Examining the Attitudes of Secondary General Education and Special Education Teachers Toward Inclusion of Children with Autism in General Education Classrooms

Morghan E. Bosch, Ed.D.
Barton College

Abstract

Academic environments, such as general education classrooms, have increasingly become important learning environments for children with autism. The purpose of the study was to examine the attitudes of secondary general education and special education teachers toward inclusion of children with autism in general education classrooms. The research questions are as follow: Is there a statistically significant difference in the overall attitudes of secondary general education and special education teachers toward inclusion of children with autism in general education classrooms? Is there a statistically significant difference in the attitudes of secondary general education and special education teachers regarding professional issues, philosophical, and logistical concerns toward inclusion of children with autism in general education classrooms? Cochran (1997) created the STATIC instrument for the purpose of examining teachers' attitudes toward students with special needs and to identify the relationship between teachers' attitudes toward inclusion and toward the disabled in general. The STATIC instrument was chosen for this study due to its multiple uses in the literature gathering data regarding teachers' attitudes toward inclusion of many special needs populations, such as specific learning disabilities (SLD) and Down syndrome students (Barco, 2007; Mastin, 2010). The modifications to the STATIC instrument included identifying the special needs population being studied and inserting the name of the population in the statements within the instrument. Cochran granted permission to use the STATIC instrument with modifications in this study with yet another special needs population—children with autism. In this study, the modified Scale of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) was used to survey 50 secondary (grades 9-12) English, science, social studies, and mathematics general education and 32 special education teachers with experience in teaching children with autism selected from 13 high schools in a large school system. Data were analyzed using independent-samples *t* tests. The findings showed no statistically significant difference in the overall attitudes and logistical concerns toward inclusion of children with autism in general education classrooms and statistically significant differences in the attitudes of secondary general and secondary special education teachers pertaining to professional and philosophical issues. An important finding of this study revealed that secondary general education teachers had positive not negative attitudes toward inclusion of children with autism in general education classrooms. This represents an attitudinal swing not embodied in the related literature.

Examining the Attitudes of Secondary General Education and Special Education Teachers Toward Inclusion of Children with Autism in General Education Classrooms

Cavagnaro (2007) reported that autism in America had a 1,148% diagnostic growth rate. In 2014, there was an alarming increase in the rate of children with autism; the new statistic was 1 child in 68 births in the United States will have autism. This ratio represents a significant increase from 1 child in 88 reported in 2012, and from 1 child in 110 births reported in 2006.

Teachers held serious trepidations and attitudinal predispositions about educating children with autism in general education classrooms. Cochran (1997, 1998) reported that teachers' attitudes affect students' learning and are significant contributors to the successful classroom integration of children with disabilities. The success of children with autism in general education classrooms depended heavily on the attitudes and beliefs of general education and special education teachers (Alghazo, Dodeen, & Algaryouti, 2003). Jones (1984) suggested that it was time to eliminate the attitudinal barriers that impede the successful classroom integration of children with disabilities in general education classrooms.

As special education laws were mandated, changes to special education programs were much slower to respond and comply. For example, there was a lack of understanding of the law and the role teachers, administrators, students, and families had in the educational process. General education teachers and school administrators were very reluctant to make changes due to this lack of understanding, which resulted in negative attitudes toward inclusion of children with disabilities in general education classrooms (Marks, 1980).

As the number of individuals diagnosed with autism continues to rise, it remains critical to identify attitudes of secondary general education and special education teachers toward inclusion of children with autism in general education classrooms. The purpose of this study was to examine the attitudes of secondary general education and special education teachers toward inclusion of children with autism in general education classrooms. The study identified the difference in the overall attitudes of secondary general education and special education teachers toward inclusion of children with autism in general education classrooms. In addition, the study identified the difference in the attitudes of secondary general education and special education teachers' regarding professional and philosophical issues and logistical concerns toward inclusion of children with autism in general education classrooms.

Method

Population

The population for this study included 90 secondary (grades 9-12) English, science, social studies, and mathematics general education teachers and special education teachers with experience in teaching children with autism selected from 13 high schools in one school system. The school system is the second largest city school system in a southern state. It is the 39th largest school system in the United States. This school system has a reputation of being very innovative in their application of special education services.

Instrumentation

This quantitative study used a modified Scale of Teachers' Attitudes Toward Inclusive Classrooms (STATIC) to survey the attitudes of secondary general education and special education teachers toward inclusion of children with autism in general education classrooms. The STATIC instrument is composed of 20 statements divided into four subscales: Subscale 1–advantages and disadvantages of inclusion education, Subscale 2–professional issues regarding inclusion education, Subscale 3–philosophical issues regarding inclusion education, and Subscale 4–logistical concerns of inclusion education. The instrument used a Likert-type scale distribution of responses throughout the survey that asked teachers to answer a series of statements by indicating their level of agreement or disagreement with each of the 20 statements. Each response was associated with a point value, and an individual teacher's score was determined by summing the point values of each statement. The following point values were used: 0 = strongly disagree, 1 = disagree, 2 = not sure but tend to disagree, 3 = not sure but tend to agree, 4 = agree, and 5 = strongly agree.

Subscale 1 was calculated by adding the score of all 20 questions. Teachers' attitudes toward inclusion of children with autism in general education classrooms are identified from the sum score of the 20 statement items on the modified STATIC. Higher scores reveal more positive attitudes and lower scores reveal more negative attitudes toward inclusion of children with autism in general education classrooms. Statements 1, 2, 3, 4, and 9 compose Subscale 2 (professional issues). Teachers' attitudes regarding professional issues toward inclusion of children with autism in general education classrooms are identified from Statements 1, 2, 3, 4, and 9 on the modified STATIC. These statements identify teachers' attitudes toward their knowledge and confidence level in teaching children with autism in general education classrooms. Statements 5, 6, 10, and 16 compose Subscale 3 (philosophical issues). Teachers' attitudes regarding philosophical issues toward inclusion of children with autism in general education classrooms are identified from Statements 5, 6, 10, and 16 on the modified STATIC. These statements identify teachers' attitudes toward inclusion and the performance of children with autism in general education classrooms. Statements 8, 17, 18, and 19 compose Subscale 4 (logistical concerns). Teachers' attitudes regarding logistical concerns toward inclusion of children with autism in general education classrooms are identified from Statements 8, 17, 18, and 19 on the modified STATIC. These statements identify teachers' attitudes toward classroom accommodations and administrative support in teaching children with autism in general education classrooms. The scoring for the subscales followed the same scoring tendency as the overall score, with higher scores reflecting positive attitudes and lower scores reflecting negative attitudes.

SPSS was used to analyze the responses of the secondary English, science, social studies, and mathematics general education and special education teachers to determine the statistical significance of this study's research questions. The responses from the secondary general education teachers were compared to the special education teachers for each research question using independent *t* tests.

The independent variable used in this research study was attitudes of secondary general education and special education teachers and the STATIC factors, including overall attitudes toward inclusion of children with autism in general education classrooms and attitudes regarding

professional issues, philosophical issues, and logistical concerns toward inclusion of children with autism in general education classrooms.

The dependent variable used in this research was participants' scores on the STATIC instrument based on overall attitude, professional issues, philosophical issues, and logistical concerns toward inclusion of children with autism in general education classrooms.

In addition, the descriptive statistics (mean, standard deviation, and standard error) were calculated. The descriptive statistics were calculated for the total summed score on the STATIC instrument for each group (secondary general education and special education teachers), which combined the scores for the four subscale areas (advantages and disadvantages, professional issues, philosophical issues, and logistical concerns of inclusive education). Descriptive statistics were also calculated for each of the following categories: professional issues, philosophical issues, and logistical concerns. The data produced by the two different groups—secondary general education and special education teachers—were compared to determine if there were significant differences in the mean, standard deviation, and/or standard error of responses to the STATIC statements. Cochran (1998) calculated and found the norm group to be as follows: M = 58.91, SD = 7.94 and SE = 2.63.

The *t* test for independent samples was performed to determine whether there was a statistically significant difference between the overall means of the responses given by secondary general education and special education teachers for statements on the STATIC instrument that measured teachers' attitudes toward inclusion of children with autism in their classrooms. The independent *t* test allows for the comparison of means between two unrelated groups on the same continuous dependent variable. The responses were based on the cumulative scores of all four factors on the STATIC instrument—advantages and disadvantages, professional issues, philosophical issues, and logistical concerns of inclusive education. The *t* test for independent samples was conducted at the standard significance level of alpha = 0.05. This test determined whether the difference in the observed means was likely to have occurred by chance.

Additional *t* tests were performed to determine whether there was a statistically significant difference between the responses given by secondary general education and special education teachers to statements on the STATIC instrument (professional issues, philosophical issues, and logistical concerns) toward inclusion of children with autism in general education classrooms.. The *t* tests determined whether the observed difference in the means between the attitudes of secondary general education and special education teachers regarding professional issues toward inclusion of children with autism in general education classrooms (Factor 2) was sufficiently larger than a difference expected by chance. The *t* test was performed on Factor 2 using the scores obtained from Items 1, 2, 3, 4, and 9 on the STATIC.

A *t* test determined whether the observed difference in the means between the attitudes of secondary general education and special education teachers regarding philosophical issues toward inclusion of children with autism in general education classrooms (Factor 3) was

sufficiently larger than a difference expected by chance. The *t* test was performed on Factor 3 using the scores obtained from Items 5, 6, 10, and 16 on the STATIC.

A *t* test to determine whether the observed difference in the means between the attitudes of secondary general education and special education teachers regarding logistical concerns toward inclusion of children with autism in general education classrooms (Factor 4) is sufficiently larger than a difference expected by chance. The *t* test was performed for Factor 4 using the scores obtained from Items 8, 17, 18, and 19 on the STATIC instrument.

Threats to Internal Validity

Threats to validity can compromise the results of the study. Creswell (2008) recognized three categories of threats to internal validity: (a) threats related to participants, (b) threats related to treatments, and (c) threats related to methodology. A significant threat to this study was that of the small sample size. Some of the issues of small sample size included a decrease in the generalizability of the study, the influence on statistical power, an increase in Type II error, and a decreased ability to detect significance in statistical tests.

Another threat to this study, related to the participants, was a nonresponse bias. According to Shultz and Luloff (1990), survey research was susceptible to bias due to the possibility of a low response rate. To address this possible bias between responders and nonresponders, a personal email was sent to each potential participant. They were informed of the survey link and given a specified time period for response. In addition, to prevent ballot box stuffing, each subject only had access to the survey link one time.

Threats to External Validity

Threats to external validity are a concern to research studies. In the current study, generalizability to the target population was a significant threat to validity. The population validity was an external threat that could reduce generalizability because the process for selecting the population was based on convenience sampling from an accessible population and from a specific public school system. Therefore, the findings of a small-scale study with a selected population had limited generalizability to the general population. The limitations of this study and the threats to validity were significant considerations in the discussion and implications of this study.

Results and Discussion

From the population of 90 secondary (grades 9-12) English, science, social studies, and mathematics general education and special education teachers with experience in teaching children with autism, 82 responses were received resulting in an overall response rate of 91%. See Table 1 for the demographic data for the overall sampling pool.

Table 1

Summary of Characteristics of Sampling Pool

Teaching assignment	Frequency	%
Secondary special education teacher	32	39
Secondary general education teacher	50	61
Total	82	100

Research Question 1
The study investigated the research question, Is there a statistically significant difference in the overall attitudes of secondary general education and special education teachers toward inclusion of children with autism in general education classrooms?

Table 2 displayed below shows the *t* test for independent samples comparing these two groups of teachers. The independent *t* test compared the means between two unrelated groups on the same continuous dependent variable. The responses were based on the cumulative scores of all four factors on the STATIC instrument—advantages and disadvantages, professional issues, philosophical issues, and logistical concerns of inclusive education. The test compared the between-group variance score with the within-group variance score. The *t* test for independent samples was conducted at the standard significance level of alpha = 0.05. The results revealed there was not a significant difference in the scores for secondary general education teachers (M = 54.39, SD = 10.44) and secondary special education teachers (M = 56.47, SD = 10.48) in the overall attitudes toward inclusion of children with autism in general education classrooms, $t(79)$= -0.88, p = .38.

These results suggest when comparing overall attitudes of the secondary general education and secondary special education teacher's attitudes toward inclusion of children with autism, their attitudes are comparable and are positive. The effect size for this analysis (d = 0.20) was found to be a small effect size according to Cohen's (1988) convention for a small effect (d = 0.20). Further, Cohen's effect size value (d = 0.20) suggested a low practical significance.

The findings in this study pertaining to the attitudes of general education teachers toward inclusion of children with autism in general education classrooms were contrary to most of the studies in the related literature (Hollenbeck, 1996; Kavale, 2000; Marks, 1980; Migyanka, 2006). The fact that general education teachers' scores were similar to their special education counterparts could be attributed to the increase in experiences with special education students. Since the research by Hollenbeck (1996), Kavale (2000), Marks (1980), and Migyanka (2006), all teachers have been exposed to more diverse settings of students to include varying levels of special education students. Another factor that might have contributed to this finding is this study was conducted in 2015.

In the related literature, most of the study conducted between 1999 and 2011 reported general education teachers had negative attitudes toward inclusion of students with severe disabilities. Specifically, J. R. Jenkins, Jewell, Leicester, Jenkins, and Troutner (1991); Park and Chitiyo (2009); and Schneider and Leroux (1994) highlighted the fact that general education teachers were most likely to have negative attitudes toward students whose disability is primarily characterized by inappropriate social and behavior responses. Very little research was conducted after 2011 in terms of attitudes toward inclusion of students with specific disabilities in general education classrooms. From 2011 to 2015, there has been more emphasis on special education in schools. General education teachers have been required to participate in special education training which might have led to more acceptance of children with autism.

Research Question 2

The study investigated the research question, Is there a statistically significant difference in the attitudes of secondary general education and special education teachers regarding professional issues toward inclusion of children with autism in general education classrooms?

The second research question examined one of the factors identified on the STATIC instrument: professional issues toward inclusion of children with autism in general education classrooms. There were five questions on the STATIC that addressed Factor 2: those questions addressed the confidence in the teachers' ability, confidence in training to teach students with autism, frustration and anxiety level, and whether the teacher had problems teaching children with cognitive deficits. To test this, Table 2 displayed the *t* test for independent samples comparing these two groups of teachers. A *t* test for independent samples was performed to determine whether there was a statistically significant difference between the responses given by secondary general education and special education teachers to statements on the STATIC instrument.

A *t* test to determine whether the observed difference in the means between the attitudes of secondary general education and special education teachers regarding professional issues toward inclusion of children with autism in general education classrooms (Factor 2) was performed using the scores obtained from Items 1, 2, 3, 4, and 9 on the STATIC to determine if there was a sufficiently larger difference than expected by chance. The results indicated that there was a significant difference in the scores for secondary general education teachers (M = 13.43, SD = 4.07) and secondary special education teachers (M = 18.53, SD = 2.61) regarding professional issues toward inclusion of children with autism in general education classrooms, $t(79) = -6.30$, $p = .00$.

The findings suggest that when comparing attitudes regarding professional issues toward inclusion of children with autism in the general education classroom, the secondary special education teachers' attitudes are higher or more accepting than the secondary general education teachers' attitudes toward including children with autism in general education classrooms. The effect size for this analysis (d = 1.50) was found to exceed Cohen's (1988) convention for a large effect (d = 0.80). Further, Cohen's effect size value (d = 1.50) suggested a high practical significance.

This study's findings were consistent with the literature in that it was consistently reported that special education teachers would be more comfortable teaching and managing children with autism in general education classrooms. M. Smith and Smith (2000) indicated that knowledge about topics such as identifying the characteristics and behaviors of specific disabilities, learning how to make instructional accommodations for children with autism, and developing collaborative and team building skills would increase a teacher's capability to teach children with autism. These skills would be more predominant in special education teachers as they have received education in these areas and been exposed to these situations more frequently.

Goodman and Williams (2007) indicated that the academic progress and success in teaching children with autism depended on teacher expertise, and expertise resulted from their professional educational knowledge and experiences. Secondary special education teachers were more likely to receive this type of training (Goodman & Williams, 2007). The more experience

in these situations, the more positive the attitude of teachers toward inclusion of children with autism. Ellins and Porter (2005) substantiated the importance of experience with special populations and reported that training in special education enhanced teachers' knowledge about children with autism and supported positive attitudes toward including children with autism in inclusive settings. The researchers reported that teachers with the least amount of training in special education had the least positive scores and those with the most training had the most positive scores. Overall, secondary special education teachers were more likely to have received a higher level of professional training, especially in their undergraduate programs, which prepared them for teaching children with autism.

In addition, supporting the significantly higher and more accepting attitudes of secondary special education teachers regarding the professional issues might be due to the lack of special education information distributed to secondary general education teachers. General education teachers specifically expressed the need for more information on how to include students with disabilities in general education settings (Subban & Sharma, 2005). Kamens, Loprete, and Slostad (2000) reported the following areas that general education teachers identified as needed: more knowledge and training related to children with autism, more behavioral management strategies, more information on conflict resolution, more understanding of differentiated instruction, and more ways to collaborate with other teachers.

Research Question 3

The study investigated the research question, Is there a statistically significant difference in the attitudes of secondary general education and special education teachers regarding philosophical issues toward inclusion of children with autism in general education classrooms?

The third research question examined one of the factors identified on the STATIC instrument: philosophical issues toward inclusion of children with autism in general education classrooms. Four questions on the STATIC addressed Factor 3: the learning potential of all students, the teachers' ability to handle behavior problems, and training for teachers who teach children with autism. To test this, Table 2 displays the *t* test for independent samples comparing these two groups of teachers. A *t* test for independent samples was performed to determine whether the observed difference in the means between the attitudes of secondary general education and special education teachers regarding philosophical issues toward inclusion of children with autism in general education classrooms (Factor 3) is sufficiently larger than a difference expected by chance using the scores obtained from Items 5, 6, 10, and 16 on the STATIC. The results found there was a significant difference in the scores for secondary general education teachers ($M = 10.55$, $SD = 4.23$) and secondary special education teachers ($M = 7.69$, $SD = 4.53$) regarding philosophical issues toward inclusion of children with autism in general education classrooms, $t\ (79) = 2.90$, $p = .01$.

These results suggest that when comparing attitudes regarding philosophical issues toward inclusion of children with autism in the general education classroom, the secondary general education teacher's attitudes are higher or more accepting than the secondary special education teacher's attitudes toward including children with autism in general education classrooms. The effect size for this analysis ($d = 0.65$) was found to be a little higher than a medium effect size

according to Cohen's (1988) convention for a medium effect ($d = 0.50$). Further, Cohen's effect size value ($d = 0.65$) suggested a moderate to high practical significance.

Many philosophical issues caused concern for general education and special education teachers working with children with autism. The main philosophical issue identified in this study was, again, the need for training opportunities. From this study's findings, it can be concluded that general education teachers were receiving more training opportunities than special education teachers. As inclusion is becoming more popular and the need to include students with autism in general education classrooms increases, training opportunities have become more prevalent and in many schools are required for inclusion teachers.

Training programs, activities, and efforts were mentioned repeatedly in the literature as vitally important to the success of inclusive classrooms for children with autism. Burke and Sutherland (2004) and Busby, Ingram, Bowron, Oliver, and Lyons (2012) suggested that teacher training efforts and programs include dissemination of knowledge about children with autism. According to Alghazo et al. (2003), Burke and Sutherland (2004), and Busby et al. (2012), teacher training programs must prepare teachers to accept children with autism, provide teachers with the necessary skills to work effectively with children with autism, and require appropriate experiences to gain fundamental knowledge of this population. These training opportunities are becoming more readily available for general education teachers that fact could explain the higher and more accepting attitudes of general education teachers toward inclusion of children with autism in general education classrooms.

Research Question 4

The study investigated the research question, Is there a statistically significant difference in the attitudes of secondary general education and special education teachers regarding logistical concerns toward inclusion of children with autism in general education classrooms?

The fourth research question examined one of the factors identified on the STATIC instrument: logistical concerns toward inclusion of children with autism in general education classrooms. There were four questions on the STATIC that addressed Factor 4. Those questions addressed physical accommodations, principal support for teachers, and material and equipment being available for students with autism. To test this, Table 2 displays the *t* test for independent samples comparing these two groups of teachers. A *t* test for independent samples was performed to determine whether the observed difference in the means between the attitudes of secondary general education and special education teachers regarding logistical concerns toward inclusion children with autism in general education classrooms (Factor 4) is sufficiently larger than a difference expected by chance using the scores obtained from Items 8, 17, 18, and 19 on the STATIC instrument. The results found there was not a significant difference in the scores for secondary general education teachers ($M = 10.78$, $SD = 2.80$) and secondary special education teachers ($M = 9.53$, $SD = 4.13$) regarding logistical concerns toward inclusion of children with autism in general education classrooms, $t(79) = 1.62$, $p = .11$.

These results suggest that when comparing attitudes regarding logistical concerns of the secondary general education and secondary special education teacher's attitudes toward including children with autism, their attitudes are comparable. The effect size for this analysis (*d*

= 0.35) was found to be a little higher than a small effect size according to Cohen's (1988) convention for a small effect (d = 0.20). Further, Cohen's effect size value (d = 0.35) suggested a low to moderate practical significance.

Table 2
Comparison of Scale Scores Based on Type of Teacher (N = 82)

Scale	Group	*M*	*SD*	*t*	*p*	*ES*
Overall score	GE	54.39	10.44	-0.88	.38	0.20
	SE	56.47	10.48	-0.88	.38	0.20
Professional issues	GE	13.43	4.07	-6.30	.00	1.50
	SE	18.53	2.61	-6.30	.00	1.50
Philosophical issues	GE	10.55	4.23	2.90	.01	0.65
	SE	7.69	4.53	2.90	.01	0.65
Logistical concerns	GE	10.78	2.80	1.62	.11	0.35
	SE	9.53	4.13	1.62	.11	0.35

Note. GE = general education teachers; SE = special education teachers.

The null hypothesis was therefore supported; there was not a statistically significant difference in the attitudes of secondary general education and special education teachers regarding logistical concerns toward inclusion of children with autism in general education classrooms. Certain factors might have contributed to this finding. The fact that the populations of general education and special education teachers in this study were identified from one school system might have resulted in the sameness of attitudes. For example, if there was generally a feeling that the schools lacked resources, had deficiencies in environmental and instructional accommodations, or was characterized by low principal support, likely both general education and special education teachers would respond similarly.

Both secondary general education and special education teachers in this study reported higher scores on the logistical concerns toward inclusion of children with autism in general inclusive classrooms. The teachers reported more availability of resources for their students with special needs. The logistical resources were strongly supported in the related literature as a way to successfully teach children with autism. As Biddle (2006) reported, the increased availability of resources in the inclusive setting led to more student success, generated more student interest, and created a more positive learning environment for children with autism.

Another area that was associated with logistical concerns was administrator support. Santoli, Sachs, and Romey (2008) reported that successful inclusion of children with autism depended heavily on the support of school administrators. The researchers concluded that certain variables controlled by school administrators led to more successful inclusive classrooms for children with autism. These elements were the flexibility in teachers' schedules, the allocation of common planning times, the opportunity to participate in professional development activities based in the teachers' areas of interest, and the lengthening of the school day (Santoli et al., 2008).

Conclusion

Two research questions pertaining to professional and philosophical issues toward inclusion of children with autism in general education classrooms demonstrated statistically significant differences in the attitudes of secondary general education and secondary special education teachers. This study confirmed the related literature that the attitudes of secondary general education and secondary special education teachers toward inclusion of children with autism in general education classrooms are dissimilar. The secondary special education teachers reported more positive attitudes toward professional issues—attitudes toward their knowledge and confidence level in teaching children with autism in general education classrooms. The secondary general education teachers reported more positive attitudes toward philosophical issues—attitudes toward inclusion and the performance of children with autism in general education classrooms.

For the other two research questions dealing with overall attitudes and logistical concerns toward inclusion of children with autism in general education classrooms, the data supported the null hypotheses of no statistically significant difference in the attitudes of secondary general education and secondary special education teachers. The lack of statistical significance revealed in this study suggested a lapse in studies collecting attitudinal data over the last 5 years to trace the negative to positive shift of attitudes of secondary general education teachers toward inclusion of children with autism. The lack of significant difference in overall attitudes and logistical concerns by secondary general education and secondary special education teachers might have resulted from more acceptance of children with autism, the increase in training experiences, greater allocation of resources, and more administrative support for inclusive classrooms.

An important finding of this small study revealed secondary general education teachers had positive attitudes toward inclusion of children with autism in general education classrooms. This represented an attitudinal swing not embodied in the related literature. The implication of this attitudinal swing from negative to positive attitudes by secondary general education teachers suggested that general education classrooms are finding their place in the future of special education services. More studies need to be conducted for this attitudinal swing to be validated.

As school systems become more aware of the number and needs of children with autism, efforts must be made to accommodate this growing special education population. More research is needed in the area of teaching children with autism. Research has not kept pace with the sharp increase in the number of students being diagnosed with autism.

References

Alghazo, E. M., Dodeen, H., & Algaryouti, I. A. (2003). Attitudes of pre-service teachers towards persons with disabilities: Predictions for the success of inclusion. *College Student Journal, 37*(4), 515-522.

Biddle, S. (2006). Attitudes in education: Assessing how teachers' attitudes about inclusion of learning disabled students affects their use of accommodations. *The Science Teacher,* 52-56.

Burke, K., & Sutherland, C. (2004). Attitudes toward inclusion: Knowledge vs. experience. *Education, 125*(2), 163-173.

Busby, R., Ingram, R., Bowron, R., Oliver, J., & Lyons, B. (2012). Teaching elementary children with autism: Addressing teacher challenges and preparation needs. *Rural Educator*, 27-35.

Cavagnaro, A. T. (2007). *Autistic spectrum disorders: Changes in the California caseload, an update. State of California 2003 Survey of Developmental Disabilities*. Sacramento: California Health and Human Services Agency.

Cochran, H. K. (1997, November). *The development and psychometric analysis of the Scale of Teachers' Attitudes Toward Inclusion (STATIC).* Paper presented at the annual meeting of the 26th annual meeting of the Mid-South Educational Research Association, Memphis, TN.

Cochran, H. K. (1998). *Differences in teachers' attitudes toward inclusive education as measured by the Scale of Teachers' Attitudes Toward Inclusive Classrooms (STATIC).* Paper presented at the meeting of the Mid-Western Educational Research Association, Chicago, IL.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd ed.). Upper Saddle River, NJ: Pearson Education.

Ellins, J., & Porter, J. (2005). Departmental differences in attitudes to special educational needs in the secondary school. *Research into Attitudes to Special Educational Need, 32*(4), 188-195.

Goodman, G., & Williams, C. M. (2007). Interventions for increasing the academic engagement of children with autism spectrum disorders in inclusive classrooms. *Teaching Exceptional Children*, 53- 61.

Hollenbeck, J. L. (1996). Educating children with special emotional needs: The perspectives of school and community agency personnel. *Dissertation Abstracts International, 57*, 5.

Jenkins, J. R., Jewell, M., Leicester, N., Jenkins, L., & Troutner, N. M. (1991). Development of a school building model for educating students with handicaps and at-risk students in general education classrooms. *Journal of Learning Disabilities, 24*(5), 311-320.

Jones, R. L. (1984). *Attitudes and attitude change in special education: Theory and practice.* Reston, VA: ERIC Clearinghouse on Handicapped and Gifted Children.

Kamens, M. W., Loprete, S. J., & Slostad, F. A. (2000). Classroom teachers' perceptions about inclusion and preservice teacher education. *Teaching Education, 11*(2), 147-158.

Kavale, K. (2000). History, rhetoric, and reality. *Remedial & Special Education, 21*(5), 279.

Marks, R. T. (1980). *A study of the implementation of the least restrictive environment component of Public Law 94-142, the Education for all Handicapped Children Act of 1975* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 8107606)

Migyanka, W. (2006). *Teachers' beliefs toward inclusion of students with special needs in regular classrooms: A school district case study* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3239692)

Park, M., & Chitiyo, M. (2009). A proposed conceptual framework for teachers' attitudes towards children with autism. *The Southeastern Teacher Education Journal*, *2*(4), 39-52.

Santoli, S. P., Sachs, J., & Romey, E. A. (2008). A successful formula for middle school inclusion: Collaboration, time, and administrative support. *National Middle School Association, 32*(2), 1-13.
Schneider, B. H., & Leroux, J. (1994). Educational environments for the pupil with behavioral disorders: A "best evidence" synthesis. *Behavioral Disorders, 19*(3), 192-204.
Shultz, S. D., & Luloff, A. E. (1990). The threat of nonresponse bias to survey research. *Journal of the Community Development Society, 21*(2), 104-116.
Smith, M., & Smith, K. (2000). "I believe in inclusion, but...": Regular education early childhood teachers' perceptions of successful inclusion. *Journal of Research in Childhood Education, 14*(2), 161-180.
Subban, P., & Sharma, U. (2005). Understanding educator attitudes toward the implementation of inclusive education. *Disability Studies Quarterly, 25*(2).

About the Author

Morghan E. Bosch is an assistant professor of special education at Barton College, North Carolina. Dr. Bosch co-authored the book, *The First-Year Teacher (2015*). She has written a chapter entitled *Literacy in K-12 Content Courses* in the book, *Beach Ball Banter (2012*), and co-authored *The Autism Guide for Norfolk Public Schools* (2009). Recently, she had an article, *Autism and Employment,* accepted for publication in *National Association of Special Education Teachers (NASET)* (2016). Dr. Bosch has given numerous presentations, such as "Social Skills and Children with Learning Disabilities" (2012), "Vocational Preparation for Students with Autism" (2013), and "Autism and Employment" (2013). She was a special education teacher in the Virginia public schools for 9 years.