

**Frequently Asked Questions Concerning the NCSEAM Parent/Family Scales
in Relation to SPP Reporting Requirements
for Part B Indicator #8 and Part C Indicator #4
December 2006**

What do the NCSEAM scales measure?

The scales developed by NCSEAM measure different aspects of parents’ and families’ involvement in early intervention and special education. The applicability of the scales to parents and families participating in different programs is illustrated below. All scales listed under a given column heading measure the same construct. For Part C and 619, agency efforts to promote and sustain parent and family involvement are not empirically separable from other aspects of service quality, hence they form a single scale reflecting both aspects of program quality.

	Dimension of Parent/Family Involvement			
	Partnership Efforts	Quality of Services	Impact of Services on the Family	Parent Participation
Part C	Family-Centered Services Scale		Impact of Early Intervention Services on Your Family Scale	-
619	Preschool Special Education Partnership Efforts and Quality of Services Scale		Impact of Preschool Special Education Services on Your Family Scale	Parent Participation Scale
Part B	Schools' Efforts to Partner with Parents Scale	Quality of Services Scale	Impact of Special Education Services on Your Family Scale	Parent Participation Scale

Measures from the scale entitled, “Impact of Early Intervention Services on Your Family” can be used to report on states’ performance on Part C Indicators #4a, 4b, and 4c. Measures from the scales entitled, “Schools’ Efforts to Partner with Parents” and “Preschool Special Education Partnership Efforts and Quality of Services” can be aggregated, if desired, to report a single result to OSEP for parents of all children 3-21. This is possible because the two scales have been equated, meaning that measures computed through the Rasch framework are on the same metric and can be interpreted similarly with respect to the indicator.

A definition of what is measured by each of the NCSEAM scales is provided below.

NCSEAM Family Survey - Early Intervention

- I. *Impact of Early Intervention Services on Your Family:*** Measures the extent to which early intervention services helped families achieve positive family outcomes. Addresses Part C Indicator #4.
- II. *Family-Centered Services:*** Measures the quality of early intervention services provided to children and families.

NCSEAM Family Survey – Special Education

- I. *School Efforts to Partner with Parents:*** Measures schools' efforts to facilitate parent involvement. Addresses Part B Indicator #8.
- II. *Quality of Services:*** Measures the quality of special education services provided to students.
- III. *Parent Participation:*** Measures the extent to which parents actively involve themselves in their child's education.
- IV. *Impact of Special Education Services on Your Family:*** Measures the extent to which special education services helped families achieve positive family outcomes. Items are identical in content to those in the scale, ***Impact of Early Intervention Services on Your Family.***

NCSEAM Family Survey – Preschool Special Education

- I. *Preschool Special Education Partnership Efforts and Quality of Services:*** Measures schools' efforts to facilitate parent involvement and the quality of preschool special education services provided to students. Addresses Part B Indicator #8. Many items are identical in content to those in the Part B/K-21 scales, ***Schools' Efforts to Partner with Parents*** and ***Quality of Services***, but are worded in a manner appropriate to parents of children receiving preschool special education services. Several items are specific to parents of preschool children.
- II. *Parent participation:*** Measures the extent to which parents actively involve themselves in their child's education. Items are identical in content to those in the Part B/K-21 scale, ***Parent Participation.***
- III. *Impact of Preschool Special Education Services on Your Family:*** Measures the extent to which preschool special education services helped families achieve positive family outcomes. Items are identical in content to those in the Part B/K-21 scale, ***Impact of Special Education Services on Your Family.***

How were the NCSEAM survey items developed?

A description of the item development process is available at:
[Description of Development of the Surveys for web August 9](#)

What scales are included in the sample forms posted to the NCSEAM website?

The Part C, 619, and Part B forms posted to the NCSEAM website include all scales relevant to each population.

Which scales, consisting of which items, address the Part C indicator?

The Part C scale entitled, “Impact of Early Intervention Services on Your Family,” which consists of items 26-47 on the NCSEAM Family Survey – Early Intervention sample form [2005 NCSEAM Part C Watermarked \(25196-Activ\)](#), is the scale that addresses Part C indicators 4a, 4b, and 4c.

How can a single scale address all three Part C family indicators?

All three indicators can be addressed by a single scale because all three are outcomes that early intervention services can help families to achieve. Technically speaking, the three indicators do not constitute different constructs; rather, they are all instantiations of the same construct. There is substantial empirical evidence for considering all the family outcomes to be part of the same construct. For example, factor analyses of data from the National Item Validation Study indicated that the vast majority of the variance in measures is accounted for by a single factor. Factors after the first factor do not explain a significant portion of the variance in measures.

Considering different family outcomes as part of a single scale is analogous to considering different types of mathematical problem-solving as part of a single scale. One can include arithmetic, algebra, and calculus problems in a single assessment that measures overall skill in mathematics. Individuals who are adept at solving arithmetic problems but who cannot correctly solve algebraic equations will not score as high on the assessment as individuals who can do both. The highest scores on the assessment will only be achieved by individuals who can solve all three types of problems correctly. Thus, one can use the same assessment score to answer three different questions: (a) What percentage of individuals taking the test are proficient in arithmetic? (b) What percentage are proficient in algebra? And (c) What percentage are proficient in calculus? Clearly, the first percentage will be larger than the second, and the second will be larger than the third.

The items on the Impact of Early Intervention on Your Family scale have their own, consistent order of agreeability, similar to the order of difficulty of different types of mathematics problems. Helping families help their children develop and learn represents a lesser amount of impact than helping families know their rights. Helping families know their rights represents a lesser amount of impact than helping communicate effectively about their child. Thus, one can expect that the percentage reported to OSEP will be largest for Indicator 4c (helping families help their children develop and learn), smaller for 4a (helping families know their rights), and smallest for 4b (helping communicate effectively about their child).

Which scales, consisting of which items, address Part B indicator #8?

The Part B(K-21) scale entitled “Schools’ Efforts to Partner with Parents,” which consists of items 1-25 on the NCSEAM Parent Survey – Special Education sample form [2005 NCSEAM Part B Watermarked \(21244 Activ\)](#), is the scale that addresses Part B Indicator #8.

For parents of children receiving preschool special education (619) services, the scale that addresses Indicator #8 is entitled, “Preschool Special Education Partnership Efforts and Quality of Services.” This scale consists of items 1-50 on the NCSEAM Parent Survey - Preschool Special Education sample form, [2005 NCSEAM 619 Watermarked \(59690-Activ\)](#).

Why does the Preschool scale that addresses Part B Indicator #8 have 50 items, compared to only 25 for the corresponding K-21 scale?

The Preschool version of the scale contains more items for two reasons. First, items addressing partnership efforts and quality of services did not appear, based on analyses of the NCSEAM pilot data, to represent different constructs, and so were combined. Second, many of the items had not previously been piloted. Data analyses will be able to confirm that the new items fit with the scale and determine these items’ calibrations (see explanation of Rasch analysis, below). In subsequent administration of the survey, states will be able to use a smaller number of items, selected from all the available items based on the principles for item selection described on the NCSEAM website, ([Guidelines for Item Shopping](#)). It is likely that 25 items will be sufficient to attain the established minimum desired level of reliability.

Can measures from the 619 “Preschool Efforts to Partner with Parents and Quality of Services” scale and the Part B “Schools’ Efforts to Partner with Parents” scale be combined so as to report a single percent to OSEP on Part B Indicator #8?

Yes. Measures from these two scales, estimated through the Rasch framework, are on the same metric and can be combined for reporting purposes. States that aggregate measures from the two surveys should ensure, to the extent possible, that the proportion of parents of preschool children represented in the overall sample is similar to their proportion in the 3-21 population.

What is the value of administering the scales that do not directly address the OSEP indicators?

Data from the scales that do not address the OSEP indicators provide valuable information concerning other dimensions of parents’ and families’ participation in services. Analyses of pilot data collected in the NCSEAM National Item Validation Study indicate strong positive correlations among the scales.

For Part C, information from the Family-Centered Services scale can suggest specific aspects of service provision that are likely to result in improved family outcomes. For Part B, information from the Impact of Special Education Services on Your Family and Parent Participation scales can provide evidence of improved outcomes associated with increased school efforts to facilitate parent involvement.

How do we know the NCSEAM scales are valid?

Validity refers to the extent to which a scale measures what we think or say that it measures. One index of validity is the extent to which the content of the items reflects the construct being measured. The items that NCSEAM piloted were suggested by families and other stakeholders and were subsequently vetted by professionals in the areas of parent involvement and family-centered services, as well as a national organization that supports families of children with disabilities. Since the items were suggested by individuals with direct and substantial experience in the domain of interest, we are confident that the items are good instantiations of the constructs that the scales purport to measure.

Another aspect of validity has to do with the extent to which a scale measures a single construct, and not multiple ones. The “unidimensionality” of each of the NCSEAM scales has been confirmed through appropriate statistical analyses. Finally, evidence of validity comes from analyses which show that measures derived from the NCSEAM scales relate to measures of other constructs in just the way one would expect them to. For example, one would predict that Part C families that report receiving a higher level of family-centered services would also report that early intervention services had a greater impact on helping them to achieve positive family outcomes. Data from NCSEAM’s pilot study in fact confirm this expectation.

How do we know the NCSEAM scales are reliable?

Reliability relates to the stability of the measure obtained from the instrument. If the same person responded to the survey on two successive days, we would want the measure obtained from the survey to be virtually the same on both days. If you stand on a bathroom scale, get off the scale, and stand on it again, you would hope to see the same reading on both occasions, because you know that your weight has not changed in the space of a few seconds. An instrument is considered reliable when it gives a consistent reading.

Various statistical approaches can be used to assess the reliability of a scale. The reliability of the NCSEAM scales has been investigated using multiple approaches and has consistently been found to be very high. Technical details regarding the reliability of the instrument can be found on the NCSEAM website.

Why does NCSEAM recommend that data from the NCSEAM scales be analyzed using the Rasch measurement framework?

A Rasch analysis is not simply a way of computing scores based on a test or a survey. A Rasch analysis allows the analyst to confirm, first, whether the items administered belong together, that is, whether they are all related to the construct that the scale is supposed to measure. This is an important step in developing a set of items for a test or survey. Ongoing confirmation of the fit of the items helps to maintain the quality of the measurement system.

Second, a Rasch analysis allows the analyst to determine where each item is located on the measurement ruler. 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 (see response to the question,

Items constituting each of the NCSEAM scales are said to have a consistent “order of agreeability.” What does this mean?). To give an example from the NCSEAM Impact of Early Intervention Services on Your Family scale, it takes a greater level of impact of services on family outcomes for families to agree with the item, “Early intervention services helped me and/or my family to participate in typical activities for children and families in my community,” than for families to agree with the item, “Early intervention services helped me and/or my family to feel that my efforts are helping my child.”

Third, a Rasch analysis allows the analyst 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 sometime used so little that it makes sense to combine them with an adjacent, less extreme, category (“very strongly disagree/strongly disagree”).

Finally, a Rasch analysis provides 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. A large “confidence interval” or “margin of error” indicates that the specific numbers being reported should be taken only as a very rough estimate. Conversely, a small confidence interval or margin of error indicates that the numbers being reported are likely to be very close to the actual value one would get if one had a perfect measurement system. If a figure is reported with no accompanying confidence interval or margin of error, there is no way to tell how accurate the figure is.

Items constituting each of the NCSEAM scales are said to have a consistent “order of agreeability.” What does this mean?

Order of agreeability, for survey items, is analogous to order of difficulty for test items. Large-scale assessments - for example, statewide tests of reading and mathematics, the SAT college entrance exam, and the Graduate Record Exam, to name but a few - include items that cover a range of difficulty. Some of the items are easier than others, not just for certain individuals, but for anyone taking the test. Another way of saying this is that regardless of how people score on the test, they are more likely to get the easier items correct than the more difficult items.

When a survey is constructed for the purpose of measuring some construct - for example, the impact of services on family outcomes - it is possible to estimate, through appropriate analyses, each individual survey item’s level of agreeability.

A Rasch analysis - the type of analysis that NCSEAM applied in developing the NCSEAM scales - yields a value for each item, known as the item’s “calibration,” that represents the item’s agreeability. Items that are “easier to agree with” have low calibrations; items that are “more difficult to agree with” have high calibrations. To give an analogy, a test of mathematics skills might include items ranging from simple arithmetic computations to algebraic equations. In a population of test-takers of varying ability, the number of individuals who answer the arithmetic problems correctly would be larger than the number of test-takers who answer the algebra

problems correctly. The arithmetic problems would have lower calibrations than the algebra problems.

The fact that items have 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. This is why the SAT, to give one example, 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. Similarly, for any of the NCSEAM scales, measures derived from any appropriately selected combination of items from the NCSEAM item bank will be perfectly comparable. States do not need to administer exactly the same items each time they use one of the scale, provided that they select items following the guidelines described on the NCSEAM website, ([Guidelines for Item Shopping](#)).

What is the order of agreeability of items on the NCSEAM “Schools’ Efforts to Partner with Parents” scale?

Calibration values for selected items from the NCSEAM “Schools’ Efforts to Partner with Parents” scale are presented below. The items are in calibration order, from highest (“most difficult to agree with”) to lowest (“easiest to agree with”).

Part B Schools’ Efforts to Partner with Parents Scale

Item Calibration	Item
673	I was offered special assistance (such as child care) so that I could participate in the Individualized Educational Program (IEP) meeting.
653	The school offers parents training about special education issues.
647	I was given information about organizations that offer support for parents of students with disabilities.
634	The school provides information on agencies that can assist my child in the transition from school.
600	The school explains what options parents have if they disagree with a decision of the school.
591	I have been asked for my opinion about how well special education services are meeting my child's needs.
581	The school gives parents the help they may need to play an active role in their child's education.
573	Written justification was given for the extent that my child would not receive services in the regular classroom.
570	The school gives me choices with regard to services that address my child's needs.
564	At the IEP meeting, we discussed how my child would participate in statewide assessments.
561	The school offers parents a variety of ways to communicate with teachers.
550	The school communicates regularly with me regarding my child's progress on IEP goals.
544	Teachers and administrators seek out parent input.

533	Teachers and administrators show sensitivity to the needs of students with disabilities and their families.
528	Teachers and administrators ensure that I have fully understood the Procedural Safeguards [the rules in federal law that protect the rights of parents].
526	Teachers and administrators encourage me to participate in the decision-making process.
523	The school has a person on staff who is available to answer parents' questions.
513	All of my concerns and recommendations were documented on the IEP.
511	Teachers treat me as a team member.
507	I am considered an equal partner with teachers and other professionals in planning my child's program.
505	My child's evaluation report is written in terms I understand.
505	Written information I receive is written in an understandable way.
504	Teachers and administrators respect my cultural heritage.
492	Teachers are available to speak with me.
490	At the IEP meeting, we discussed accommodations and modifications that my child would need.

What is the order of agreeability of items on the NCSEAM “Impact of Early Intervention Services on Your Family” scale?

Calibration values for selected items from the NCSEAM “Impact of Early Intervention Services on Your Family” scale are presented below. The items are in calibration order, from highest (“most difficult to agree with”) to lowest (“easiest to agree with”).

Part C Impact of Early Intervention Services on Your Family Scale

Item Calibration	Item Stem: Over the past year, Early Intervention services have helped me and/or my family:
678	Participate in typical activities for children and families in my community.
656.	Know about services in the community
640	Know where to go for support to meet my family's needs.
625	Keep up friendships for my child and family.
609	Know where to go for support to meet my child's needs.
584	Be more effective in managing my child's behavior.
576	Make changes in family routines that will benefit my child with special needs.
576	Do activities that are good for my child even in times of stress.

570	Improve my family's quality of life.
565	Feel that I can get the services and supports that my child and family need.
563	Get the services that my child and family need.
562	Feel that my family will be accepted and welcomed in the community
559	Feel more confident in my skills as a parent.
559	Feel that my child will be accepted and welcomed in the community.
556	Communicate more effectively with the people who work with my child and family.
553	Understand how the Early Intervention system works.
546	Understand the roles of the people who work with my child and family.
539	Know about my child's and family's rights concerning Early Intervention services.
534	Be able to evaluate how much progress my child is making.
516	Understand my child's special needs.
498	Feel that my efforts are helping my child.
498	Do things with and for my child that are good for my child's development.

How can a parent’s or family’s measure on an NCSEAM scale be interpreted in terms of the items that constitute the scale?

A Rasch analysis condenses information from a person’s responses to all items in a scale into a single number. That number is called 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. High measures on the Part B scale indicate parents’ perception that schools are doing a great deal to facilitate parent involvement. High measures on the Part C scale indicate families’ perception that early intervention services helped them to achieve a wide range of positive family outcomes.

A more detailed interpretation of either an individual person’s measure or a states’ average measure can be facilitated by a graphic display known as a Wright map, which is included in the output of a Rasch analysis. Any state that has its data analyzed through the Rasch framework can use the map to generate a descriptive summary of the findings such as those provided below. These descriptions may be especially useful in communicating the findings to diverse audiences and in planning improvement activities.

Let us say a parent’s measure on the Schools’ Efforts to Partner with Parents scale is 580. This value is very close to the calibration value (581) of the item, “The school gives parents the help they may need to play an active role in their child’s education” (see the table of selected scale items in calibration order). This means that the parent had a very high likelihood – a .95

likelihood, given the way the calibrations were established – of responding to the aforementioned item with a response in one of the agree categories. Moreover, we can say that the most typical pattern of responses, for a parent with a measure of 580, would be to have responded in the “strongly agree” or “very strongly agree” category to all the items up to and including the item, “At the IEP meeting, we discussed how my child would participate in statewide assessments,” which has a calibration of 564. For all items above this one on the scale, the most typical response for parents with a measure of 580 would have been in the “agree” category.

The same interpretation can be applied to the average measure across parents within a state. If the average measure is 580, this means that overall, parents are by and large agreeing strongly, or very strongly, to all the items up to the item that calibrates at around 580, and are agreeing somewhat less strongly – but nonetheless agreeing – with all the items above that.

A statewide average measure of 513 would have a somewhat different interpretation. At this measure, parents are very likely (.95 probability or higher) to agree strongly or very strongly to all the items up to the item that calibrates at around 513, which is, “All of my concerns and recommendations were documented on the IEP.” Parents will agree less and less strongly with items whose calibrations are further and further above their measure. In this example, parents with an average measure of 513 would more often than not be responding in one of the disagree categories to items whose calibrations are at or above 641. One such item is, “My child’s school offers parents training about special education issues,” which calibrates at 653.

Why did NCSEAM recommend a specific standard for relating to the scales that address the parent/family indicators?

The wording of the parent and family indicators requires states to divide their parents or families into two groups. For Part B, states are asked to report the percent of parents who report that schools facilitated their involvement. This implies that whereas some percentage of parents who report that schools facilitated their involvement, other parents do not report that schools facilitated their involvement. For Part C, states are asked to report the percentage of families that report that early intervention services helped them to achieve certain outcomes.

However, the reality is that schools’ facilitation of parent involvement is not a “yes or no” phenomenon. Neither is the impact of early intervention services on family outcomes. Both constructs are best represented as continuous variables. There can be a greater or lesser amount of schools’ facilitation of parent involvement. Equally, there can be a greater or lesser impact of early intervention services on family outcomes.

Consequently, we must divide these continua in such a way as to yield two groups: the “yeses” and the “no’s.” We do this by reference to a standard, which denotes the minimum acceptable amount of the construct of interest. In other words, the standard provides us with a “cut-score” that demarcates the boundary between the “yeses” and the “no’s.”

A national group of stakeholders convened by NCSEAM reached consensus on four standards: one to be applied to the Part B School Efforts to Partner with Parents scale, and three to be

applied to the Part C Impact of Early Intervention Services on Your Family Scale, one each for indicators 4a, 4b and 4c.

For more information, see

[Description for the standard setting process for the web final.](#)

How did NCSEAM establish a recommended standard for the NCSEAM scale that addresses the Part B parent involvement indication and the Part C scale that addresses the family outcome indicator?

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.

Here is how the national stakeholder group actually came up with their recommended standard for Part B. Participants were invited to examine a set of items from the Schools' Efforts to Partner with Parents scale, laid out in their calibration order (see above).

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 an exceedingly high likelihood of agreeing, or agreeing even more strongly, with all the items below it on the scale.

Participants were then asked to designate the highest item on the scale with which they would want parents to have a response in one of the agree categories, in order for us to be able to say with some confidence that the school facilitated that parent's involvement. Following considerable discussion, the stakeholder group agreed that at a minimum, parents should be agreeing 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." In terms of the measurement model used to develop the survey and analyze the data, this standard would be defined as "a .95 likelihood of a response of 'agree,' 'strongly agree' or 'very strongly agree' with the item, 'The school explains what options parents have if they disagree with a decision of the school.'" Another way of defining this amount of facilitation of parent involvement is in reference to a measure of 600 or above on the scale, when the data are analyzed through a Rasch framework and the anchor calibrations recommended by NCSEAM (and which may be obtained from Dr. William P. Fisher, Jr., wfisher@avatar-intl.com, are applied). Technically speaking, this means that the calibration of the aforementioned item is set at 600, where the measure indicates a .95 likelihood of a response in any of the agree categories. Thus, the percentage to be reported for Indicator #8 on the APR is the percentage of parents with measures of 600 or above on NCSEAM's Schools' Efforts to Partner with Parents scale.

A similar process led to the establishment of three different thresholds for the three sub-indicators included in Part C Indicator #4.

For more information, see
[Description of the standard setting process for the web final.](#)

How are the percentages to be reported to OSEP calculated based on data from the NCSEAM scales?

NCSEAM has recommended that data from the NCSEAM scales be analyzed through the Rasch framework, which is the measurement framework that was used in developing the scales. The Rasch analysis produces a measure for each parent or family that completes a survey.

Because individual measures vary, the measures representing parents within a state (or LEA or Part C program) will form a distribution of measures that conforms more or less to the “normal,” or bell-shaped, distribution. That is, some parents will exhibit very low measures, some will exhibit very high measures, and most will lie somewhere in between. Some percentage of measures will be at or above the measure that defines the standard. For Part B, the NCSEAM-recommended standard corresponds to a measure of 600. For Part C, the NCSEAM-recommended standards are 539 for 4a, 556 for 4b, and 516 for 4c. These are the percentage that states adopting the NCSEAM-recommended standards will report to OSEP.

Can states adopt a standard that is different from the one recommended by NCSEAM?

Yes. NCSEAM recommends that states wishing to do this implement the same standard-setting procedure that NCSEAM utilized. In the APR, states should specify what standard is being applied.

NCSEAM has recommended that data from the scales be analyzed using the Rasch framework. What if states analyze data from the NCSEAM scales using a different approach?

States are not required to use a Rasch approach to analyzing the NCSEAM survey data. However, other methods of analyzing the data will not yield numbers that are directly comparable to the values obtained from a Rasch analysis.

To demonstrate this point, Dr. Batya Elbaum, Consultant to NCSEAM, created a data set consisting of 2801 parents’ responses to the NCSEAM Schools’ Efforts to Partner with Parents scale. The following table reports results of analyses using three different approaches.

Approach #1

Procedure: A Rasch analysis, using a 3-category rating scale model, was conducted by NCSEAM Consultant Dr. William P. Fisher, Jr. using the Winsteps measurement program. A measure is estimated for each respondent.

Reliability: Computed through the Rasch model as .96.

Standard: The NCSEAM-recommended standard of a measure of 600.

Percent reported to OSEP: The percent of parents with measures greater than or equal to 600.

Approach #2

Procedure: An average rating approach was used as follows. First, a value was assigned to each response category: very strongly disagree = 1, strongly disagree = 2, disagree = 3, agree = 4, strongly agree = 5, very strongly agree = 6. A respondent’s score on the scale was defined as the average value of the individual’s responses to all the items. Possible scores ranged from 1 to 6.

Reliability: Coefficient alpha = .98.

Standard: A score of 4.

Percent reported to OSEP: The percent of parents with scores greater than or equal to 4.

Approach #3

Procedure: This approach uses the distribution of responses to the threshold item, “The school explains what options parents have if they disagree with a decision of the school.” The frequency of responses in each response category is calculated.

Reliability: Cannot be estimated.

Standard: An agree response to the threshold item.

Percent reported to OSEP: The percent of parents who gave a response of agree, strongly agree, or very strongly agree to the threshold item.

	Key statistic(s)	95% Confidence interval	Standard	Percent at or above standard
Approach #1	Rasch measure M- 515.5 (SD = 152)	510-522	Measure >= 600	26%
Approach #2	Score = Average response across all items M= 4.03 (SD = 1.15)	3.99 - 4.07	Score >= 4	51%
Approach #3	VSD 14.9% SD 5.8% Disagree 24.3% Agree 31.0% SA 9.2% VSA 14.8%	-	Agree response	55%

As seen in the table above, both the percent of parents with a mean score reflecting overall agreement with the items (Approach # 2, 51%) and the percent of parents who express agreement with the “threshold” item (the item whose calibration value, 600, defines the NCSEAM-recommended standard; Approach #3, 55%) are considerably higher than the percent of parents whose measures are at or above the NCSEAM standard of 600 (Approach #1, 26%). This is necessarily the case, in that the NCSEAM standard was defined as the measure at which respondents had a .95 likelihood of an agree, strongly agree, or very strongly agree response to

the item, “The school explains what options parents have if they disagree with a decision of the school.” In order for respondents to have an estimated .95 likelihood of agreement with this particular item, their most likely response to the threshold item, as well as to the items having lower calibrations, is actually “strongly agree” or “very strongly agree.” They are also more likely to agree, rather than disagree, with even the highest items on the scale.

As just described, the pattern of responses required to meet the NCSEAM-recommended standard would typically result in a mean score across items of at least 5. This score is just above the 75th percentile of the score distribution produced by Approach #2. The percent of parents with a score equal to or greater than 5 is 25%, which corresponds closely to the 26% derived using Approach #1. Similarly, if one were to calculate the percent of parents whose response to the threshold item (Approach #3) was in either the “strongly agree” or “very strongly agree” category, that percent comes out to 24%, which again is very close to the percent derived from the Rasch analysis. In sum, the NCSEAM-recommended standard requires more than a simple agree response to the threshold item and more than an average agree response to all the items considered together.

Do states or other entities interested in using the NCSEAM scales need to request permission to do so?

No. The scales and related information are all publicly available on the NCSEAM website.

Does NCSEAM collect any fees for use of the NCSEAM scales?

No. There are no charges involved in use of the scales.

Does NCSEAM provide survey forms to states interested in using the NCSEAM scales?

No. Sample forms are available on the NCSEAM website, at (<http://www.accountabilitydata.org/Family%20involvement.htm>). However, each state is responsible for printing its own forms.

Can states customize their forms?

Yes. The design of the form, including the order in which items are presented, does not impact the measurement properties of the scales.

Can NCSEAM cover any of the costs related to use of the scales by states?

No.

Does NCSEAM provide data analysis services for states using the NCSEAM scales?

No. However, NCSEAM can provide referrals to measurement experts who can conduct these analyses.

For Part B, how does knowing the average measure for the state or for a district help guide improvement efforts?

The items in the Schools' Efforts to Partner with Parents scale – not just the 25 that most states used on their survey, but the entire set of 78 items that NCSEAM piloted and that are posted to the NCSEAM website, ([NCSEAM Item Bank for Part B Scales Oct 19](#)) – constitute a sort of “scope and sequence” of parent involvement efforts. The dictum that good instruction consists of taking students from their current level to the next level is equally applicable to parent involvement efforts. Items whose calibrations are well below the state's average measure are things that parents say are already being accomplished. Items whose calibrations are well above the average are things that are probably quite difficult to achieve, and might not be the very next things that ought to be attempted. Items whose calibrations are at, or just above, the state's average measure would represent good targets for intervention.

For Part C, how does knowing the average measure for the state or for a program help guide improvement efforts?

This is a harder question to answer, in that the Part C indicator is a measure of outcomes, and not of process. States that used NCSEAM's Family-Centered Services scale can use the state's average measure on this scale to guide improvement efforts in the same way that was suggested, above, for the Schools' Efforts to Partner with Parents scale. Analyses of pilot data indicate a very strong correlation between measures on the Family-Centered Services scale and measures on the Impact of Early Intervention Services on Your Family scale. Delivering services in a more family-centered way can be hypothesized to result in more positive outcomes for the family. Thus, it is likely that efforts to enact the content of the Family-Centered Services scale items, particularly those whose calibrations are at or just above the state's average measure on this scale, will have a positive impact on family outcomes.

Can Rasch analysis be done through statistical analysis software such as SAS or SPSS, or is a special software program required?

The *Journal of Applied Measurement* has recently published an article on how to use SAS to calibrate scales and produce measures. Similar procedures could in principle be used in SPSS or other statistical software. Measurement programs such as Winsteps, RUMM, ConQuest and others each have unique technical specifications and analytic features that require their own background and training. Information on seminars and workshops on Rasch analysis is available at www.rasch.org.

Is there guidance available on setting targets on the parent and family indicators, based on baseline data from the NCSEAM scales?

NCSEAM has posted an Improvement Calculator (http://www.accountabilitydata.org/Family%20involvement_Improvementcalculator.htm) and accompanying guidance, ([Guidance on Use of NCSEAM Improvement Calculator](#)), on the NCSEAM website. The decision as to what amount of increase in the mean measure represents meaningful improvement on the indicator is a matter of judgment and should be decided in

consultation with state stakeholder groups. Likewise, the decision as to what amount of improvement can be achieved each year is a matter of judgment to be determined by states in consultation with stakeholders.

How are states to determine if they have a representative sample?

First, states need to answer the question, “representative with respect to what variables?” For Part C, the variables that most states are considering include early intervention program and child’s ethnicity. For Part B, the variables that most state are considering include district, child’s ethnicity, child’s grade level, and child’s category of exceptionality. Variables that may be equally or even more important, but which are harder to capture, might include family socioeconomic status, parent educational level(s), school size, and setting (urban/rural/suburban).

Once the representational variables are defined, the question to be answered is, to what extent does the distribution of these variables in the sample of parents or families that completed the survey match the distribution of these variables in the whole population of parents or families served? Most states will be comparing their sample distributions to the distributions reported in their 618 data.

To date, OSEP as not defined how close a match constitutes a “good enough” match. States will have to compare their sample and population data and come to a judgment as to whether their sample is “representative.”

What if a state’s sample of returned surveys is clearly not representative of the population served?

If the sample is very small and the demographics are disproportionate relative to the population, all that can be done is to acknowledge the ways in which the sample is not representative, and to take this into consideration when interpreting the results. If the sample is large, then various statistical procedures can be applied so that the results will be a better estimate of the average measure that would likely be found if the sample more closely represented the population.

Does response rate matter?

Response rate does matter to the extent that it is, in its own right, an indicator of parent and family involvement. However, the validity of the percent reported to OSEP, based on measures derived from the NCSEAM scales, is not directly dependent on response rate. Rather, what is important is that (a) the obtained sample be representative of the population, and (b) that the sample be large enough to ensure the recommended 95% confidence level in a 5% confidence interval.

Given a particular population size, there is a minimum sample size that will yield the recommended level of confidence. The required sample size is not, however, a fixed percent of the population size. Rather, for very small populations, a relatively large sample is required. Sample calculators such as <http://www.surveysystem.com/sscalc.htm> indicate that for a population of 100 families, the sample size required to obtain the recommended confidence level is 80. For a population of 1000, the sample required is 278. For a population of 10,000, the

sample required for the same confidence level is 370. Beyond this population size, the additional cases needed to achieve the same confidence level is negligible.

What if the number of returned surveys is considerably smaller than expected?

Confidence levels can be calculated based on the obtained sample size. For large populations, a smaller-than-expected return rate may not have much of an impact on the interpretation of results. For small populations, however, sample size can have a dramatic impact on confidence levels. How to report data from small samples, particularly when there is a risk of identification of the responding families, is a matter on which states should request guidance from OSEP.

Does distribution method (mailing, hand-delivery, web, phone, etc.) affect the results?

This is an empirical question. In the NCSEAM pilot study, distribution method in and of itself did not make a difference. However, if the populations reached by different distribution methods differ, then differences may emerge that appear to relate to distribution method. Such differences may relate to distribution method or to other factors that co-vary with distribution method.

If no accommodations were made for low-literacy parents, how does that affect the interpretation of the results?

If no accommodations were made for low-literacy parents, then it is likely that these parents will not be represented in the data. The ways and extent to which the sample may not be representative of the population should be reported so as not to draw unwarranted inferences from the data.

Should states use the exact same items the next time the survey is administered?

States may use the same items or any other set of items selected from those that NCSEAM piloted, following NCSEAM guidelines for item selection, ([Guidelines for Item Shopping Dec. 2006](#)). Additional items not included in the NCSEAM item bank may be used in addition to the requisite 25 items with known calibrations. When the data are analyzed, it will be possible to ascertain whether the new items fit with the scale and where on the scale they are located (i.e., what amount of the construct they represent).