



Analysis of Parent Survey Data Addressing

Part B SPP/APR Indicator #8

Louisiana Department of Education

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For the Louisiana Department of Education

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SECTION 1

EXECUTIVE SUMMARY

In accordance with federal reporting requirements mandated by the U.S. Department of Education, Office of Special Education Programs (OSEP), state lead agencies under Part B of the Individuals with Disabilities Education Act must report annually on 20 performance indicators related to the provision of special education services to children ages 3-21. This report presents findings of a survey conducted by the Louisiana Department of Education (LDE) to address Indicator #8, the “percent of parents with a child receiving special education services who reported that schools facilitated parent involvement as a means of improving services and results for children with disabilities.”

The survey administered by the LDE included a 25-item rating scale, the Schools’ Efforts to Partner with Parents Scale (SEPPS), developed and validated by the National Center for Special Education Accountability Monitoring (NCSEAM). Survey responses were available from a total of 2,850 respondents, of which 2,847 provided valid data. This number exceeds the minimum number required for an adequate confidence level based on established survey sample guidelines (e.g., <http://www.surveysystem.com/sscalc.htm>). The data set submitted for analysis contained no personally identifiable information on the respondents.

Data from the rating scale were analyzed through the Rasch measurement framework. The analysis produces a measure for each survey respondent on a scale from 0 to 1,000. Each measure reflects the extent to which the parent indicated that schools facilitated that parent’s involvement. The measures of all respondents were averaged to yield a mean measure reflecting the overall performance of Louisiana schools’ facilitation of parent involvement.

OSEP requires that the state’s performance be reported as the *percent* of parents who report that schools facilitated their involvement. Deriving a percent from a continuous distribution requires application of a standard, or cut-score. The LDE elected to apply the standard recommended by a nationally representative stakeholder group convened by

NCSEAM. The recommended standard, established based on item content expressed in the scale, was operationalized as a measure of 600. Thus, the percent of parents who report that schools facilitated their involvement was calculated as the percent of parents with a measure of 600 or above on the SEPPS.

The following points represent the major findings related to Indicator #8.

1. Louisiana's Mean Measure on the SEPPS

Louisiana's mean measure on the SEPPS is 544, with a standard deviation of 144. The standard error of the sample mean is 2.7. The 95% confidence interval for the sample mean is 538.3 – 548.8. This means that there is a 95% likelihood that the true value of the state mean is within this range.

Descriptively, a mean measure of 544 indicates that schools are doing a good job of facilitating parent involvement in certain ways. For example, in this sample of parents of students receiving special education services in Louisiana, over 90% agreed, with 53% agreeing strongly or very strongly, that teachers are available to speak with parents, and that at the IEP meeting, accommodations and modifications needed by the child were discussed. In other areas, agreement is considerably weaker. For example, only 68% of parents agreed, with only 31% of parents expressing strong or very strong agreement, that the school explains what options parents have if they disagree with a decision of the school. Further descriptive information is provided in Section 4.2.

2. Louisiana's Percent on Indicator #8

The percent of parents who reported that schools facilitated parent involvement, calculated as the percentage of respondents with a SEPPS measure at or above the adopted standard of 600, is 31%. The standard error of the sample percentage is 0.9%. The 95% confidence interval for the sample percentage is 29% - 32.4%. This means that there is a 95% likelihood that the true value of Louisiana's state-level percentage is between 29% and 32.4%.

Descriptively, a parent with a measure at or above 600 would have a very high likelihood (95% or greater) of having agreed with the item that calibrates at 600 (see Section 5 for an explanation of item calibrations, and Table 14 for SEPPS item calibration values). In other words, a parent with a measure of 600 would typically have expressed strong or very strong agreement with all the items having calibrations at or below 600, and would have expressed simple agreement with items having higher calibrations. Just under one-third of parents of students with disabilities served in the state of Louisiana had measures high enough to support the claim that schools facilitate parent involvement at the level deemed desirable and appropriate by the LDE.

SECTION 2

METHOD

Federal Requirements

Lead Agencies under Part B of the Individuals with Disabilities Education Improvement Act (IDEA 2004) are currently required to report data annually addressing 20 key performance indicators. Each Lead Agency was required to submit a State Performance Plan (SPP) to OSEP in 2005 detailing its plan to collect data addressing the 20 indicators, as well as baseline data for indicators on which the states had previously been required to report data to the federal government. Indicator #8, “the percent of parents with a child receiving special education services who report that schools facilitated parent involvement as a means of improving services and results for children with disabilities,” is a new indicator in the federal accountability system. States were asked to submit baseline data for this indicator in February 2007.

State-level performance on the indicator must be reported annually. Districts with an average daily membership (ADM) of 50,000 or more must be included in each year’s data collection. Data addressing each district’s performance on the indicator must be collected at least once in the 6-year period of the SPP.

Survey Instrument

For the purpose of addressing Indicator #8 of the State Performance Plan, the LDE elected to use the Schools’ Efforts to Partner with Parents Scale (SEPPS) developed by the National Center for Special Education Accountability Monitoring (NCSEAM). This instrument was developed for the purpose of providing states with a valid and reliable tool for measuring the extent to which parents perceive that schools facilitate their involvement. Potential items to measure schools’ facilitation of parent involvement, as well as other aspects of parents’ involvement with and perceptions about special education services, were developed with substantial input from parents and other key stakeholders across the country. A full description of the development of the item content is available at www.accountabilitydata.org.

As part of its National Item Validation Study, NCSEAM collected data from a nationally representative sample of over 2,500 parents of children receiving special education services. Results of NCSEAM's data analyses supported the high reliability and validity of the SEPPS. Additionally, the study yielded a large bank of items that could be used to measure schools' facilitation of parent involvement. It was determined that a reliability of .90 or above could be achieved with 25 items. NCSEAM provided states with an appropriate 25-item set that represented the full range of available items.

Survey Administration

Surveys including a cover letter and postage-paid business reply envelope were mailed to 20,209 parents in 22 parishes in July 2008. The surveys were printed on 8.5" x 11" size paper, with the 25 items displayed in English on the front and back side of the survey. The surveys included the demographic items used in version 2 of the standard NCSEAM Part B Survey, including grade in school, ethnicity, and primary exceptionality.

Surveys were distributed to all parents of students with disabilities across the 22 parishes sampled. Parents were given until August 8, 2008 to return the surveys. In total, 2,850 completed surveys were returned, representing a return rate of 14.1%.

Standard

The LDE elected to apply the standard recommended by NCSEAM as a way of deriving the percent to be reported on Indicator #8, based on the distribution of measures on the SEPPS.

To establish a recommended standard, NCSEAM convened a group of nationally representative stakeholders, including parents of children with disabilities, state directors of special education, state early intervention coordinators, district and program personnel, advocates, attorneys, and community representatives. Participants were invited to examine a set of items from the SEPPS, laid out in their calibration order (see Table 14). The items towards the bottom of the scale, with lower calibrations, are items that parents tend to agree

with most. The items towards the top of the scale, with higher calibrations, are items that parents tend to agree with least. Because of the robust structure of the scale, a parent who agrees with a given statement will have a very high likelihood of agreeing, or agreeing even more strongly, with all the items below it on the scale.

The consensus of the stakeholder group was that schools could only be said to have adequately facilitated parent involvement if parents agreed with all the items on the scale up to, and including, the item, “The school explains what options parents have if they disagree with a decision of the school.” The metric of the SEPPS is such that to achieve this level of agreement, parents would have to have a measure of 600 or above. Thus, states adopting the recommended standard would calculate their percentage on Indicator #8 as the percent of parents with measures at or above 600 on the SEPPS.

SECTION 3

CHARACTERISTICS OF THE SAMPLE

This section describes characteristics of the obtained sample of 2,850 survey respondents. Table 1 presents the distribution of the sample by race/ethnicity.

Table 1. Distribution of Race/Ethnicity in the Sample		
Race/Ethnicity	N	Percentage*
American Indian or Alaskan Native	28	1%
Asian or Pacific Islander	12	<1%
Black or African-American	1,049	37%
Hispanic or Latino	24	<1%
White	1,736	61%
Missing	1	<1%

Table 2 presents the distribution of the sample by students' gender.

Table 2. Distribution of Gender in the Sample		
Gender	N	Percentage*
Male	1,909	67%
Female	940	33%
Missing	1	<1%

* Percentages have been rounded and may not sum to exactly 100%.

Table 3 presents the distribution of the sample by students' grade level.

Table 3. Distribution of Grade Level in the Sample		
Grade Category	N	Percentage*
Pre-Kindergarten	292	10%
Kindergarten – Grade 5	1,537	54%
Grades 6 – 8	592	21%
Grades 9 – 12	428	15%
Missing	1	<1%

Table 4 presents the distribution of the sample by students' primary exceptionality.

Table 4. Distribution of Primary Exceptionality in the Sample		
Primary Exceptionality	N	Percentage*
Autism	123	4%
Developmental Delay	364	13%
Emotional Disturbance	42	2%
Hearing Impairment - Deafness	6	<1%
Hearing Impairment - Hard of Hearing	11	<1%
Mental Disability	343	12%
Multiple Disabilities	56	2%
Orthopedic Impairment	62	2%
Other Health Impairment	351	12%
Specific Learning Disability	747	26%
Speech or Language Impairments	706	25%
Traumatic Brain Injury	11	<1%
Visual Impairment	27	<1%
Missing	1	<1%

* Percentages have been rounded and may not sum to exactly 100%.

Table 5 presents the distribution of the sample by sampling category. The sampling categories were formed based on gender, ethnicity (White vs. non-White) and disability (high- vs. low-incidence).

Table 5. Distribution of Sampling Categories in the Sample		
Primary Exceptionality	N	Percentage*
High Incidence - White Male	885	31%
High Incidence - Non-White Male	576	20%
High Incidence - White Female	443	16%
High Incidence - Non-White Female	285	10%
Low Incidence - White Male	282	10%
Low Incidence - Non-White Male	166	6%
Low Incidence - White Female	126	4%
Low Incidence - Non-White Female	86	3%
Missing	1	<1%

* Percentages have been rounded and may not sum to exactly 100%.

SECTION 4

RESULTS PERTAINING TO MEASURES ON THE SEPPS AND LOUISIANA'S PERFORMANCE ON INDICATOR #8

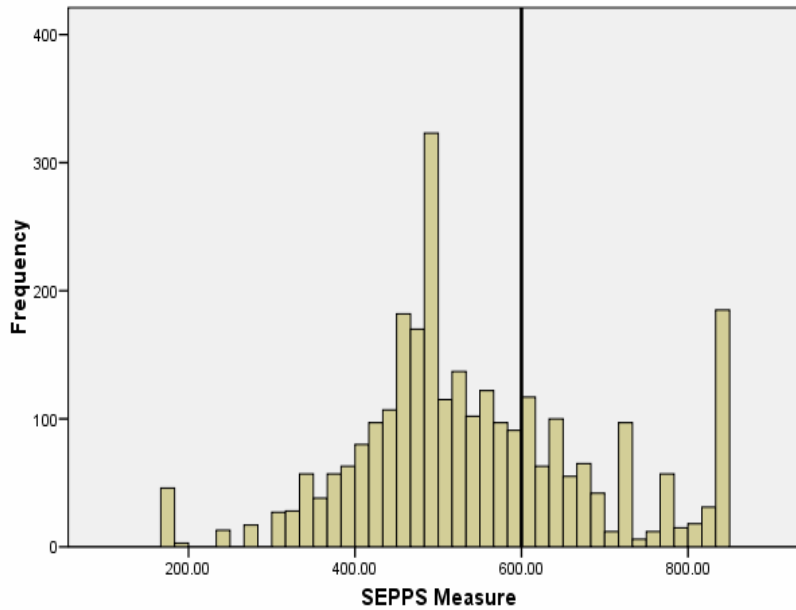
4.1. Distribution of the SEPPS Measures

The properties of the distribution of SEPPS measures for the sample of 2,847 respondents who provided valid data are shown in Table 6 below. The sample mean was 544. The standard deviation of measures was 144, indicating that the average distance of measures from the mean measure was 144 units. The standard error of the sample mean, that is, the expected error of the sample mean in estimating the true population mean for Louisiana, was 2.7. The 95% confidence interval for the true population mean for Louisiana extended from 538.3 to 548.8, indicating that we are 95% confident that the true population mean for parents of students in Louisiana lies within this range.

Table 6. Properties of SEPPS Measures			
Sample Mean	Standard Deviation	Standard Error of the Sample Mean	95% Confidence Interval for the Population Mean
544	144	2.7	538.3 – 548.8

The distribution of SEPPS measures obtained for the 2,847 respondents who provided valid data is shown in Figure 1. Each bar represents the number of respondents who had a measure at a particular value. The black line corresponds to a measure of 600, applied as the standard. As seen in the graph, most parents had measures below the standard value of 600.

Figure 1. Distribution of SEPPS Measures



The distribution of measures approximates a normal distribution, with the exception of an unexpectedly high number of respondents with measures at the extreme positive end of the scale (represented by the high bar at the extreme right of the graph). These individuals responded in the “very strongly agree” category to each and every item. When individuals fail to make any distinction among items that are known to have different levels of agreeability, they are said to display a “response set,” that is, a uniform way of responding that makes it hard to judge whether the responses are authentic or are, in effect, a way of complying with the task that does not really provide useful information. This phenomenon should be taken into consideration when interpreting the findings. That is, if data from respondents exhibiting a response set were omitted from the analyses, the statewide mean would be somewhat lower than the mean calculated based on all the data. This is because although there was also a “response set” on the very low end of the scale, the surveys with unvarying positive responses greatly outnumbered those with unvarying negative responses.

4.2. Interpretation of the Mean SEPPS Measure

Descriptively, a mean measure of 544 indicates that schools are facilitating parent involvement in various ways. For example, in this sample of parents of students receiving special education services in Louisiana, at least 90% agreed, with 45% to 53% agreeing strongly or very strongly, that teachers are available to speak with parents, that accommodations and modifications that their child's evaluation report is written in terms that they understand. Approximately 85% of parents agreed, with 49% expressing strong or very strong agreement, that teachers treat parents as a team member.

About 80% of parents agreed, with about 43% agreeing strongly or very strongly, that teachers and administrators ensure that parents have fully understood the Procedural Safeguards, and that teachers and administrators show sensitivity to the needs of students with disabilities. Approximately 75% of parents agreed, with 35% to 38% agreeing strongly or very strongly, that the school offers parents a variety of ways to communicate with teachers, and that the school gives parents choices with regard to services that address their child's needs.

In other areas, schools' facilitation of parent involvement is less consistent. Approximately 60%-70% of parents agreed, with under one-third of parents expressing strong or very strong agreement, that the school explains what options parents have if they disagree with a decision of the school, and that the school provides information on agencies that can assist their child in the transition from school. Slightly more than 50% of parents agreed, with only about 24% expressing strong or very strong agreement, that they were given information about organizations that offer support for parents of students with disabilities, and that the school offers parents training about special education issues.

For reference, the frequency distribution of responses to all the items in the SEPPS is provided in Appendix A.

4.3. Louisiana’s Performance on Indicator #8: Percent of Parents at or above the Standard

The percentage of parents of a child receiving special education services who reported that “schools facilitated parent involvement as a means of improving services and results for children with disabilities,” calculated as the percentage of respondents with a SEPPS measure that met or exceeded the standard of 600, was 31%. Table 7 presents statistical information relevant to the percentage of respondents at or above the standard of 600.

Table 7. Percent of Parents at or above the Standard		
Percent at or above the Standard Value of 600	Standard Error of the Sample Percentage	95% Confidence Interval for Population Percentage
31% (875 out of 2847 met standard)	0.9%	29.0% - 32.4%

The standard error of the sample percentage, that is, the expected error of the sample percentage in estimating the true percentage of measures at or above the standard in the population of Louisiana parents, equaled 0.9%. Equations for computing the standard error of the sample percentage can be found in Moore & McCabe, 1998, p. 382.

The 95% confidence interval for the population percentage ranged from 29.0% to 32.4%. Confidence intervals for percentages, in contrast to confidence intervals for means, are asymmetrical. The asymmetric confidence interval reported here is the interval proposed by Wilson (1927), and is described in greater detail in Agresti (1996) and Penfield (2003).

4.4. Louisiana's Performance on the Indicator by Racial/Ethnic Category

Table 8 presents the percentage of respondents with measures that met or exceeded the standard, by racial/ethnic category. When considering these data, it is important to bear in mind that the sampling plan was not designed to yield a representative sample of parents *within* each racial/ethnic category. Therefore, the data are presented for illustrative purposes only.

Table 8. Percent of Parents at or above Standard by Racial/Ethnic Category				
Race/Ethnicity	Total N	N at or above the Standard Value of 600	Percent at or above the Standard Value of 600	95% Confidence Interval for the Population Percentage
American Indian or Alaskan Native	28	11	39%	24% - 58%
Asian or Pacific Islander	12	3	25%	9% - 53%
Black or African-American	1,048	318	30%	28% - 33%
Hispanic or Latino	24	7	29%	15% - 49%
White	1,734	536	31%	29% - 33%
Missing	1	0	0%	0%

4.5. Louisiana's Performance on the Indicator by Student's Grade

Table 9 presents the percentage of parents meeting or exceeding the standard of 600 as a function of their child's grade level. Grades were grouped into four meaningful categories, so that moderate sample sizes would exist in each category. The four categories are as follows: (a) Pre-Kindergarten, (b) Kindergarten to Grade 5, (c) Grade 6 to Grade 8, and (d) Grade 9 to Grade 12.

Table 9. Percent of Parents at or above Standard by Grade Category				
Grade Category	N	N at or above the Standard Value of 600	Percent at or above the Standard Value of 600	95% Confidence Interval for the Population Percentage
Pre-Kindergarten	292	93	32%	27% - 37%
Kindergarten – Grade 5	1535	483	31%	29% - 34%
Grades 6 – 8	592	160	27%	24% - 31%
Grades 9 – 12	427	139	33%	28% - 37%
Missing	1	0	0%	0%

4.6. Louisiana's Performance on the Indicator by Student's Primary Exceptionality

Table 10 presents the percentage of parents meeting or exceeding the standard of 600 as a function of their child's primary exceptionality. It should be noted that owing to the small number of students in some of the categories, the confidence intervals are very large. This means that the percentage given may not be a very accurate estimate of the true percentage for that category.

Table 10. Percent of Parents at or above Standard by Primary Exceptionality				
Student's Primary Exceptionality	Total N	N at or above the Standard Value of 600	Percent at or above the Standard Value of 600	95% Confidence Interval for the Population Percentage
Autism	123	30	24%	18% - 33%
Developmental Delay	364	113	31%	27% - 36%
Emotional Disturbance	42	8	19%	10% - 33%
Hearing Impairment - Deafness	6	3	50%	19% - 81%
Hearing Impairment - Hard of Hearing	11	3	27%	10% - 57%
Mental Disability	343	105	31%	26% - 36%
Multiple Disabilities	56	13	23%	14% - 36%
Orthopedic Impairment	61	23	38%	27% - 50%
Other Health Impairment	351	98	28%	23% - 33%
Specific Learning Disability	746	234	31%	28% - 35%
Speech or Language Impairments	705	234	33%	30% - 37%
Traumatic Brain Injury	11	1	9%	2% - 38%
Visual Impairment	27	10	37%	22% - 56%
Missing	1	0	0%	0%

4.7. Louisiana's Performance on the Indicator by Part B vs. 619 Administration

Table 11 presents the percentage of parents at or above the standard of 600, separately for children ages 3-5 receiving services under Section 619 and students 6-21 receiving services under Part B, along with the associated 95% confidence intervals for the true population percentages.

Table 11. Percent of Parents at or above Standard by Part B Administration				
Administration	N	N at or above the Standard Value of 600	Percent at or above the Standard Value of 600	95% Confidence Interval for the Population Percentage
619 Preschool (PK)	292	93	32%	27% - 37%
Part B School Age (KG-12)	2,554	782	31%	29% - 32%
Missing	1	0	0%	0%

4.8. Louisiana's Performance on the Indicator by Gender

Table 12 presents the percentage of parents at or above the standard of 600, separately for each gender, along with the associated 95% confidence intervals for the true population percentages.

Table 12. Percent of Parents at or above Standard by Gender				
Gender	N	N at or above the Standard Value of 600	Percent at or above the Standard Value of 600	95% Confidence Interval for the Population Percentage
Male	1908	563	30%	28% - 32%
Female	938	312	33%	30% - 36%
Missing	1	0	0%	0%

4.9. Louisiana's Performance on the Indicator by Sampling Category

Table 13 presents the percentage of parents at or above the standard of 600 separately for each sampling category, along with the associated 95% confidence intervals for the true population percentages.

Table 13. Percent of Parents at or above Standard by Sampling Category				
Sampling Category	N	N at or above the Standard Value of 600	Percent at or above the Standard Value of 600	95% Confidence Interval for the Population Percentage
High Incidence - White Male	884	259	29%	26% - 32%
High Incidence - Non-White Male	576	180	31%	28% - 35%
High Incidence - White Female	442	156	35%	31% - 40%
High Incidence - Non-White Female	285	84	29%	24% - 35%
Low Incidence - White Male	282	84	30%	25% - 35%
Low Incidence - Non-White Male	166	40	24%	18% - 31%
Low Incidence - White Female	126	37	29%	22% - 38%
Low Incidence - Non-White Female	85	35	41%	31% - 52%
Missing	1	0	0%	0%

SECTION 5

THE RASCH MEASUREMENT FRAMEWORK

The measurement approach used by NCSEAM, known as the Rasch framework, applies a series of parametric models to estimate the properties of each survey item and each respondent in a way that places individuals and items on a common metric (Bond & Fox, 2001; Fischer & Molenaar, 1995; Rasch, 1960; Wright & Masters, 1982). The Rasch approach offers many advantages over typical approaches to survey development. First, it is possible to test whether the items administered belong together, that is, whether they are all related to the construct that the scale is supposed to measure. Ongoing confirmation of the fit of the items helps to maintain the quality of the measurement system. It is also possible to test whether the response categories are operating in the expected fashion. Often, the way in which respondents actually use the response categories does not correspond to the equidistant way in which they are laid out on paper. Extreme categories (e.g., “very strongly disagree”) are sometimes used so infrequently that it makes sense to combine them with an adjacent, less extreme, category (“very strongly disagree/strongly disagree”).

Second, it is possible to determine where each item is located on the measurement ruler. The item’s location is referred to as the item’s “calibration.” Typically, items in a test or survey are not all equal with respect to the amount of the attribute or quality that the items are measuring. It has been empirically demonstrated, in fact, that items in the SEPPS scale are not all of equal agreeability. Items range from those that are most likely to draw agree responses to those that are least likely to draw agree responses. Highly agreeable items have low calibrations; less agreeable items have higher calibrations. Table 14 displays the SEPPS items in calibration order. The item, “At the IEP meeting, we discussed accommodations and modifications that my child would need,” which calibrated at 490, was the most agreeable item in this item set. The item, “I was offered special assistance (such as child care) so that I could

participate in the Individualized Educational Program (IEP) meeting,” which calibrated at 673, was the least agreeable item in the item set.

Table 14. SEPPS Items in Calibration Order	
Item Calibration	Item
673	<i>I was offered special assistance (such as child care) so that I could participate in the Individualized Educational Program (IEP) meeting.</i>
653	<i>The school offers parents training about special education issues.</i>
647	<i>I was given information about organizations that offer support for parents of students with disabilities.</i>
634	<i>The school provides information on agencies that can assist my child in the transition from school.</i>
600	<i>The school explains what options parents have if they disagree with a decision of the school.</i>
591	<i>I have been asked for my opinion about how well special education services are meeting my child's needs.</i>
581	<i>The school gives parents the help they may need to play an active role in their child's education.</i>
573	<i>Written justification was given for the extent that my child would not receive services in the regular classroom.</i>
570	<i>The school gives me choices with regard to services that address my child's needs.</i>
564	<i>At the IEP meeting, we discussed how my child would participate in statewide assessments.</i>
561	<i>The school offers parents a variety of ways to communicate with teachers.</i>
550	<i>The school communicates regularly with me regarding my child's progress on IEP goals.</i>
544	<i>Teachers and administrators seek out parent input.</i>
533	<i>Teachers and administrators show sensitivity to the needs of students with disabilities and their families.</i>
528	<i>Teachers and administrators ensure that I have fully understood the Procedural Safeguards [the rules in federal law that protect the rights of parents].</i>
526	<i>Teachers and administrators encourage me to participate in the decision-making process.</i>
523	<i>The school has a person on staff who is available to answer parents' questions.</i>
513	<i>All of my concerns and recommendations were documented on the IEP.</i>
511	<i>Teachers treat me as a team member.</i>
507	<i>I am considered an equal partner with teachers and other professionals in planning my child's program.</i>
505	<i>My child's evaluation report is written in terms I understand.</i>
505	<i>Written information I receive is written in an understandable way.</i>
504	<i>Teachers and administrators respect my cultural heritage.</i>
492	<i>Teachers are available to speak with me.</i>
490	<i>At the IEP meeting, we discussed accommodations and modifications that my child would need.</i>

The fact that items have highly stable calibrations (agreeability levels) regardless of the population that is asked to respond to the items is a very important attribute of well-constructed measurement scales. This stability means that items with similar calibrations are, for all intents and purposes, interchangeable. As an example, this is why the SAT is the “same” test each time it is administered, even though it contains different items each time. The score achieved on any particular version of the SAT is comparable to the score achieved on any other version. Thus, a state can change some of the items on the survey from year to year, and still have validly comparable SEPPS measures across successive years. Guidelines for creating comparable item sets are available at: www.accountabilitydata.org.

Third, a Rasch analysis condenses information from a person’s responses to all the items in a scale into a single number. That number is the person’s measure on the scale. Since the Rasch framework puts measures on the same metric as item calibrations, a person’s measure on a scale can be meaningfully interpreted in terms of the items on the scale. A person with a higher measure is expressing more agreement with items, overall, than a person with a lower measure. When SEPPS measures from a representative sample of parents are aggregated, the average value represents a reliable and highly interpretable measure of the extent to which schools are facilitating parent involvement.

Fourth, a Rasch analysis yields an estimate of the reliability of both the calibration values (related to the items) and the measures (related to people’s responses). Scientific approaches to measurement require that the amount of “error,” or imprecision, in the system be estimated, so that interpretations based on the measures can take this into consideration.

For a more detailed explanation of these concepts, please refer to Bond and Fox (2001) and Wright and Masters (1982).

SECTION 6

PSYCHOMETRIC PROPERTIES OF THE SEPPS

6.1. Psychometric Properties of SEPPS Measures

The quality of a measurement instrument, and by implication the usefulness of inferences drawn from measures derived from the instrument, is assessed in terms of two characteristics of the instrument, namely, reliability and validity. The reliability of the obtained SEPPS measures pertains to the extent to which a particular individual would be expected to attain the same SEPPS measure if the SEPPS were administered to the individual multiple times. That is, reliability concerns the stability of the SEPPS measure¹ (Crocker & Algina, 1986; Lord, 1980; Traub, 1994). Validity, on the other hand, concerns the extent to which the scale actually measures the intended attribute, in this case, schools' facilitation of parent involvement.² The validity of the SEPPS measures can be evaluated using numerous approaches, several of which are described below.

Statistics used to express measurement reliability range from 0 (indicating lack of any stability) to 1 (indicating perfect stability). The reliability of the SEPPS measures for the Louisiana sample was measured in the Rasch framework to be .91, indicating a high level of stability in the obtained SEPPS measures. An alternative approach to estimating the reliability of the SEPPS measures is to employ Cronbach's alpha, which makes no assumptions about the fit of the responses to any particular model (Cronbach's alpha is based on the simpler true score model, and is commonly used in the behavioral sciences as a model-free index of reliability). The value of Cronbach's alpha was .98, which is consistent with the value obtained from the

¹ A definition of reliability that is more theoretically accurate describes reliability as the extent to which a given respondent's score is determined by random error versus his or her true level of the trait being measured; low reliability coincides with a high level of measurement error, and high reliability coincides with a low level of measurement error (Crocker & Algina, 1986; Lord, 1980; Traub, 1994).

² This definition of validity is a simplification of the definition now endorsed by the technical measurement community. The contemporary definition of validity describes it as the extent to which evidence and theory support the interpretations of the scale scores entailed by the proposed use of the scale (AERA/APA/NCME, 1999; Osterlind, 2006). That is, the validity of the SEPPS measures is based on how much evidence we have that the measures support the intended purposes of the use of the measures. In the case of measures used to address system accountability, we will want to ascertain whether use of the measures leads to correct decisions (e.g., about need for intervention) at the state and district levels.

Rasch analysis. These results suggest that the measures obtained from the SEPPS contain relatively little error, and thus serve as stable measures of the underlying construct (i.e., schools' facilitation of parent involvement).

Support for the validity of the measures obtained by the SEPPS comes from several lines of evidence. First, items for the SEPPS were developed in consultation with multiple groups of individuals, including parents, school personnel, district-level administrators, and advocates, with direct and extensive experience related to schools' efforts to encourage parent involvement and to ensure that parents are active participants in decision-making related to their child's education. Subsequent review of the items by expert panels, researchers, and NCSEAM's Parent/Family Involvement Workgroup confirmed that the item content maps onto the intended content domain of the SEPPS. Second, dimensionality analysis (i.e., principal components analysis and factor analysis) indicates that the items of the SEPPS are all measuring one primary construct, which is likely the intended one, i.e., schools' facilitation of parent involvement. The results of the dimensionality analyses are presented in Winsteps output displayed in Appendix C. A third line of evidence is related to a characteristic of items known as discrimination. The high discrimination indices of the SEPPS items (see Table 15, below) indicate that the items are providing useful information concerning the construct that is intended to be measured. All of these types of evidence support the claim that the measures obtained using the SEPPS are valid.

6.2. Psychometric Properties of the SEPPS Items

To better understand the properties of the items included in the SEPPS (i.e., which items are located either low or high on the trait scale and which items seem to work well versus those that may require revision), several aspects of each item can be examined. The results of the Rasch analysis provide information concerning two aspects of the items. The first is the location of each item with respect to the underlying construct being measured, specifically, what overall level of endorsement of school efforts is required to provide a positive endorsement of the item.

The second relates to how well the item fits the measurement model, in other words, how accurate the Rasch model is in describing the properties of the item.

Table 15 gives the calibration of each item (previously presented in Table 14 above), along with indices of the item’s fit to the Rasch model.

Table 15. Calibration, Fit, and Discrimination of the SEPPS Items				
Item	Item Calibration	Infit	Outfit	Discrimination
1	507	0.99	1.21	0.70
2	673	2.25	2.69	0.58
3	564	1.42	1.48	0.68
4	490	0.94	0.92	0.69
5	513	0.83	0.80	0.72
6	573	1.69	2.14	0.62
7	647	1.58	1.59	0.69
8	591	1.08	1.03	0.75
9	505	0.86	0.92	0.72
10	505	0.86	0.98	0.71
11	492	0.78	0.71	0.73
12	511	0.73	0.69	0.77
13	544	0.77	0.76	0.78
14	533	0.76	0.70	0.79
15	526	0.62	0.55	0.80
16	504	0.81	0.84	0.74
17	528	0.79	0.75	0.77
18	523	0.77	0.88	0.77
19	550	0.72	0.67	0.79
20	570	0.70	0.65	0.81
21	653	1.23	1.07	0.76
22	561	0.85	0.80	0.78
23	581	0.74	0.67	0.80
24	634	1.16	1.04	0.76
25	600	0.97	0.91	0.77

The column labeled “Item Calibration” provides the value of the location parameter of the item. The higher the value of the item calibration, the greater the level of overall endorsement of schools’ efforts to facilitate parent involvement that is required to provide an agreeable response

to the item (i.e., a response of agree, strongly agree, or very strongly agree). The “Infit” and “Outfit” columns provide two measures of how well the Rasch model fits the responses provided to each item. In general, values of 1.0 indicate very good fit. Values approaching 2, or less than 0.5, suggest poorer fit (Bond & Fox, 2001). Only one item, Item #2 (“I was offered special assistance (such as child care) so that I could participate in the IEP meeting”) exhibited less than ideal levels of fit.

The rightmost column of the table presents an index of discrimination for each item, calculated as the corrected item-total correlation coefficient. The values in this column are all relatively high (> 0.5), indicating that each item is discriminating well between respondents who had more positive versus more negative perceptions of schools’ facilitation of parent involvement.

While Item #2 displays a less than ideal level of fit, it nevertheless has a strong discrimination index, which provides evidence that it is a useful item. Therefore, this item appears to be measuring the intended construct relatively well, but is not a very good fit for the Rasch framework, which employs specific assumptions concerning the properties of the items. The poor fit of Item #2 makes this item a possible candidate for revision and/or replacement in future administrations of the SEPPS.

Table 16 is provided to assist in interpretation of the item calibrations in relation to the observed distribution of responses to items for parents in the Louisiana sample (Appendix A). The table displays the observed percentage of responses in (a) any of the three agree categories (A=agree, SA=strongly agree, VSA=very strongly agree) and (b) only the strongly and very strongly agree categories for each of the items. As seen in the table, the percentage of agree responses is highest for items with the lowest calibrations. Conversely, the percentage of agree responses is lowest for items with the highest calibrations. The percentage of responses in the two strongest categories of agreement ranged from 20% to 53%; the percentage of responses in any of the agree categories ranged from 42% to 92%.

The fact that the rank ordering of items by the percentage of agree responses does not correspond exactly to the rank ordering by item calibration is expected, based on the measurement model and the calibration methodology that were applied (see Section 7).

Table 16. SEPPS Item Calibrations, Observed Percentage of Responses in the Strongly Agree/Very Strongly Agree Categories, and Observed Percentage of Responses in Any Agree Category				
Item #	Item Calibration	% SA/VSA	% A/SA/VSA	Item
4	490	53%	91%	At the IEP meeting, we discussed accommodations and modifications that my child would need.
11	492	53%	90%	Teachers are available to speak with me.
16	504	45%	92%	Teachers and administrators respect my cultural heritage.
9	505	50%	90%	My child's evaluation report is written in terms I understand.
10	505	49%	90%	Written information I receive is written in an understandable way.
1	507	51%	86%	I am considered an equal partner with teachers and other professionals in planning my child's program.
12	511	49%	85%	Teachers treat me as a team member.
5	513	51%	89%	All of my concerns and recommendations were documented on the IEP.
18	523	41%	86%	The school has a person on staff who is available to answer parents' questions.
15	526	45%	83%	Teachers and administrators encourage me to participate in the decision-making process.
17	528	43%	82%	Teachers and administrators ensure that I have fully understood the Procedural Safeguards.
14	533	43%	79%	Teachers and administrators show sensitivity to the needs of students with disabilities.
13	544	42%	78%	Teachers and administrators seek out parent input.
19	550	43%	80%	The school communicates regularly with me regarding my child's progress on IEP goals.
22	561	35%	75%	The school offers parents a variety of ways to communicate with teachers.
3	564	36%	72%	At the IEP meeting, we discussed how my child would participate in statewide assessments.
20	570	38%	75%	The school gives me choices with regard to services that address my child's needs.

6	573	32%	70%	Written justification was given for the extent that my child would not receive services.
23	581	35%	75%	The school gives parents the help they may need to play an active role in their child's education.
8	591	36%	70%	I have been asked for my opinion about how well the special education services my child receive are meeting my child's needs.
25	600	31%	68%	The school explains what options parents have if they disagree with a decision of the school.
24	634	27%	60%	The school provides information on agencies that can assist my child in the transition from school.
7	647	24%	54%	I was given information about organizations that offer support for parents of students with disabilities.
21	653	23%	53%	The school offers parents training about special education issues.
2	673	20%	42%	I was offered special assistance (such as child care) so that I could participate in the IEP meeting.

SECTION 7

CALIBRATION METHODOLOGY

The Rasch calibrations were conducted using the Winsteps software program. The original six-category response structure was reduced to a three-category response structure by collapsing the bottom three categories (very strongly disagree, strongly disagree, disagree) into one category, and the top two categories (strongly agree, very strongly agree) into a single category. The rationale for combining the categories was based on two factors: (a) low response rates (i.e., < 5%) in the extreme categories, making their corresponding threshold parameter estimates relatively unstable, and (b) the extreme category threshold estimates were not far enough apart to indicate that the distinct categories served to meaningfully distinguish between individuals having substantially different levels of the trait being measured.

The SEPPS was calibrated using the Rating Scale Model (Wright & Masters, 1982). An initial calibration was conducted with all item parameters freed, and on a standard metric (mean = 0 and 1 scale unit per logit). The resulting item location parameter estimates were then correlated with the values obtained by Dr. William P. Fisher, Jr., consultant to NCSEAM, on a larger multi-state database for the same items. The resulting correlation was 0.98, indicating a very strong linear relationship between the locations of the items for the Louisiana sample and the larger multi-state sample. In addition, the structure of the two thresholds was very similar to that obtained in the multi-state calibration. As a result of the nearly perfect relationship between the initial Louisiana calibration and the multi-state calibration, a second calibration of the Louisiana data was conducted in which all item location parameters and threshold values were fixed to the values obtained in the multi-state analysis (the values of the fixed parameters are documented in the Winsteps control file shown in Appendix B). The purpose of fixing the item parameter values to the multi-state analysis values was to set the metric of the items such that the resulting item and person location measures are on an equivalent metric with the multi-state

analysis, thus permitting an exact comparison of the Louisiana results to those of other states employing a Rasch calibration.

It should be noted that in the multi-state calibration, efforts were taken to ensure that at a measure of 600 there would be a 95% chance of observing an agreeable response (agree, strongly agree, or very strongly agree) on the item that the national stakeholder group convened by NCSEAM identified as the threshold item for the recommended standard (Item #25, “The school explains what options parents have if they disagree with a decision of the school”). Specifically, the values of the threshold parameters were established so that a respondent with a measure of 600 would have a .95 likelihood of having an agreeable response to the item.

The control file used in the current analysis of the SEPPS is given in Appendix B. The pertinent output related to the properties of each item on the SEPPS scale is given in Appendix C.

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Appendix A: Response Frequencies by Item

Frequency Table

Q1 - I am considered an equal partner with teachers and other professionals in planning my child's program.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	104	3.7	3.7	3.7
	Strongly Disagree	56	2.0	2.0	5.7
	Disagree	229	8.0	8.1	13.8
	Agree	994	34.9	35.2	49.0
	Strongly Agree	484	17.0	17.2	66.2
	Very Strongly Agree	954	33.5	33.8	100.0
	Total	2821	99.0	100.0	
Missing	System	28	1.0		
Total		2849	100.0		

Q2 - I was offered special assistance (such as child care) so that I could participate in the Individualized Educational Program (IEP) meeting.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	444	15.6	17.5	17.5
	Strongly Disagree	114	4.0	4.5	22.0
	Disagree	907	31.8	35.8	57.8
	Agree	569	20.0	22.5	80.3
	Strongly Agree	171	6.0	6.7	87.0
	Very Strongly Agree	329	11.5	13.0	100.0
	Total	2534	88.9	100.0	
Missing	System	315	11.1		
Total		2849	100.0		

Q3 - At the IEP meeting, we discussed how my child would participate in statewide assessments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	225	7.9	8.2	8.2
	Strongly Disagree	79	2.8	2.9	11.1
	Disagree	456	16.0	16.6	27.7
	Agree	989	34.7	36.0	63.7
	Strongly Agree	343	12.0	12.5	76.2
	Very Strongly Agree	654	23.0	23.8	100.0
	Total	2746	96.4	100.0	
Missing	System	103	3.6		
Total		2849	100.0		

Q4 - At the IEP meeting, we discussed accommodations and modifications that my child would need.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	85	3.0	3.0	3.0
	Strongly Disagree	33	1.2	1.2	4.2
	Disagree	135	4.7	4.8	9.0
	Agree	1062	37.3	38.0	47.0
	Strongly Agree	481	16.9	17.2	64.2
	Very Strongly Agree	1002	35.2	35.8	100.0
	Total	2798	98.2	100.0	
Missing	System	51	1.8		
Total		2849	100.0		

Q5 - All of my concerns and recommendations were documented on the IEP.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	104	3.7	3.7	3.7
	Strongly Disagree	42	1.5	1.5	5.2
	Disagree	160	5.6	5.7	10.9
	Agree	1078	37.8	38.4	49.3
	Strongly Agree	458	16.1	16.3	65.6
	Very Strongly Agree	965	33.9	34.4	100.0
	Total	2807	98.5	100.0	
Missing	System	42	1.5		
Total		2849	100.0		

Q6 - Written justification was given for the extent that my child would not receive services in the regular classroom.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	204	7.2	8.1	8.1
	Strongly Disagree	86	3.0	3.4	11.4
	Disagree	468	16.4	18.5	29.9
	Agree	956	33.6	37.7	67.6
	Strongly Agree	313	11.0	12.4	80.0
	Very Strongly Agree	507	17.8	20.0	100.0
	Total	2534	88.9	100.0	
Missing	System	315	11.1		
Total		2849	100.0		

Q7 - I was given information about organizations that offer support for parents of students with disabilities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	401	14.1	14.8	14.8
	Strongly Disagree	134	4.7	5.0	19.8
	Disagree	723	25.4	26.7	46.5
	Agree	790	27.7	29.2	75.7
	Strongly Agree	212	7.4	7.8	83.5
	Very Strongly Agree	447	15.7	16.5	100.0
	Total	2707	95.0	100.0	
Missing	System	142	5.0		
Total		2849	100.0		

Q8 - I have been asked for my opinion about how well the special education services my child receives are meeting my child's needs.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	281	9.9	10.1	10.1
	Strongly Disagree	110	3.9	4.0	14.0
	Disagree	458	16.1	16.5	30.5
	Agree	943	33.1	33.9	64.4
	Strongly Agree	322	11.3	11.6	75.9
	Very Strongly Agree	670	23.5	24.1	100.0
	Total	2784	97.7	100.0	
Missing	System	65	2.3		
Total		2849	100.0		

Q9 - My child's evaluation report is written in terms I understand.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	94	3.3	3.3	3.3
	Strongly Disagree	39	1.4	1.4	4.7
	Disagree	148	5.2	5.2	9.9
	Agree	1141	40.0	40.4	50.3
	Strongly Agree	447	15.7	15.8	66.2
	Very Strongly Agree	956	33.6	33.8	100.0
	Total	2825	99.2	100.0	
Missing	System	24	.8		
Total		2849	100.0		

Q10 - Written information I receive is written in an understandable way.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	86	3.0	3.1	3.1
	Strongly Disagree	36	1.3	1.3	4.3
	Disagree	153	5.4	5.4	9.8
	Agree	1149	40.3	40.9	50.7
	Strongly Agree	462	16.2	16.4	67.1
	Very Strongly Agree	924	32.4	32.9	100.0
	Total	2810	98.6	100.0	
Missing	System	39	1.4		
Total		2849	100.0		

Q11 - Teachers are available to speak with me.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	96	3.4	3.4	3.4
	Strongly Disagree	39	1.4	1.4	4.8
	Disagree	145	5.1	5.1	9.9
	Agree	1042	36.6	37.0	46.9
	Strongly Agree	450	15.8	16.0	62.8
	Very Strongly Agree	1048	36.8	37.2	100.0
	Total	2820	99.0	100.0	
Missing	System	29	1.0		
Total		2849	100.0		

Q12 - Teachers treat me as a team member.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	128	4.5	4.5	4.5
	Strongly Disagree	58	2.0	2.1	6.6
	Disagree	243	8.5	8.6	15.2
	Agree	1006	35.3	35.7	51.0
	Strongly Agree	446	15.7	15.8	66.8
	Very Strongly Agree	935	32.8	33.2	100.0
	Total	2816	98.8	100.0	
Missing	System	33	1.2		
Total		2849	100.0		

Q13 - Teachers and administrators: -seek out parent input.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	171	6.0	6.4	6.4
	Strongly Disagree	91	3.2	3.4	9.8
	Disagree	325	11.4	12.1	21.9
	Agree	974	34.2	36.3	58.2
	Strongly Agree	427	15.0	15.9	74.2
	Very Strongly Agree	693	24.3	25.8	100.0
	Total	2681	94.1	100.0	
Missing	System	168	5.9		
Total		2849	100.0		

Q14 - Teachers and administrators: -show sensitivity to the needs of students with disabilities and their families.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	193	6.8	7.2	7.2
	Strongly Disagree	76	2.7	2.8	10.0
	Disagree	291	10.2	10.9	20.9
	Agree	964	33.8	36.0	56.8
	Strongly Agree	425	14.9	15.9	72.7
	Very Strongly Agree	732	25.7	27.3	100.0
	Total	2681	94.1	100.0	
Missing	System	168	5.9		
Total		2849	100.0		

Q15 - Teachers and administrators: -encourage me to participate in the decision-making process.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	163	5.7	6.1	6.1
	Strongly Disagree	69	2.4	2.6	8.7
	Disagree	233	8.2	8.7	17.4
	Agree	996	35.0	37.3	54.7
	Strongly Agree	430	15.1	16.1	70.8
	Very Strongly Agree	781	27.4	29.2	100.0
	Total	2672	93.8	100.0	
Missing	System	177	6.2		
Total		2849	100.0		

Q16 - Teachers and administrators: -respect my cultural heritage.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	82	2.9	3.2	3.2
	Strongly Disagree	23	.8	.9	4.1
	Disagree	109	3.8	4.3	8.4
	Agree	1185	41.6	46.7	55.1
	Strongly Agree	373	13.1	14.7	69.8
	Very Strongly Agree	768	27.0	30.2	100.0
	Total	2540	89.2	100.0	
Missing	System	309	10.8		
Total		2849	100.0		

Q17 - Teachers and administrators: -ensure that I have fully understood the Procedural Safeguards [the rules in federal law that protect the rights of parents].

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	173	6.1	6.5	6.5
	Strongly Disagree	52	1.8	2.0	8.4
	Disagree	258	9.1	9.7	18.1
	Agree	1030	36.2	38.6	56.8
	Strongly Agree	378	13.3	14.2	70.9
	Very Strongly Agree	775	27.2	29.1	100.0
	Total	2666	93.6	100.0	
Missing	System	183	6.4		
Total		2849	100.0		

Q18 - The school: -has a person on staff who is available to answer parents' questions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	119	4.2	4.4	4.4
	Strongly Disagree	46	1.6	1.7	6.1
	Disagree	226	7.9	8.3	14.4
	Agree	1217	42.7	44.9	59.4
	Strongly Agree	349	12.2	12.9	72.3
	Very Strongly Agree	751	26.4	27.7	100.0
	Total	2708	95.1	100.0	
Missing	System	141	4.9		
Total		2849	100.0		

Q19 - The school: -communicates regularly with me regarding my child's progress on IEP goals.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	160	5.6	5.9	5.9
	Strongly Disagree	47	1.6	1.7	7.6
	Disagree	329	11.5	12.1	19.7
	Agree	1022	35.9	37.6	57.4
	Strongly Agree	395	13.9	14.5	71.9
	Very Strongly Agree	762	26.7	28.1	100.0
	Total	2715	95.3	100.0	
Missing	System	134	4.7		
Total		2849	100.0		

Q20 - The school: -gives me choices with regard to services that address my child's needs.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	189	6.6	7.1	7.1
	Strongly Disagree	79	2.8	3.0	10.1
	Disagree	410	14.4	15.4	25.5
	Agree	978	34.3	36.8	62.2
	Strongly Agree	343	12.0	12.9	75.1
	Very Strongly Agree	662	23.2	24.9	100.0
	Total	2661	93.4	100.0	
Missing	System	188	6.6		
Total		2849	100.0		

Q21 - The school: -offers parents training about special education issues.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	320	11.2	12.5	12.5
	Strongly Disagree	127	4.5	5.0	17.5
	Disagree	743	26.1	29.0	46.5
	Agree	769	27.0	30.1	76.6
	Strongly Agree	192	6.7	7.5	84.1
	Very Strongly Agree	408	14.3	15.9	100.0
	Total	2559	89.8	100.0	
Missing	System	290	10.2		
Total		2849	100.0		

Q22 - The school: -offers parents a variety of ways to communicate with teachers.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	191	6.7	7.1	7.1
	Strongly Disagree	99	3.5	3.7	10.8
	Disagree	392	13.8	14.6	25.5
	Agree	1064	37.3	39.8	65.2
	Strongly Agree	320	11.2	12.0	77.2
	Very Strongly Agree	610	21.4	22.8	100.0
	Total	2676	93.9	100.0	
Missing	System	173	6.1		
Total		2849	100.0		

Q23 - The school: -gives parents the help they may need to play an active role in their child's education.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	193	6.8	7.2	7.2
	Strongly Disagree	85	3.0	3.2	10.4
	Disagree	395	13.9	14.8	25.2
	Agree	1056	37.1	39.6	64.8
	Strongly Agree	311	10.9	11.7	76.4
	Very Strongly Agree	629	22.1	23.6	100.0
	Total	2669	93.7	100.0	
Missing	System	180	6.3		
Total		2849	100.0		

Q24 - The school: -provides information on agencies that can assist my child in the transition from school.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	295	10.4	11.6	11.6
	Strongly Disagree	99	3.5	3.9	15.5
	Disagree	630	22.1	24.8	40.3
	Agree	832	29.2	32.8	73.1
	Strongly Agree	216	7.6	8.5	81.6
	Very Strongly Agree	466	16.4	18.4	100.0
	Total	2538	89.1	100.0	
Missing	System	311	10.9		
Total		2849	100.0		

Q25 - The school: -explains what options parents have if they disagree with a decision of the school.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Strongly Disagree	285	10.0	10.8	10.8
	Strongly Disagree	96	3.4	3.6	14.5
	Disagree	463	16.3	17.6	32.0
	Agree	980	34.4	37.2	69.2
	Strongly Agree	274	9.6	10.4	79.7
	Very Strongly Agree	536	18.8	20.3	100.0
	Total	2634	92.5	100.0	
Missing	System	215	7.5		
Total		2849	100.0		

Appendix B: WINSTEPS Control File

```
&INST ; THIS FILE MUST BE SAVED AS ASCII DOS TEXT BEFORE USE WITH WINSTEPS
Title="Louisiana Part B 2008: Equated to William Fisher's calibration"
ITEM1=1
DELIMITER=TAB ; specifies a tab as a delimiter
;FITI=7
;FITP=7
ITLEN=10 ;max length of item label
LCONV=0.0001
RCONV=0.001
RESCOR=2
NEWSCR="111233"
DATA=N:\consulting\Louisiana\LA2008\data1.TXT ; Name of data file
NI=25
XWIDE = 1
CODES = "123456"
IDFILE=*
1-39
+1-25
*
;ISELECT=E
IAFILE=*
1 507
2 673
3 564
4 490
5 513
6 573
7 647
8 591
9 505
10 505
11 492
12 511
13 544
14 533
15 526
16 504
17 528
18 523
19 550
20 570
21 653
22 561
23 581
24 634
25 600
*
SAFILE=*
2 = -128.28
3 = 14.28
*
NAME1 = 26; Column containing person name
NAMLEN = 15; Length of person name
PRCOMP=S
UDECIM=1
UMEAN=553
USCALE=54.105
CFILE=*
1 VS/S/Disagree
2 Agree
3 S/VSAgree
*
CSV=S
HLINES=N
IFILE=ItemStats.sav ;Name of file containing item-level statistics
PFILE=PersonStats.sav ;Name of file containing person-level statistics
REALSE=Y
TABLES=1110000001001100000000100011
```

&END
q1
q2
q3
q4
q5
q6
q7
q8
q9
q10
q11
q12
q13
q14
q15
q16
q17
q18
q19
q20
q21
q22
q23
q24
q25
END NAMES

Appendix C: Selected WINSTEPS Output

TABLE 1.2 Louisiana Part B 2008: Equated to Willi ZOU872ws.txt Oct 6 14:16 2008
 INPUT: 2849 PERSONS, 25 ITEMS MEASURED: 2846 PERSONS, 25 ITEMS, 3 CATS 3.57.1

```

PERSONS MAP OF ITEMS
<more>|<rare>
800 .##### +
      |
      |.## |
      |. |
      |. |
      |. T|
      |.### |
      |. |
700  |.## +
      |. |
      |. | q2
      |.## |T |
      |.## | q21 q7
      |.## |S| q24
      |.## |
      |### |S
600  |.## + q25
      |.## | q8
      |.## | q23
      |.## | q20 q6
      |.### |M q22 q3
      |.## | q19
      |### | q13
      |.## | q14 q15 q17
      |.### |M| q18
      |.## | q1 q10 q12 q5 q9
500  |.##### +S q16
      |.##### | q11 q4
      |.##### |
      |.##### |
      |.##### |T
      |.##### |
      |.## |
      |.## |
      |.## |S|
400  |.## +
      |.## |
      |.## |
      |.## |
      |.## |
      |. |
      |. |
      |. T|
300  |.## +
      |. |
      |. |
      |. |
200  |.## +
      |<less>|<frequ>
  
```

EACH '#' IS 21.

TABLE 3.1 Louisiana Part B 2008: Equated to Willi ZOU872ws.txt Oct 6 14:16 2008
 INPUT: 2849 PERSONS, 25 ITEMS MEASURED: 2846 PERSONS, 25 ITEMS, 3 CATS 3.57.1

SUMMARY OF 2528 MEASURED (NON-EXTREME) PERSONS

	RAW SCORE	COUNT	MEASURE	REAL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	50.0	23.7	520.83	26.89	1.04	-.2	1.01	-.2
S.D.	13.7	3.0	107.67	10.24	.55	2.0	.71	1.9
MAX.	74.0	25.0	767.96	76.21	3.55	6.3	9.23	6.3
MIN.	8.0	4.0	236.42	18.80	.01	-5.1	.01	-5.1
REAL RMSE	28.77	ADJ.SD	103.76	SEPARATION	3.61	PERSON RELIABILITY		.93
MODEL RMSE	25.65	ADJ.SD	104.57	SEPARATION	4.08	PERSON RELIABILITY		.94
S.E. OF PERSON MEAN = 2.14								

MAXIMUM EXTREME SCORE: 269 PERSONS
 MINIMUM EXTREME SCORE: 49 PERSONS
 LACKING RESPONSES: 3 PERSONS
 VALID RESPONSES: 94.9%

SUMMARY OF 2846 MEASURED (EXTREME AND NON-EXTREME) PERSONS

	RAW SCORE	COUNT	MEASURE	REAL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	51.4	23.7	543.56	35.06				
S.D.	14.9	3.0	143.79	24.99				
MAX.	75.0	25.0	836.36	101.91				
MIN.	8.0	4.0	169.34	18.80				
REAL RMSE	43.05	ADJ.SD	137.19	SEPARATION	3.19	PERSON RELIABILITY		.91
MODEL RMSE	41.26	ADJ.SD	137.74	SEPARATION	3.34	PERSON RELIABILITY		.92
S.E. OF PERSON MEAN = 2.70								

PERSON RAW SCORE-TO-MEASURE CORRELATION = .86 (approximate due to missing data)
 CRONBACH ALPHA (KR-20) PERSON RAW SCORE RELIABILITY = .98 (approximate due to missing data)

SUMMARY OF 25 MEASURED (NON-EXTREME) ITEMS

	RAW SCORE	COUNT	MEASURE	REAL ERROR	INFIT		OUTFIT	
					MNSQ	ZSTD	MNSQ	ZSTD
MEAN	5051.4	2399.8	555.12	2.33	1.00	-2.8	1.02	-1.8
S.D.	701.7	81.3	52.12	.33	.37	7.3	.48	6.3
MAX.	6006.0	2508.0	673.00	3.63	2.25	9.9	2.69	9.9
MIN.	3441.0	2258.0	490.00	2.14	.62	-9.9	.55	-9.9
REAL RMSE	2.35	ADJ.SD	52.07	SEPARATION	22.14	ITEM	RELIABILITY	1.00
MODEL RMSE	2.19	ADJ.SD	52.08	SEPARATION	23.73	ITEM	RELIABILITY	1.00
S.E. OF ITEM MEAN = 10.64								

UMEAN=553.000 USCALE=54.105
 ITEM RAW SCORE-TO-MEASURE CORRELATION = -.96 (approximate due to missing data)

TABLE 3.2 Louisiana Part B 2008: Equated to Willi ZOU872ws.txt Oct 6 14:16 2008
 INPUT: 2849 PERSONS, 25 ITEMS MEASURED: 2846 PERSONS, 25 ITEMS, 3 CATS 3.57.1

SUMMARY OF CATEGORY STRUCTURE. Model="R"

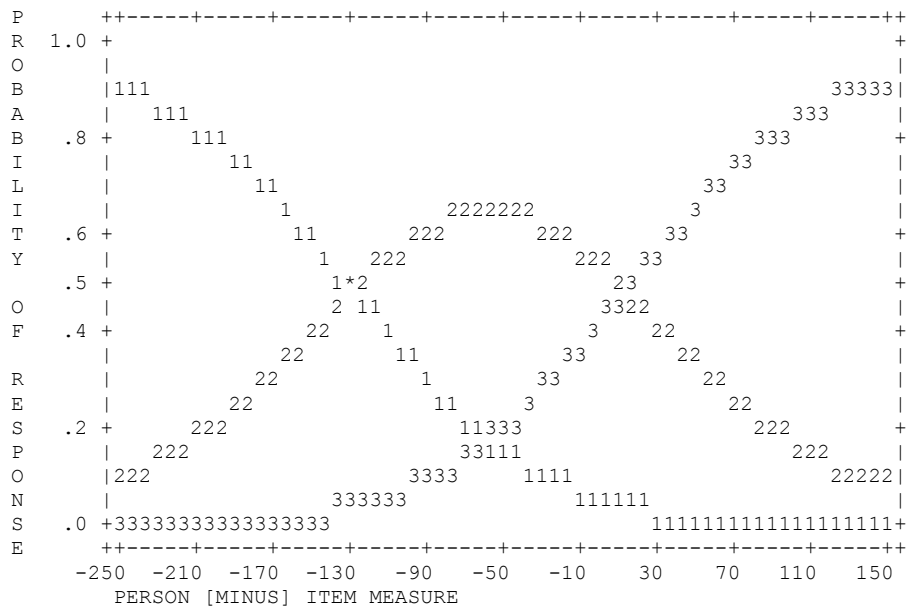
CATEGORY LABEL	SCORE	OBSERVED COUNT	OBSVD %	SAMPLE AVRGE	SAMPLE EXPECT	INFIIT MNSQ	OUTFIT MNSQ	STRUCTURE	CATEGORY	MEASURE
1	1	14456	23	-153.3	-161.	1.17	1.30	NONE	1	VS/S/Disagree
2	2	24786	39	-56.7	-48.7	.87	.83	-128.28A	4	Agree
3	3	20752	33	77.8	73.7	.91	1.00	14.28A (76.51)	5	S/VSAgree
MISSING		3206	5	-49.8						

OBSERVED AVERAGE is mean of measures in category. It is not a parameter estimate.

CATEGORY LABEL	STRUCTURE MEASURE	SCORE-TO-MEASURE S.E.	AT CAT.	50% CUM. PROBABLTY	COHERENCE M->C C->M	ESTIM DISCR	OBSERVED-EXPECTED RESIDUAL DIFFERENCE
1	NONE		-190.51	-INF -137.33	72% 58%		-2.4% -356.2
2	-128.28A	.68	-57.00	-137.33 23.33	-131.78 63% 77%	.87	3.0% 713.6
3	14.28A	.64	(76.51)	23.33 +INF	17.78 83% 73%	1.15	-1.7% -356.9

M->C = Does Measure imply Category?
 C->M = Does Category imply Measure?

CATEGORY PROBABILITIES: MODES - Structure measures at intersections



1 = VS/S/Disagree
 2 = Agree
 3 = S/VSAgree

TABLE 10.1 Louisiana Part B 2008: Equated to Will ZOU872ws.txt Oct 6 14:16 2008
 INPUT: 2849 PERSONS, 25 ITEMS MEASURED: 2846 PERSONS, 25 ITEMS, 3 CATS 3.57.1

PERSON: REAL SEP.: 3.61 REL.: .93 ... ITEM: REAL SEP.: 22.14 REL.: 1.00

ITEM STATISTICS: MISFIT ORDER

ENTRY NUMBER	RAW SCORE	COUNT	MEASURE	REAL S.E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTMEA CORR.	DISPLACE	ITEM
2	3441	2284	673.0A	3.6	2.25	9.9	2.69	9.9	A .58	8.7	q2
6	4434	2272	573.0A	2.8	1.69	9.9	2.14	9.9	B .62	11.4	q6
7	4054	2422	647.0A	2.8	1.58	9.9	1.59	9.9	C .69	-5.1	q7
3	4952	2455	564.0A	2.5	1.42	9.9	1.48	9.9	D .68	8.2	q3
21	3826	2295	653.0A	2.6	1.23	7.2	1.07	1.3	E .76	-9.2	q21
1	5841	2505	507.0A	2.2	.99	-.3	1.21	3.9	F .70	.2	q1
24	4008	2266	634.0A	2.5	1.16	5.2	1.04	.9	G .76	-11.4	q24
8	4891	2478	591.0A	2.2	1.08	3.0	1.03	.7	H .75	-10.3	q8
10	5879	2494	505.0A	2.2	.86	-5.3	.98	-.4	I .71	-2.9	q10
25	4483	2353	600.0A	2.2	.97	-1.1	.91	-2.5	J .77	-5.7	q25
4	5997	2489	490.0A	2.2	.94	-2.2	.92	-1.3	K .69	.2	q4
9	5919	2508	505.0A	2.2	.86	-5.2	.92	-1.5	L .72	-3.7	q9
18	5312	2407	523.0A	2.2	.77	-8.7	.88	-2.6	M .77	11.2	q18
22	4806	2380	561.0A	2.1	.85	-5.4	.80	-5.5	l .78	10.2	q22
16	5251	2258	504.0A	2.3	.81	-6.9	.84	-2.9	k .74	5.7	q16
5	5881	2491	513.0A	2.2	.83	-6.5	.80	-4.4	j .72	-11.9	q5
17	5194	2366	528.0A	2.2	.79	-7.8	.75	-5.8	i .77	8.0	q17
11	6006	2504	492.0A	2.2	.78	-8.2	.71	-5.4	h .73	1.1	q11
13	5071	2375	544.0A	2.2	.77	-8.6	.76	-6.3	g .78	3.9	q13
14	5138	2376	533.0A	2.2	.76	-9.0	.70	-7.6	f .79	9.0	q14
23	4811	2373	581.0A	2.1	.74	-9.9	.67	-9.9	e .80	-10.6	q23
12	5732	2500	511.0A	2.2	.73	-9.9	.69	-6.8	d .77	5.2	q12
19	5233	2411	550.0A	2.1	.72	-9.9	.67	-9.1	c .79	-8.7	q19
20	4855	2365	570.0A	2.1	.70	-9.9	.65	-9.9	b .81	-5.1	q20
15	5269	2367	526.0A	2.2	.62	-9.9	.55	-9.9	a .80	3.0	q15
MEAN	5051.4	2399.8	555.1	2.3	1.00	-2.8	1.02	-1.8			
S.D.	701.7	81.3	52.1	.3	.37	7.3	.48	6.3			