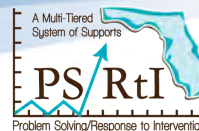




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# DEVELOPING A SCHOOL- LEVEL TOOL TO MONITOR IMPLEMENTATION OF MTSS

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# Welcome and Introductions

# Advance Organizer



- Our Vision of MTSS
- Self-Assessment of MTSS (SAM)
  - SAM Development Procedures
  - Fall 2013 Preliminary Pilot Study
  - Future Plans
- Questions and Comments



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# OUR VISION OF MTSS



# What is MTSS?



- MTSS=Multi-Tiered Systems of Support
- Evidence-based instruction delivered to students in varying intensities (multiple tiers) based on student need
- Utilization of data-based problem-solving to integrate academic and behavioral instruction and intervention
- Use of data to make educational decisions

# Our Vision of MTSS



- The collaborative vision of the PS/Rtl and the FLPBS:MTSS Projects is to:
  - Enhance the *capacity* of all Florida school districts to successfully implement and sustain a *multi-tiered system* of student supports with *fidelity* in every school;
  - *Accelerate and maximize student academic and social-emotional outcomes through the application of collaborative data-based problem solving utilized by effective leadership at all levels of the educational system;*
  - *Inform the development, implementation, and ongoing evaluation of an integrated, aligned, and sustainable system of service delivery that prepares all students for post-secondary education and/or successful employment within our global society.”*

# Why This Instrument?



- Our Inter-Project vision: to enhance capacity of districts to support MTSS with fidelity in schools
- Current tools not adequate for assessing all components of MTSS
- Desire for an instrument to guide action planning towards improved implementation

# Purpose of the Study



- Develop a self-report instrument for schools to evaluate implementation of MTSS
- Examine the psychometric properties of a school-level assessment of MTSS implementation
  - Content validity
  - Construct validity
  - Face validity
  - Reliability
  - Predictive validity





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# SAM DEVELOPMENT PROCEDURES



# SAM Development Steps



1. Literature review
  2. Construct/theory development
  3. Item generation
  4. Expert review panel
  5. Cognitive interviewing
- “Gold standard” survey development procedures recommended by DeVellis (2012)

# Initial Item Development



- Review of *SAPSI* and additional school-level measures of RtI/MTSS
- Review of literature on RtI and MTSS implementation
- Feedback from Inter-Project Leadership Team and Project staff members
- Development of 3-point scoring rubric

# Expert Review Panel



- 11 district-, state-, and national-level experts on RtI/MTSS and PBS implementation
- Feedback on item relevancy and item clarity/conciseness
- 80% criterion used to identify quality items
- Items not meeting criteria revised by the evaluation team

# Expert Review Panel (cont.)



- 97% of items met criterion for agreement that content was relevant
- 74% of items met criterion for clarity
- Qualitative feedback from reviewers used to revise items not meeting 80% criteria

# Cognitive Interviews



- 6 cognitive interviews were conducted
- Interviewees verbalized thought process for each item
  - Verbalized how they would respond and described their thoughts about each item
- Provided feedback on difficult terms or jargon
- Items identified as problematic were revised by the evaluation team

# Cognitive Interviews (cont.)



- Common feedback from interviewees included:
  - Some items were too wordy
  - Defining terms like “staff,” “stakeholders,” “implementation fidelity,” and “parent involvement”
  - One person cannot have all the information needed to rate every item
- Interviewees’ responses tended to be consistent with the items’ purpose and meaning

# Content Domains



- Leadership
- Building the Capacity/Infrastructure for Implementation
- Communication and Collaboration
- Data-Based Problem Solving
- Three-Tiered Instructional/Intervention Model
- Data-Evaluation



# Scoring Rubric



- “0” = Not Implementing
- “1” = Emerging/Developing
- “2” = Operationalizing
- “3” = Optimizing

# Sample Items



## Self-Assessment of MTSS Implementation (SAM)

Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
<b>1. Leadership Subscale (Items 1-5) (Items with an asterisk (*) build from left to right so that a 3 rating also includes the requirements of both 1 &amp; 2)</b>					
1. The principal is actively involved in and facilitates MTSS implementation	The principal supports MTSS, but has not established a vision and urgent desire for MTSS implementation	The principal communicates an urgent desire to implement MTSS, participates in professional development on MTSS, and is establishing an MTSS vision	The principal promotes a vision for MTSS <u>and</u> actively supports the leadership team and staff to build capacity for implementation	The principal continues to promote a vision for MTSS, allocates resources to professional development and implementation activities <u>and</u> actively supports data based problem solving use at the school	
<b>2. Building the Capacity/Infrastructure for Implementation Subscale (Items 6-14) (items with an asterisk (*) build from left to right so that a 3 rating also includes the requirements of both 1 &amp; 2.)</b>					
6. The critical elements <sup>6</sup> of MTSS are defined and understood by school staff*	No information on the critical elements of the school's MTSS is available	The critical elements of MTSS are in the process of being defined and communicated to school staff	<u>and</u> The critical elements of MTSS are defined and communicated to school staff	<u>and</u> The curriculum, assessment, and instructional practices that define the school's critical elements of MTSS can be communicated by all school staff	
<b>3. Communication and Collaboration Subscale (Items 15-18)</b>					
15. Staff <sup>11</sup> have consensus and engage in MTSS Implementation <sup>12</sup>	Staff are not provided opportunities to gain understanding of the need for MTSS	Staff are provided opportunities to gain understanding of the need for MTSS and its relevance to their roles and responsibilities	Staff understand the need for MTSS and its relevance to their roles and responsibilities, <u>but</u> do not have opportunities to provide input on how to implement MTSS	Staff understands the need for MTSS and its relevance to their roles and responsibilities <u>and</u> has opportunities to provide input on how to implement MTSS	
<b>4. Data Based Problem Solving Subscale (Items 19-24)</b>					
19. Data-based problem solving <sup>16</sup> for student outcomes occurs across content areas, grade levels, and tiers <sup>17</sup>	Data may be collected, <u>but</u> data-based problem-solving does <u>not occur across</u> : <ul style="list-style-type: none"> <li>any content areas</li> <li>any grade levels</li> <li>any tier</li> </ul>	Data-based problem solving occurs across <u>1 of the following 3</u> : <ul style="list-style-type: none"> <li>at least 2 content areas</li> <li>at least 50% of grade levels</li> <li>a single tier</li> </ul>	Data-based problem solving occurs across <u>2 of the following 3</u> : <ul style="list-style-type: none"> <li>at least 3 content areas</li> <li>at least 75% of grade levels</li> <li>at least two tiers</li> </ul>	Data-based problem solving occurs across <u>all of the following</u> : <ul style="list-style-type: none"> <li>across all content areas</li> <li>all grade levels</li> <li>all tiers</li> </ul>	



# Sample Items (cont.)



Item	0 = Not Implementing	1 = Emerging/Developing	2 = Operationalizing	3 = Optimizing	Rating
<b>5. Three Tiered Instructional /Intervention Model Subscale (Items 25-30) (Items in this section alternate between addressing academic and behavior practices.)</b>					
<p>25. Tier 1 (core) academic practices exist that clearly identify learning standards<sup>21</sup>, school-wide expectations<sup>22</sup> for instruction that engages students, and school-wide assessments<sup>23</sup></p>	<p>Tier 1 elements are <u>not</u> developed and/or clearly defined</p>	<p>Tier 1 elements incorporate <u>1 of the following 3</u>:</p> <ul style="list-style-type: none"> <li>clearly defined learning standards</li> <li>school-wide expectations for instruction and engagement</li> <li>assessments/data sources</li> </ul>	<p>Tier 1 elements incorporate <u>2 of the following 3</u>:</p> <ul style="list-style-type: none"> <li>clearly defined learning standards</li> <li>school-wide expectations for instruction and engagement</li> <li>assessments/data sources</li> </ul>	<p>Tier 1 elements incorporate <u>all of the following</u>:</p> <ul style="list-style-type: none"> <li>clearly defined learning standards</li> <li>school-wide expectations for instruction and engagement</li> <li>assessments/data sources</li> </ul>	
<b>6. Data-Evaluations Subscale (Items 31-34) (Items with an asterisk (*) build from left to right so that a 3 rating also includes the requirements of both 1 &amp; 2)</b>					
<p>31. Staff understand and have access to data sources that address the following purposes of assessment</p> <ul style="list-style-type: none"> <li>identify students at-risk</li> <li>determine why student is at-risk</li> <li>monitor student growth/progress</li> <li>inform instructional planning</li> <li>determine student attainment of academic/behavioral outcomes*</li> </ul>	<p>Staff do not understand and have access to data sources that address the purposes of assessment</p>	<p>Staff learn the purposes of <i>assessment</i> within MTSS <u>and</u> the leadership team selects measures for the purposes of assessment across content areas that are reliable, valid, and accessible, as well as culturally, linguistically, and developmentally appropriate</p>	<p><u>and</u> Staff engage in assessment with fidelity to:</p> <ul style="list-style-type: none"> <li>identify students who are at-risk at least 3-4 times/year</li> <li>determine why a student is at-risk</li> <li>monitor student growth/progress</li> <li>inform instructional planning</li> <li>determine student attainment of academic/behavioral outcomes</li> </ul>	<p>The leadership team and/or staff collaboratively and systematically evaluate and adjust assessment practices to ensure availability of accurate and useful data to inform instruction, <u>and</u> assessment tools are evaluated for continued value, usefulness, and cultural, linguistic, and developmental appropriateness</p>	



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# FALL 2013 PRELIMINARY PILOT STUDY



# Pilot Sample



- 2 states, 7 districts, 155 schools
- Districts ranged from small (2,761 students) to large (348,687 students)

# Pilot Procedures



- Train the Trainers
  - District contacts identified personnel responsible for administering the SAM
  - Project staff trained individuals on the SAM development and administration procedures
- School leadership teams completed the survey together, reported team consensus for each item
- Results graphed and disseminated to district contacts

# Preliminary Analyses



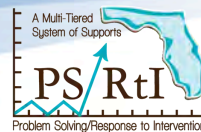
- Descriptive analyses
  - Mean scores by item
- Exploratory Factor Analysis (EFA)
  - Oblique rotation using Mplus, v. 7.11 (Muthen & Muthen, 2012)
  - Reviewed model fit statistics, item factor loadings, and item/factor interpretability
  - Minimum factor loading = .30





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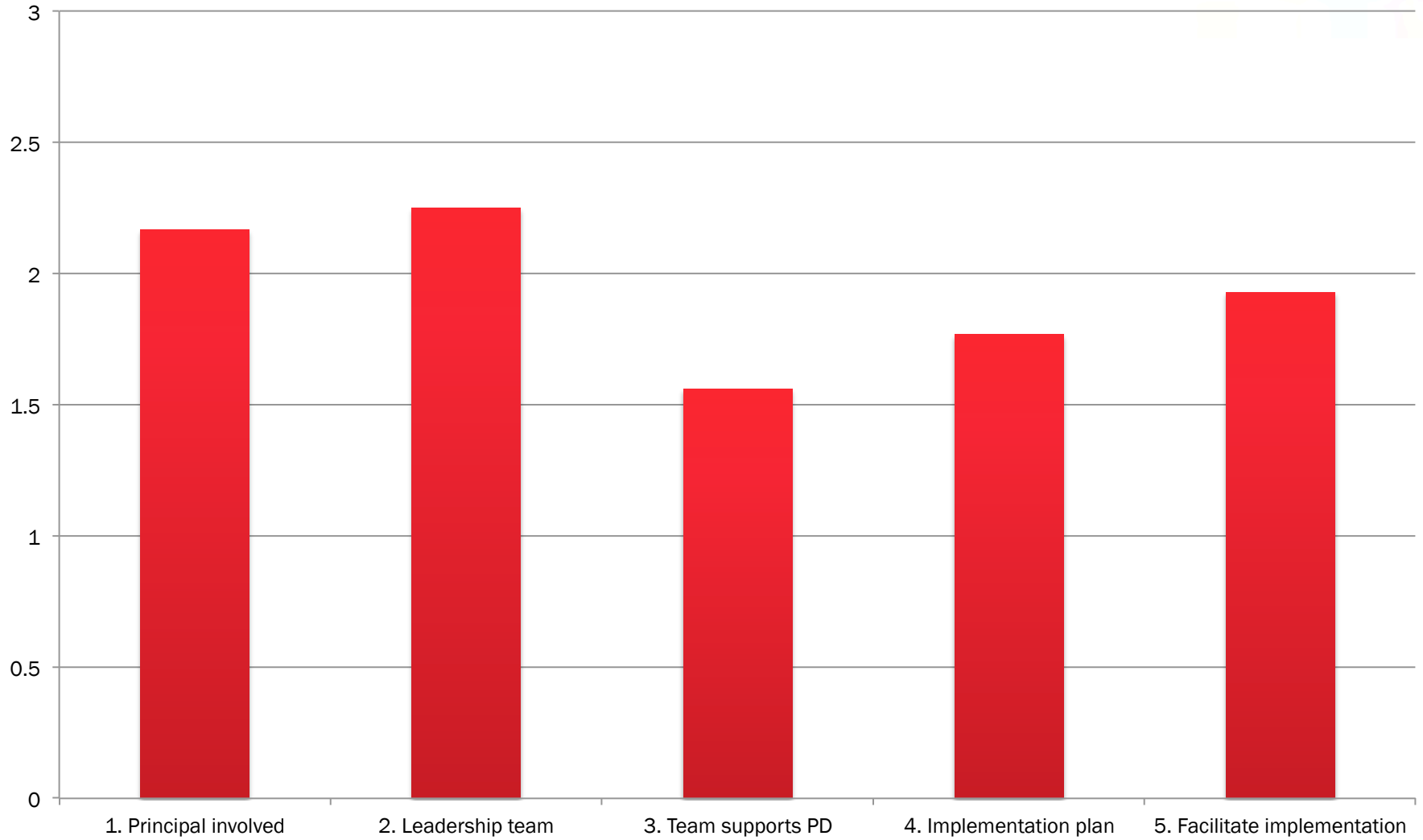
# DESCRIPTIVE ANALYSES





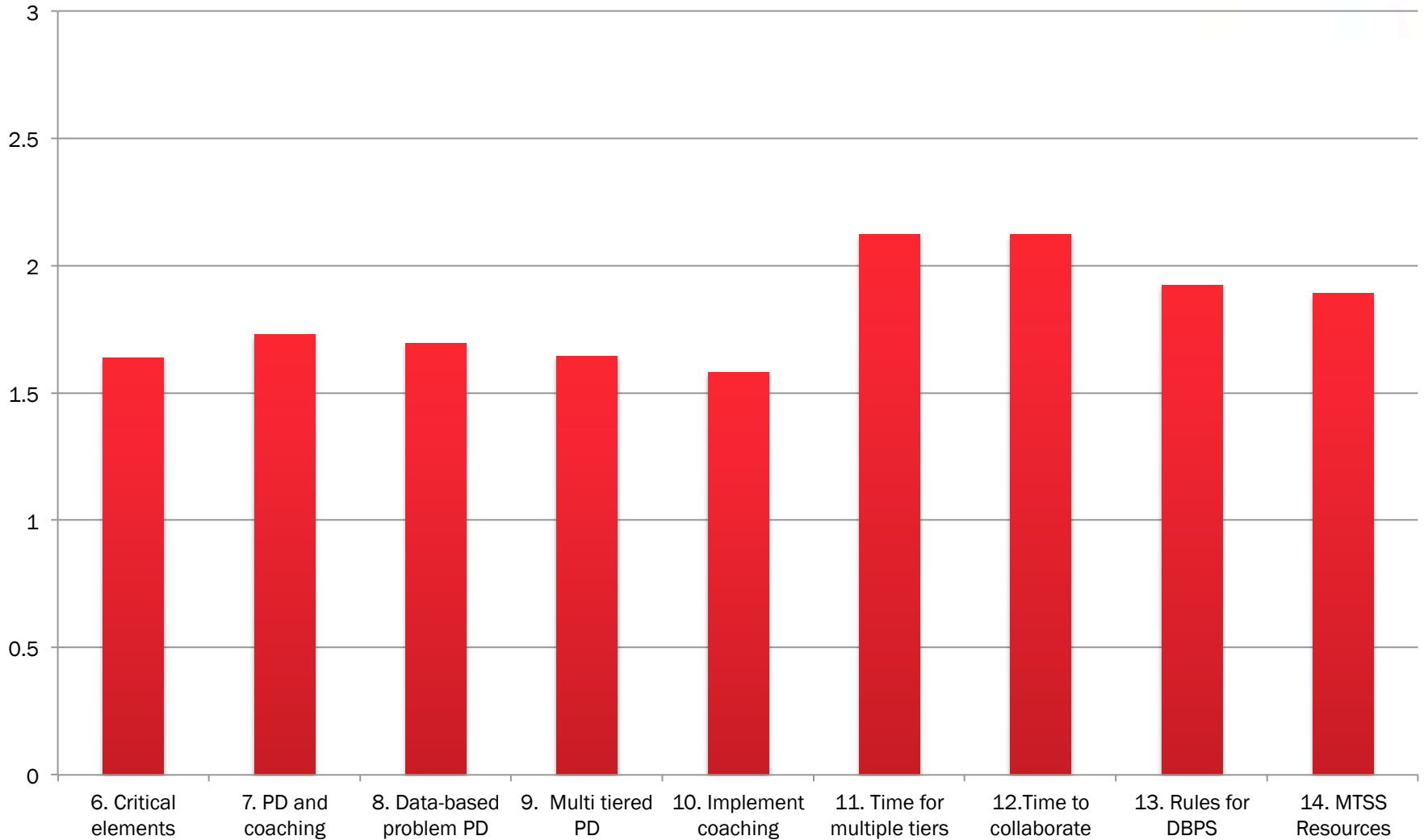


## Leadership Item Means



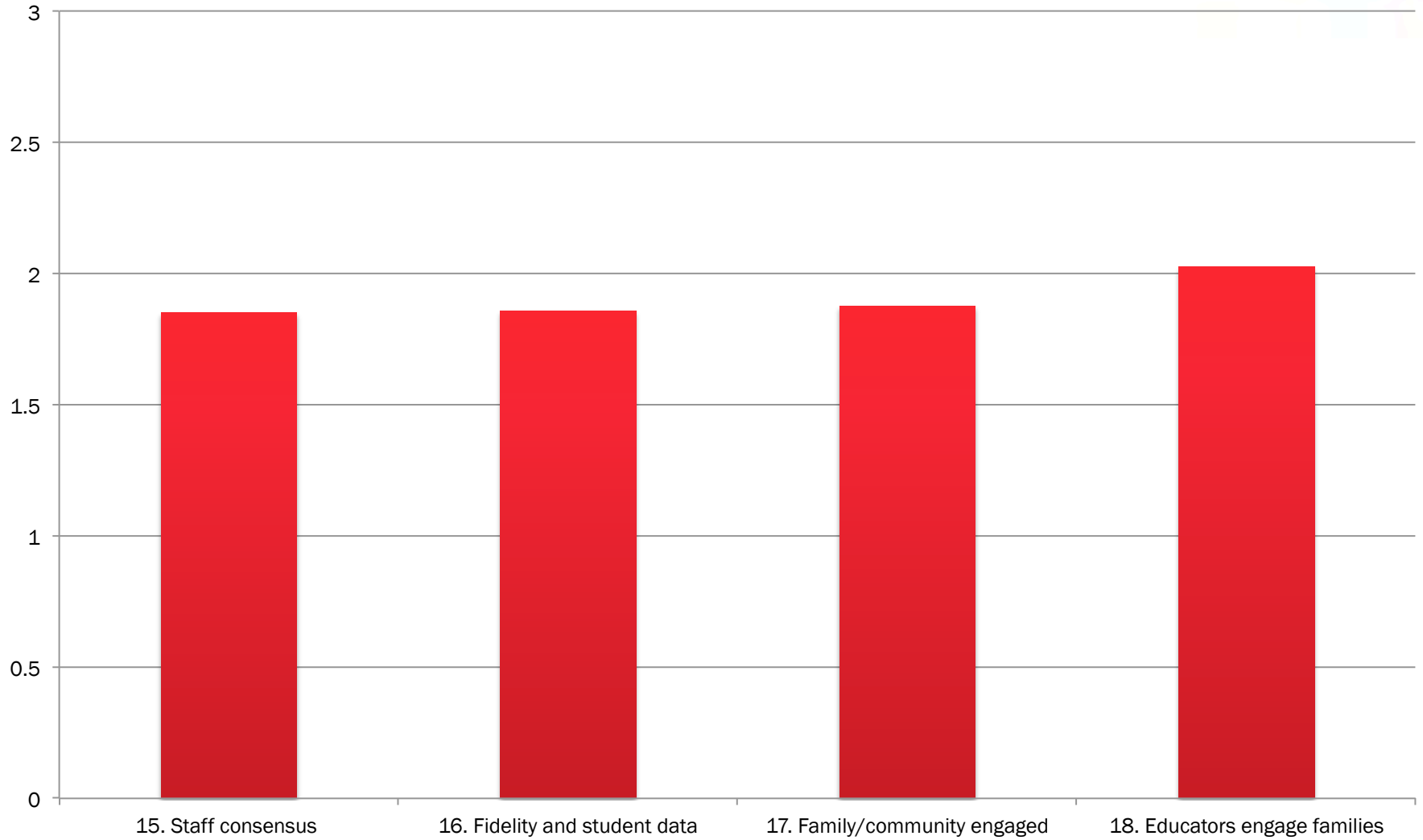


## Capacity/Infrastructure Item Means



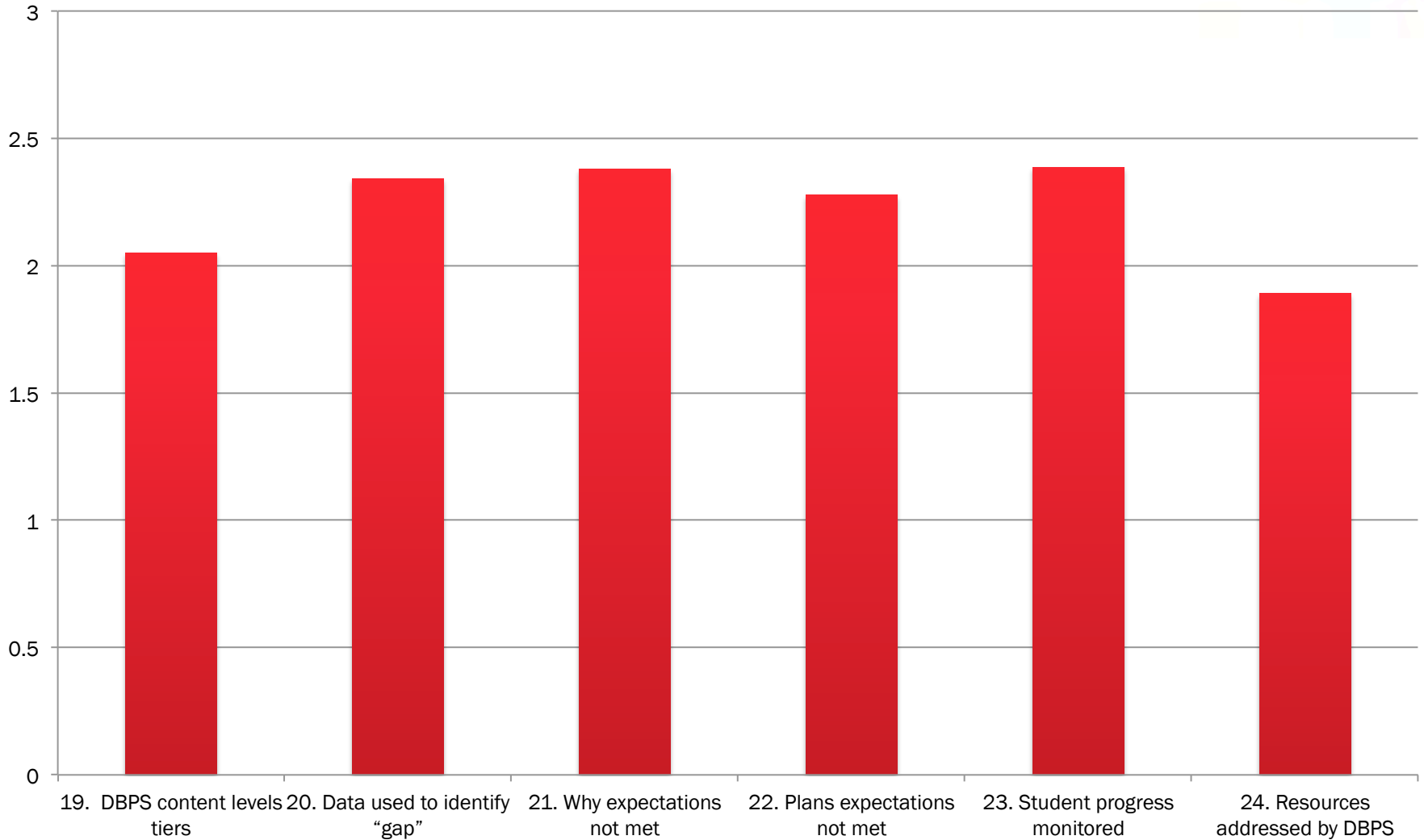


## Communication Item Means



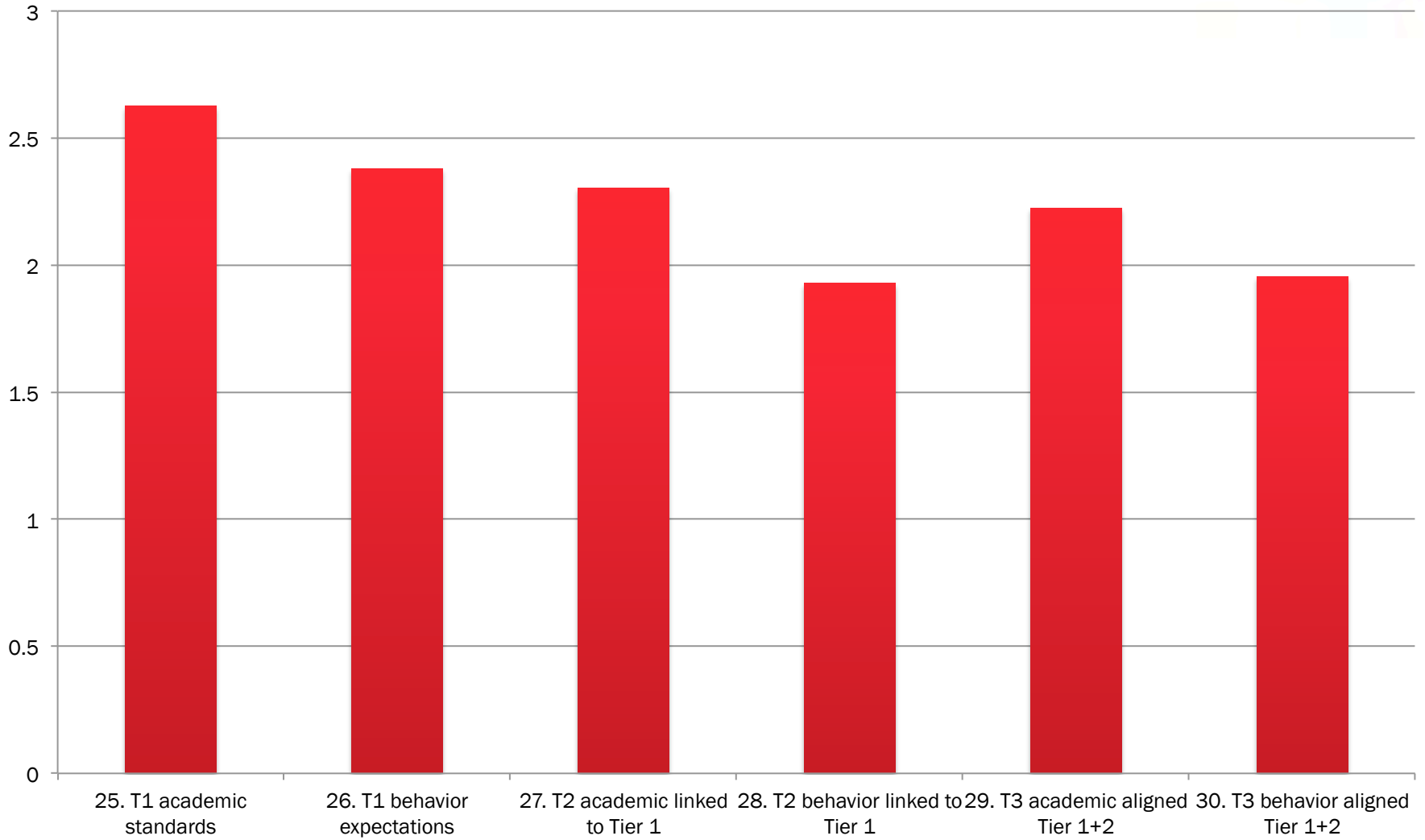


## Data-Based Problem-Solving Item Means



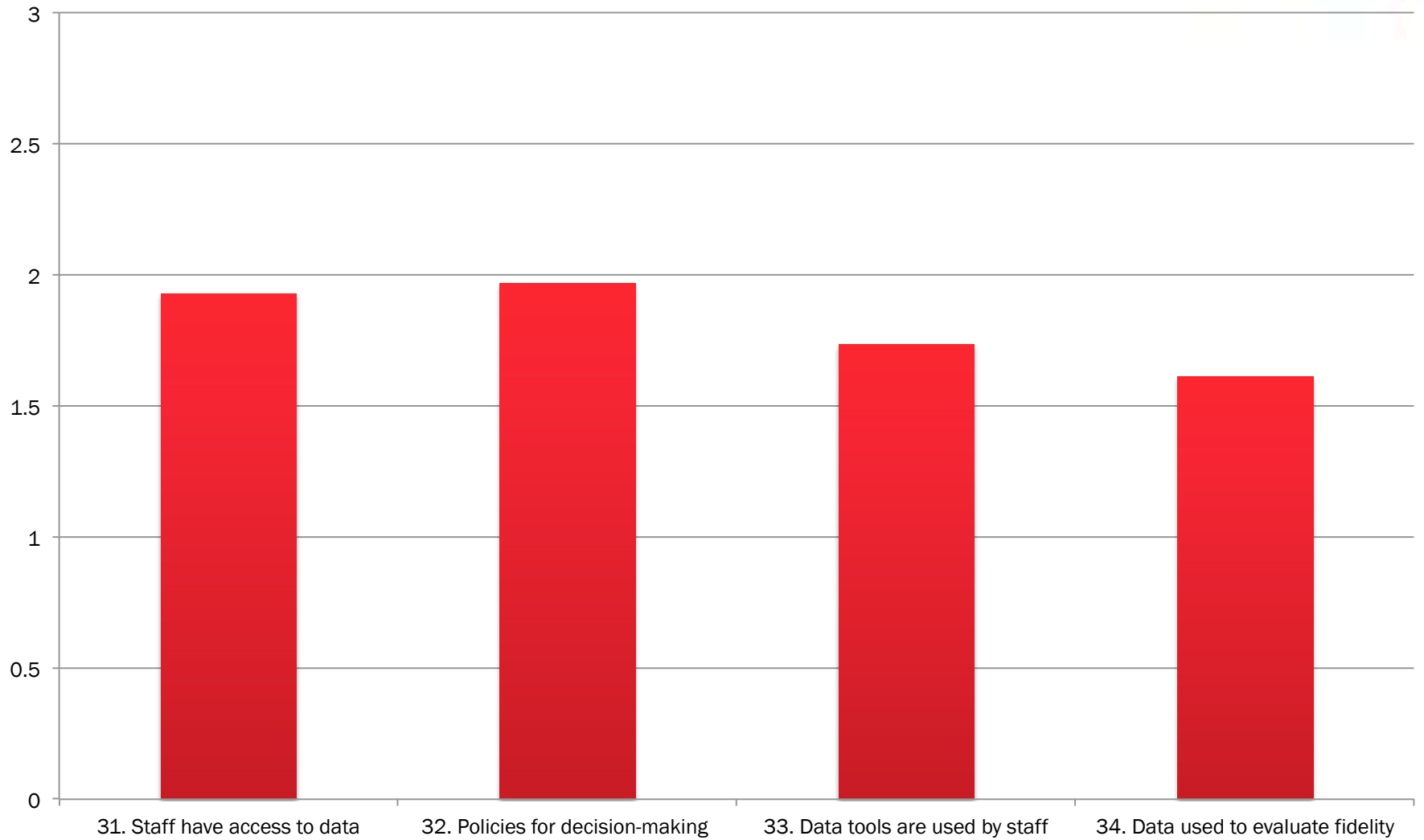


## 3-Tier Model Item Means





## Data/Evaluation Item Means





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# EXPLORATORY FACTOR ANALYSIS (EFA)



# EFA Model Fit Indices



	1 factor	2 factor	3-factor	4-factor	5-factor	6-factor
Chi-square	1323.98	838.42	711.85	616.42	535.55	466.99
Degrees of freedom	527	494	462	431	401	372
<i>p</i> -value	.00	.00	.00	.00	.00	.01
CFI (comparative fit index)	0.90	0.96	0.97	0.98	0.98	0.99
TLI (Tucker–Lewis fit index)	0.89	0.95	0.96	0.97	0.98	0.98
RMSEA (Root Mean Square Error Of Approximation)	0.10	0.07	0.06	0.05	0.05	0.04
Eigenvalues	17.51	2.87	1.37	1.27	1.13	1.01



	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 8
1	0.535						
2	0.511						
3	0.466	0.633					
4	0.701						
5	0.769						
6	0.295			0.365			
7		0.604					
8		0.663					
9		0.662					
10		0.414					
11					0.783		
12					0.667		
13			0.309				
14				0.617			
15				0.630			
16				0.643			
17				0.439			
18			0.376				
19				0.347			
20			0.631				
21			0.708				
22			0.950				
23			0.666				
24				0.347			
25			0.790				
26							0.632
27			0.691				
28							0.613
29			0.603				
30							0.793
31				0.730			
32				0.916			
33				0.677			
34				0.632			



# Preliminary Factor Structure



- Factor 1 – Leadership (items 1-5)
- Factor 2 – Capacity (items 7-10)
- Factor 3 - Data-based Problem Solving and Tiered Instruction for Academics (items 13, 18, 20-23, 25, 27, 29)
- Factor 4 - Resources for Implementation and Data/Evaluation Systems (items 6, 14-17, 19, 24, 31- 34)
- Factor 5 – Timeliness (items 11-12)
- Factor 6 – Behavior aspect (items 26, 28, 30)

# Internal Consistency Reliability



Factor	Cronbach's Alpha
1	.866
2	.872
3	.909
4	.912
5	.752
6	.857



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# FUTURE PLANS



# Future Plans



- Analyses and survey refinement
  - Review of descriptive statistics and qualitative responses
  - In-depth review of EFA results
  - Potential modifications to SAM
- National Validation Study (Spring 2015)
  - Larger, more diverse sample to promote more generalizable results

# Conclusion & Questions



- Survey Development?
- Technical Adequacy?
- Additional Questions?

# Thank You!



- Florida's Problem-Solving/Response to Intervention Project  
<http://www.floridarti.usf.edu/resources/presentations/index.html>
  - PPT on website (Resources → Presentations)
- Florida Positive Behavior Support Project: A Multi-Tiered Support System  
<http://flpbs.fmhi.usf.edu/>

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