THE MCIE INCLUSIVE EDUCATION BELIEFS SURVEY
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ABSTRACT

The *MCIE Inclusive Education Beliefs Survey* (Quirk, 2000) has been used by the Maryland Coalition for Inclusive Education (MCIE) for more than two decades as a planning tool by schools and has been used in a number of studies by graduate students. This technical report provides an analysis of the measure's validity and internal reliability. Item response theory (IRT) methods were applied to describe the survey's structure using Rasch models. First, we conducted an analysis using unidimensional models, including the rating scale model and the partial credit model to determine which model best fit the data. On learning that a partial credit model fit the data best, we conducted another analysis to determine whether the unidimensional model or a three-dimensional model was more appropriate for describing the data. Our analyses demonstrate that the *MCIE Inclusive Education Beliefs Survey* is best conceptualized as a three-dimensional instrument, with high levels of internal reliability and distinction between the three dimensions measured. The instrument provides useful information regarding school staff's beliefs about inclusive practices including the abilities of students with disabilities, educator roles within the school, and one's personal abilities to educate students with disabilities in general education classrooms.

EDUCATOR ATTITUDES ABOUT INCLUSION

Federal legislation in the United States mandates that children with disabilities be educated in the least restrictive environment (LRE), usually understood to be the general education classroom. The Individuals with Disabilities Act (IDEA, 1997) and its reauthorization (IDEA, Part B, 2004) state explicitly that:

> to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and that special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (IDEA, 2004).

Researchers have reported that teachers often have attitudes about inclusion that do not align with the mandates of IDEA. Avramidis and Norwich (2002) found, in a systematic review of practicing teachers, that several factors influenced teachers' attitudes towards inclusion. These factors included child-related variables such as disabling condition or the severity of disability, teacher-related variables including years and types of experience, and context-related variables in the education environment. The traditions of school districts that have not changed policies or practices in the last 40 years may also lead educators to believe that their current way of doing business is meeting the letter of the law, when research and practice nationally has become increasingly inclusive.

Studies of educators' attitudes towards inclusion have been conducted using various survey tools. Cook, Tankersley, Cook, and Landrum (2000) used survey methods to find that teachers were significantly more likely to identify students with disabilities as "students of concern" or harbor attitudes of rejection towards these students more than towards their nondisabled peers.

The *Preservice Inclusion Survey* (Shippen, Crites, Houchins, Ramsey, & Simon, 2005) was developed to measure university students' attitudes towards inclusion while

participating in pre-service credential programs. This survey was later revised by Alvarez-McHatton and McCray (2007) to reduce the 35-item survey to 22 items. Studies conducted with this survey tool revealed that pre-service teachers in general education credential programs tended to have less favorable attitudes towards inclusion than their peers who were obtaining credentials in special education. Further, pre-service teachers were less likely to express positive views on inclusion if a student carried the label of having an intellectual disability, multiple disabilities, or a behavior disorder. In a later study by McCray and Alvarez-McHatton (2011), these results were replicated in a study of pre-service general education teachers taking a course on inclusion for students with disabilities.

Treder, Morse, and Ferron (2000) used the *SBS Inventory of Teacher Social Behavior Standards and Expectations* to determine which teachers had classrooms that were "ecologically prepared" for inclusion of students with disabilities. They found that more effective teachers (as measured by their nominated membership in an honorary educators' group in Florida) were more likely to consider students' behavioral concerns as less essential to their success at school than average educators taking the same survey.

The *Heterogeneous Education Teacher Survey* and the *Regular Education Initiative Survey–Revised* were used by Villa, Thousand, Meyers, and Nevin (1996) to evaluate the elements of successful education for children with disabilities across 32 school sites and 680 teachers. The authors found that administrative support, personal experience supporting students with disabilities, and effective collaboration between special educators and general educators predicted positive attitudes towards full inclusion of students with disabilities.

MICE INCLUSIVE EDUCATION BELIEFS SURVEY

The *MCIE Inclusive Education Beliefs Survey* was developed for use by a professional development organization, The Maryland Coalition for Inclusive Education, (MCIE) in 2000 (Quirk, 2000). Attitudinal surveys investigating the elements leading to successful inclusion influenced the instrument's design. In working with schools to include students who had previously been placed in segregated classes and schools,

the organization needed to determine the extent to which teachers' attitudes towards inclusion changed with experience. Consequently, the survey was designed to measure school personnel's beliefs about inclusion. The *MCIE Inclusive Education Survey* can be seen in Figure 1.

The *MCIE Inclusive Education Beliefs Survey* is designed to be straightforward and easy to complete. Each multiple-choice item has three response options: no, sometimes, and yes. The survey is divided into three sections: (1) beliefs about students with disabilities, (2) beliefs about the role of educators in my school, and (3) my beliefs about my ability to educate all learners in the general education classroom. Each section ends with an optional comments item (which was scored as Yes, I agree; Sometime I agree, and No, I do not agree). School-level aggregate results guide professional learning facilitators and school leadership teams to identify areas of strength and priorities for growth during an inclusive education systemic school transformation process.

Figure 1: MCIE Inclusive Education Beliefs Survey Items

MCIE Inclusive Education Beliefs Survey Items

My beliefs about educating students with disabilities:
1. Every student, regardless of disability, should be assigned to and be instructed in general education classes.
2. Students who have disabilities can be positive contributors to general education classes.
3. Any student, and all students, can learn in the general education classroom.
4. Students without disabilities can benefit when a student with a disability and extensive support needs is included in the class.
5. A student with a disability and extensive support needs can benefit from and successfully achieve IEP goals in a general education class.
6. Optional comments about my beliefs about educating students with disabilities.
My beliefs about my school practices that support including students with disabilities
7. Our school and staff have a vision for enacting a positive philosophy to include all students with disabilities.

8.	Our school community, including family members of students who do not have disabilities, supports a vision for inclusive education.
9.	Our school's schedule and staff assignments are designed to support school-wide inclusive practices that support academic and social success for all students.
10.	Our school's administration supports teachers working and learning together to include students with disabilities.
11.	The role of special educators in the general education classroom is clearly defined.
12.	Specialized and general educators know how to use collaborative planning time and collaborative teaching structures.
13.	When a special education teacher is assigned to co-teach in a general education class, it benefits the whole class.
14.	Special educators are equipped to teach the curriculum alongside general educators.
15.	General educators are equipped to provide specialized instruction to students with disabilities.
16.	In our building, students who have disabilities feel welcome and participate in all aspects of school life.
17.	Optional comments about my beliefs about my school practices that support including students with disabilities.
My beliefs about my ability to educate all learners in general education classes:	
18.	I feel comfortable including students with disabilities in the general education classroom.
19.	I am adequately prepared to deliver instruction to a wide variety of learners using the general education curriculum as a base for instruction.
20.	I am willing to collaborate with other teachers.
21.	I feel comfortable and able to supervise and support the staff assigned to my class
22.	I am comfortable using technology (computers or adaptive equipment) to support the instruction of a wide variety of learners.
23.	I can adequately assess the progress and performance of most students who have IEPs.
24.	I can make instructional and curriculum accommodations for children with IEPs.

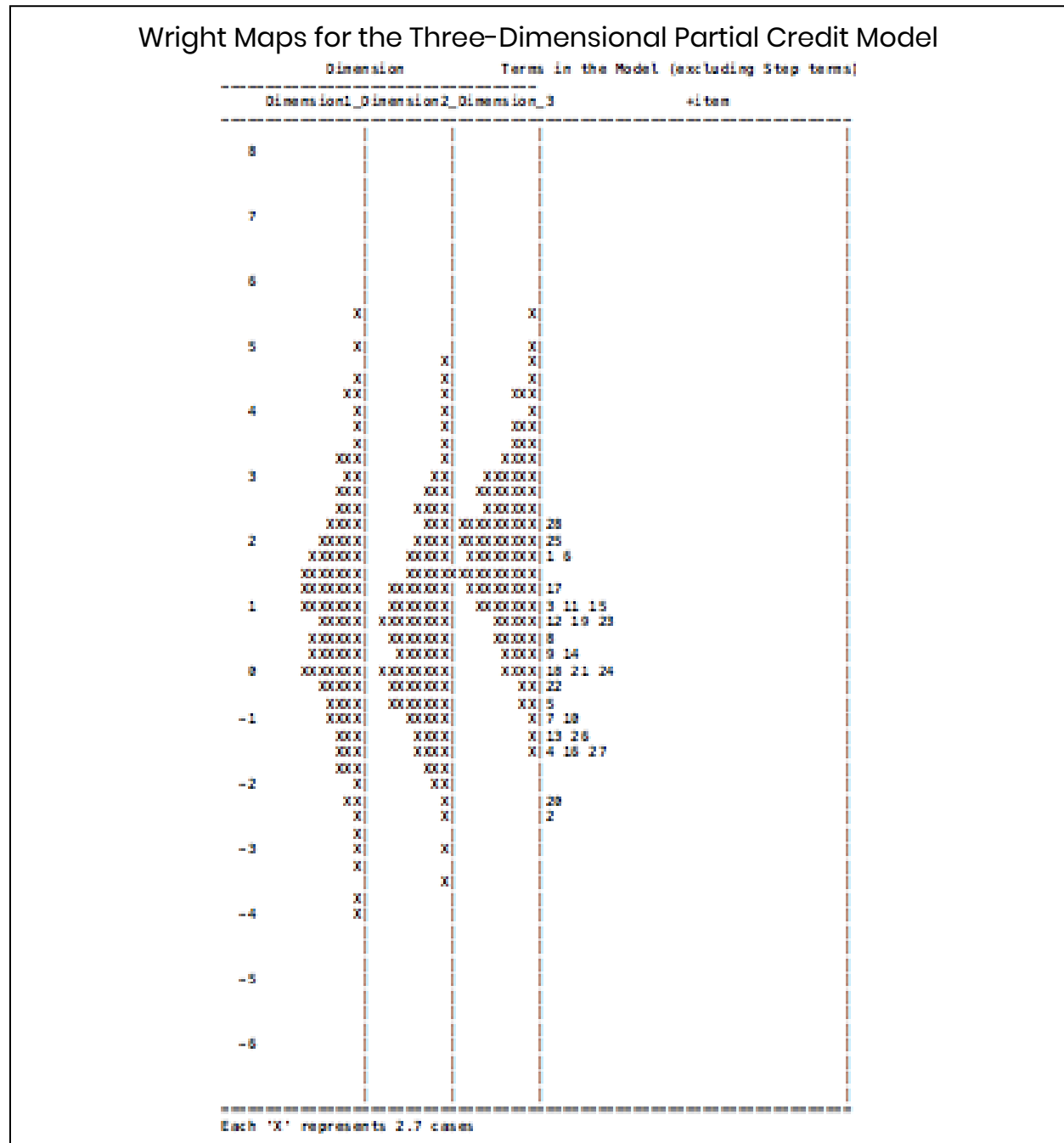|	
25. I have the time to collaborate with other teachers when needed.
26. I am willing to change and improve my instructional style to be able to reach more students.
27. I feel that I can make a difference in the life of a student who has a disability.
28. Optional comments about my beliefs about my ability to educate all learners in general education classes.

RELIABILITY AND VALIDITY

Analyses were conducted on data collected from 2016 to 2018 from 306 school personnel across 9 schools in primarily rural areas of the Eastern United States. The only demographic information collected about respondents was their role in the school. The respondents' roles were as follows: 11 school administrators, 12 office or building support professionals, 20 related service providers, 58 special education teachers or interventionists, 157 general education teachers, 22 instructional assistants, 25 respondents who identified as "other" and one respondent with missing data for this item.

Reliability was determined through expected a-posterior (EAP) plausible values (PV) analyses. Reliability estimates for each dimension of the *MCIE Inclusive Education Beliefs Survey* were high. For dimension one, beliefs about students with disabilities, the *EAP/PV reliability* was 0.80. For dimension two, beliefs about the role of educators in my school, the *EAP/PV reliability* was 0.86. For dimension three, beliefs about my ability to educate all learners in the general education classroom, the *EAP/PV reliability* was 0.80.

Correlations between the three dimensions were moderate. Dimension one correlated with dimension two at 0.55 and with dimension three at 0.58. Dimension two correlated with dimension three at 0.69. While these correlations are moderately high, the variance between the dimensions indicates that dividing the survey into three related sections measuring slightly different aspects of individuals' beliefs about inclusion was in accord with the survey designer's original concept that these constructs differ in a meaningful way.

Wright maps illustrate the distribution of items (by difficulty) and the distribution of respondents (by ability). The left-hand side of a Wright map shows the estimated person ability. The right-hand side of the Wright map shows the estimated item difficulty. Items that are near the same difficulty level are stacked from left to right in the same line and are specified by item number. The Wright maps for all three dimensions of the survey may be seen in Figure 2.

Figure 2: Wright Maps for the Three-Dimensional Partial Credit Model

Dimensions for each item are specified by the survey in Figure 1. The distributions seen here are normally distributed for each of the dimensions. Items near the top of the distribution were those "most difficult" for participants to answer affirmatively. Respondents typically scored highest on the third dimension (about their beliefs in their own abilities to support all students in the general education classroom).

The three open-ended items on the 28-item survey exhibited misfit (defined here as a mean-squared value that falls outside of the range from -.75 to 1.33). Item 6 had a mean-squared value of 1.78. Item 17 had a mean-squared value of 1.39. Item 28 had a mean-squared value of 1.81. All three of these items were optional comment sections for the respondents to write anything of interest or concern to them related to the content of the survey. Most respondents left these items blank, which may explain why these items did not have predictive value aligned with the rest of the survey. Respondents who did answer these items tended to respond in emotionally-charged statements that were clearly positive or negative, leaving few respondents in the middle of the score distribution for these items. Although these items exhibited misfit, we kept them in the analysis because school administrators often find that these sections provide useful qualitative data about the respondents' attitudes towards inclusion. The reliability scores for each dimension and the survey as a whole are acceptably high while keeping these qualitative items in the analysis. Stakeholder preferences were considered as paramount in the final inclusion of these items.

By looking at the Wright maps, it is possible to see which items help to discriminate between respondents at the higher and lower ends of the distribution. Item 25, "I am willing to collaborate with other teachers," positively characterized teachers with scores near the top of the distribution, meaning that this question was likely to be one of the most difficult for respondents who struggled to answer positively to other items. Item 2, "Students without disabilities can benefit when a student with a disability and extensive support needs is included in the class," was the easiest question for respondents to answer in the affirmative. Item 20, "I have time to collaborate with other teachers," was also easily answered in the affirmative by most respondents. This can be seen by the relative positions of the item numbers on the right side of the Wright map.

Models of Fit. Three models were compared to determine the best fit for the data. The rating scale (Andrich, 1978a, 1978b; Masters, 1980) assumes equal difficulty between the steps on the Likert scale. For example, the model assumes that it is just as difficult to move from answering "no" to "sometimes" as it is difficult to move from answering "sometimes" to "yes" on items related to teaching practices or beliefs about students. The partial credit model (Wright & Masters, 1982) does not assume equal difficulty between the response types on a Likert scale. The multidimensional random coefficients multinomial logit model (MRCML), specifically partial item response theory (IRT) model (Wilson, and Adams, 1997) is a confirmatory model that provides estimations of expected a-posterior (EAP) and maximum likelihood estimates (MLE) for each of the dimension's items assigned based on the survey designer's intentions. ConQuest 4 (Adams, Wu, Macaskill, Haldane, & Sun, 2017) was used for estimations.

The partial credit model was shown to provide more information than the rating scale model of the same data using the Akaike Information Criterion (AIC). Further, the multidimensional partial credit model was shown to provide more information using the data than the unidimensional partial credit model based on the estimated AIC. Therefore, the multidimensional partial credit model was chosen for the final analysis. Relevant values for the model comparison may be found in Table 1.

Table 1: *Fit Data for Model Comparisons*

	Partial Credit Unidimensional Model	Partial Credit Three-Dimensional Model
No. of parameters	57	62
Deviance	12095.2	11653.5
AIC	12209.2	11777.5
Chi-Square of model difference	(441 with 5 degrees of freedom) *p < 0.001*	

CONCLUSION

The *MCIE Inclusive Education Beliefs Survey* measures inclusive education beliefs reliably, with a normal distribution of responses/respondent ability levels along a continuum, as well as clear person separation reliability. The data is best represented

by the three-dimensional between item partial credit model. Figure 1 outlines the items within each of the three dimensions of (1) beliefs about students with disabilities, (2) beliefs about the role of educators in my school, and (3) my beliefs about my ability to educate all learners in the general education classroom.

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MCIE is a nonprofit organization, founded in 1988. MCIE works with schools, districts, and states to build the capacity of educators to include learners with disabilities through professional learning, coaching, and systems multi-year systems change process.

The MCIE Beliefs Survey is an anonymous tool that has been conducted in over 200 schools and used by leadership teams to better understand how their staff feel about including children with disabilities and to make decisions about next steps in supporting their staff to build inclusive school communities.

For more information about the survey, contact mcie@mcie.org.

For more information about MCIE, go to www.mcie.org.