010). Profesionalno i privatno iskustvo sa osobama s posebnim potrebama i stavovi nastavnika redovnih škola prema inkluziji [Professional and Personal Experience with Individuals with Special Needs and the Attitudes of Regular School Teachers Toward Inclusion]. *Psihološka istraživanja*, 13(1), 91–106.
- Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula (Ed.), *Handbook of Research on Teacher Education* (pp. 102–119). Macmillan.
- Saloviita, T. (2020). Attitudes of teachers towards inclusive education in Finland. *Scandinavian Journal of Educational Research*, 64(2), 270–282. <https://doi.org/10.1080/00313831.2018.1541819>
- Savolainen, H., Malinen, O. P., & Schwab, S. (2022). Teacher efficacy predicts teachers' attitudes towards inclusion—a longitudinal cross-lagged analysis. *International journal of inclusive education*, 26(9), 958–972. <https://doi.org/10.1080/13603116.2020.1752826>
- Scanlon, G., Radeva, S., Pitsia, V., Maguire, C., & Nikolaeva, S. (2022). Attitudes of teachers in Bulgarian kindergartens towards inclusive education. *Teaching and Teacher Education*, 112(3), 103650. <https://doi.org/10.1016/j.tate.2022.103650>
- Sharma, U., & Sokal, L. (2016). Can teachers' self-reported efficacy, concerns, and attitudes toward inclusion scores predict their actual inclusive classroom practices?. *Australasian Journal of Special Education*, 40(1), 21–38. <https://doi.org/10.1017/jse.2015.14>
- Stančić, M., & Stanisavljević Petrović, Z. S. (2013). Mišljenje vaspitača o koristima od inkluzije i načinima njenog ostvarivanja [Preschool Educators' Opinions on the Benefits of Inclusion and Ways to Achieve It]. *Specijalna edukacija i rehabilitacija*, 12(3), 353–369. <https://doi.org/10.5937/specedreh12-2719>
- Starčević, J., Macura, S., & Topalović, M. (2018). Utvrđivanje faktora koji su povezani sa stavovima učitelja prema radu sa učenicima sa smetnjama u razvoju [Identifying Factors Associated with Teachers' Attitudes Toward Working with Students with Developmental Disabilities]. *Uzdanica*, 15(1), 121–134.
- Sucuoğlu, N. B., & Bakkaloğlu, H. (2016). The quality of parent–teacher relationships in inclusive preschools. *Early Child Development and Care*, 188(8), 1190–1201. <https://doi.org/10.1080/03004430.2016.1261124>
- Štemberger, T., & Kiswarday, V. R. (2018). Attitude towards inclusive education: the perspective of Slovenian preschool and primary school teachers. *European Journal of Special Needs Education*, 33(1), 47–58. <https://doi.org/10.1080/08856257.2017.1297573>
- Vasiljević-Prodanović, D., Krneta, Ž., & Markov, Z. (2023). Cooperation between Preschool Teachers and Parents from the Perspective of the Developmental Status of the Child. *International Journal of Disability, Development and Education*, 70(5), 688–704. <https://doi.org/10.1080/1034912X.2021.1916892>
- Ward, J., Center, Y., & Bochner, S. (1994). A question of attitudes: integrating children with disabilities into regular classrooms? *British Journal of Special Education*, 21(1), 34–39. <https://doi.org/10.1111/j.1467-8578.1994.tb00081.x>
- Yu, S., & Cho, E. (2022). Preservice teachers' attitudes toward inclusion in early childhood classrooms: A review of the literature. *Early Childhood Education Journal*, 50(4), 687–698. <https://doi.org/10.1007/s10643-021-01187-0>
- Zachos, D. T. (2017). Teachers' Perceptions, Attitudes and Feelings towards Pupils of Roma Origin. *International Journal of Inclusive Education*, 21(10), 1011–1027. <https://doi.org/10.1080/13603116.2017.1326176>
- Zakon o osnovama sistema obrazovanja i vaspitanja [Law on the Foundations of the Education System]. Službeni glasnik RS, br 72/2009.
- Zakon o osnovama sistema obrazovanja i vaspitanja [Law on the Foundations of the Education System]. Službeni glasnik RS, br. 88/2017, 27/2018 - dr. zakon, 10/2019, 27/2018 - dr. zakon, 6/2020, 129/2021 i 92/2023.
- Zakon o predškolskom vaspitanju i obrazovanju [Law on Preschool Education]. Službeni glasnik RS, br. 18/2010.