DEVELOPMENT OF A SCHOOL-LEVEL TOOL TO MONITOR MTSS IMPLEMENTATION

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Advance Organizer

• Our Vision of MTSS
• Self-Assessment of MTSS (SAM)
  – SAM Development Procedures
  – Spring 2015 National Pilot Study
  – SAM Psychometric Properties
  – Conclusions
  – Implications for School Psychologists
• Questions and Comments

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 social-emotional instruction and intervention
- Use of data to make educational decisions

Our Vision of MTSS

- The collaborative vision of the PS/RtI and the PBIS: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

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
  - What is the factor structure of the SAM?
  - What is the reliability of the resultant factors?
  - To what extent does the SAM relate to the Benchmarks of Quality (BOQ) and other behavioral outcomes?
SAM Development Steps

1. Literature review
2. Construct/theory development
3. Item generation
4. Expert review panel
5. Cognitive interviewing
6. Initial pilot (Fall 2013)
7. National pilot (Spring 2015)

• “Gold standard” survey development procedures recommended by DeVellis (2012)

Initial Item Development

• Review of SAPSI and additional school-level measures of RtI/MTSS/PBIS
• Review of literature on RtI/MTSS/PBIS implementation, systems change, educational reform initiatives
• 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 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 was used to revise items not meeting 80% criteria

Cognitive Interviews

- 6 cognitive interviews were conducted
- Interviewees verbalized thought process for 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

SAM STRUCTURE
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

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<th>Item</th>
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<td><strong>Leadership Domain</strong> (Items 1-5)</td>
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<td>The principal is actively engaged in and facilitates MTSS implementation</td>
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A leadership team is established that includes a diverse membership with cross-disciplinary representation (e.g., principal, general and special education teachers, central staff, instructional support staff, support staff, and a school-level leader) and a designated member responsible for tracking MTSS implementation.

A leadership team exists that includes cross-disciplinary representation, and the team demonstrates a high level of commitment to supporting MTSS implementation.

The leadership team has developed an effective plan to support MTSS implementation.

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The implementation plan is continually refined and updated on a regular basis.

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Fall 2013 Preliminary Pilot Study

Florida’s Multi-Tiered System of Supports

A Multi-Tiered System of Supports

Fall 2013 Preliminary Pilot Study
Fall 2013 Pilot

- 2 states, 7 districts, 155 schools
- Reviewed descriptive statistics and qualitative feedback
- Revised survey (e.g., item clarity, errors, etc.) and added 5 items based on feedback
  - Scheduling (2)
  - Disaggregating data across groups
  - Allocation of resources
  - Monitoring of data sources

National Pilot Sample

- 8 states, 15 districts, 436 schools
- School type
  - 269 elementary
  - 75 middle
  - 69 high
  - 23 other (Alternative, Combined, etc.)
- Recruitment

Pilot Procedures

- SAM facilitator trainings
  - 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
Analyses

• Descriptive analyses
  – Mean scores by domain and item
  – Feasibility of use
• Confirmatory Factor Analysis (CFA)
• Internal Consistency Reliability Analyses
• Correlation between SAM and behavioral outcomes

Mean Item Score Ranges

• Leadership
  – 1.54-2.36 (SD: .79-1.0)
• Capacity
  – 1.55-2.05 (SD: .70-.96)
• Communication
  – 1.78-1.93 (SD: .75-.97)
• DBPS
  – 1.77-2.18 (SD: .78-.87)
• Three-tiered model
  – 1.88-2.39 (SD: .62-.90)
• Data/Evaluation
  – 1.63-1.92 (SD: .78-.89)
SAM Feasibility Items

• Average time to complete: 1-1.5 hours
• Will SAM help your school implement?
  – Avg. score 3.55 (1: Not at all-5: Very)
• Will your school use the SAM again?
  – Avg. score 3.57 (1: Not at all-5: Very)

CFA

• EFA vs. CFA
• 6-factor conceptual CFA based on 6 SAM domains
• Chi-square test of fit = 1734.06 (p < .0001)
• Root Mean Square Error of Approximation (RMSEA) = .059 (criteria < .08)
• CFI = .96 (criteria > .95)

CFA Factor Loading Ranges

• Leadership
  – .69-.93
• Capacity
  – .68-.85
• Communication
  – .66-.84
• DBPS
  – .62-.85
• Three-tiered model
  – .79-.91
• Data/Evaluation
  – .79-.87
CFA Factor Correlations

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Internal Consistency Reliability

- Leadership: .84
- Capacity: .91
- Communication: .79
- Data-based problem-solving: .89
- Three-tiered model: .90
- Data and evaluation: .90

Benchmarks of Quality (BOQ)

- Used to address implementation fidelity at the Tier I (universal) level of SWPBIS (Kincaid, et al., 2005, 2010; Cohen, et al., 2007)
- 53 items organized around 10 critical elements, as well as a Total Score
SAM and Behavior Outcomes

• SAM (overall score) significantly correlated with BOQ
  – All schools: $r(188)= .31, p<.001$
  – Elementary: $r(117)= .23, p<.05$
  – High: $r(29)= .49, p<.01$
  – Secondary: $r(62)= .40, p<.01$
• SAM (overall score) significantly correlated with Out of School Suspension (OSS) days
  – All schools: $r(243)= -.14, p<.05$

SAM and Behavior Outcomes (cont.)

• SAM Leadership
  – BOQ (elementary): $r(117)= .26, p<.01$
  – ODRs (middle): $r(44)= .33, p<.05$
  – OSS events (middle): $r(44)= .32, p<.05$
  – BOQ (high): $r(29)= .44, p<.05$
  – BOQ (secondary): $r(62)= .33, p<.001$
  – ODRs (secondary): $r(80)= .26, p<.05$
• SAM Capacity
  – BOQ (high): $r(29)= .60, p<.001$
  – BOQ (secondary): $r(62)= .42, p<.001$

SAM and Behavior Outcomes (cont.)

• SAM Communication
  – ODRs (secondary): $r(80)= .27, p<.05$
• SAM Data-Based Problem-Solving
  – BOQ (elementary): $r(117)= .25, p<.01$
  – BOQ (middle): $r(33)= .38, p<.05$
  – ODRs (middle): $r(44)= .36, p<.05$
  – OSS events (middle): $r(44)= .33, p<.05$
  – OSS days (middle): $r(41)= .32, p<.05$
  – BOQ (high): $r(29)= .47, p<.01$
  – BOQ (secondary): $r(62)= .41, p<.001$
  – ODRs (secondary): $r(80)= .27, p<.05$

SAM and Behavior Outcomes (cont.)

• SAM 3-Tiered Model
  – BOQ (elementary): $r(117)= .36, p<.001$
  – BOQ (middle): $r(33)= .32, p<.05$
  – BOQ (secondary): $r(62)= .34, p<.01$
• SAM Data/Evaluation
  – BOQ (high): $r(29)= .41, p<.05$
Conclusions

- Large sample size (436 schools)
- CFA indicated good model fit for 6-factor structure
- "Good" internal consistency reliability: .79-.91
- SAM correlated with BOQ and other behavior outcomes

Implications for School Psychologists

- School psychologists on school-based leadership teams
  - Serve as facilitators during SAM administration
  - Support building-level interpretation of results
  - Help develop school-level action plans to address areas of need
  - Provide professional development related to areas of need
  - Engage in district-level problem-solving and planning related to common school needs
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’s PBIS:MTSS Project
  http://flpbs.fmhi.usf.edu/

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