New Research Examining the Sustainability of School-wide Positive Behaviour Support

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Handouts: http://kentmcintosh.wordpress.com

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Overview

1. Provide background on SWPBS and sustainability
2. Share results from a line of research regarding sustainability
   - A measure to predict and enhance sustainability
   - Perceptions of features related to sustainability
   - Factors predicting sustained implementation

Translation:

BEHAVIOUR = BEHAVIOR

Handouts: http://kentmcintosh.wordpress.com
Do you have a deep understanding of the principles of sustainability?

- Common perception that sustainability is an ethereal, theoretical concept (Vaughn et al., 2000)
- We all have experiences with it
- The same principles of individual behaviour still apply to systems...

Definition

- Sustainability
  - Durable implementation of a practice with fidelity to core components once external support is withdrawn (Han & Weiss, 2005)
  - Potential for sustained implementation at a level of fidelity that continues to produce valued outcomes (McIntosh & Turri, in press)

Barriers to Sustainability: The Three Cs

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Behaviour</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing Challenge</td>
<td>Select Practices &amp; Implement with Fidelity</td>
<td>Student Outcomes</td>
</tr>
</tbody>
</table>

Changes in Context
- Lack of contextual fit
- New challenges exist
- Competing initiatives

Changes in Capacity
- Loss of funding
- Attrition of key personnel

Changes in Consequences
- Diminished effectiveness due to poor fidelity
- Outcomes no longer perceived as important
Memo

To: School Administrators
From: District Administrators

In keeping with the new state initiative, this fall we will be implementing an exciting new district initiative of SNI in place of LYI. All in-service days previously scheduled for LYI will be rescheduled as staff development for SNI. The $500 for release time and materials for LYI will be discontinued and provided instead for SNI. By the way, you will need to create local SNI teams that meet weekly. The former members of your LYI team would be perfect for this new team. Your new SNI binders will be coming next week. Have a great year!!!

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Four Principles for Enhancing Sustainability of PBS

- Promote **PRIORITY**
- Ensure **EFFECTIVENESS**
- Increase **EFFICIENCY**
- Use data for **CONTINUOUS REGENERATION**

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What is **PRIORITY**?

- Importance in comparison to other practices
- Incorporation into core system components
- Connection to other initiatives
Promoting **PRIORITY**

- Maximize visibility
  - Present data to people with resources
  - Describe effects of abandoning support for the practice
- Get into written policy
- Braid project with other initiatives
  - Show how practice can lead to outcomes of new initiatives

What is **EFFECTIVENESS**?

- Extent to which the practice results in desired outcomes
- Effects must be attributed to the practice

Ensuring **EFFECTIVENESS**

- Focus on **FIDELITY OF IMPLEMENTATION**
- Implement in all settings
- Implement all tiers of support
- Consider family trainings
- Share data showing how fidelity is related to effects

What is **EFFICIENCY**?

- Relationship between continued effort and continued effectiveness
- Weighed against other potential practices
Increasing **EFFICIENCY**
- Get it down on paper
  - Lesson plans
  - Schedules
  - Agendas
- Focus on efficient team meetings

What is **CONTINUOUS REGENERATION**?
- Collection of data to monitor **fidelity**, outcomes and context
- Adaptation over time while keeping critical features intact
- Ongoing investment in building local capacity

Using data for **CONTINUOUS REGENERATION**
- Adjust practices for a changing environment
  - Priority
  - Effectiveness
  - Efficiency
- Connect with a community of practice

**Cautions** for Continuous Regeneration
- When you keep it fresh...
  - Consider the critical features of what makes PBS effective
    - Reward systems – recognition of their success
      - Not a scrap of paper without recognition
      - Not insincere praise
      - Not the same for everyone!
Research on Sustainability

- Descriptive information about what we think promotes sustainability
  - Based on theory
  - Based on some anecdotal observations
- Clear descriptions of examples of non-sustainability
  - (Gersten & Chard, 2000; Santangelo, 2009; Sindelar et al., 2006; Vaughn et al., 2000)

A SWPBS Sustainability Study (Doolittle, 2006)

- Sample: 285 schools with SET scores
- Differences between schools that implemented and those that did not
- Differences between schools that sustained and those that did not

Implementers vs. Non-implementers

<table>
<thead>
<tr>
<th>SET Subscale</th>
<th>SET Overall</th>
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</thead>
<tbody>
<tr>
<td>Expectations Defined</td>
<td>Met SET (≥80%)</td>
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<tr>
<td>Expectations Taught</td>
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<tr>
<td>Reward System</td>
<td>District-Level Support</td>
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Sustainers vs. Non-sustainers

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<th>SET Subscale</th>
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<tbody>
<tr>
<td>Expectations Defined</td>
<td>Sustained SET for ≥5 years</td>
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(Doolittle, 2006)
A Measure to Assess Sustainability of School-based Behaviour Interventions

School-wide Universal Behaviour Sustainability Index – School Teams (SUBSIST)


Overview

- The SUBSIST is a 50 item survey assessing the variables that enhance or prevent sustainability of school-based behaviour interventions
- Developed through content validity and pilot studies

Survey Description

- 50 items representing critical features theorized to enhance or impede sustainability
  - Items selected based on a literature review
- Four questions per item
- Open-ended questions

Sample Items

- School personnel perceive SWPBS as effective in helping them achieve desired outcomes
- SWPBS has been expanded to other areas (e.g., Classrooms, buses, students with intensive needs, parenting workshops)
- The school team implementing SWPBS is well organized and operates efficiently
- Data are used for problem solving, decision making and action planning (to make SWPBS more effective and/or efficient)
Content Validity Study

- **Participants**
  - 21 experts in sustainable implementation of SWPBS and school-based systems change

- **Procedures**
  - Experts rated the importance of each item, clarity of wording, response format, overall content, and any items that should be added

- **Analysis and Results**
  - Interrater reliability = .97
  - Content Validity Index = .95

Pilot Study

- **Participants** ($n = 25$)
  - 11 Coaches
  - 14 Team Facilitators
  - 11 intact dyads

- **Procedures**
  - Participants asked to complete the survey twice within two weeks
  - Participants also rated the survey validity and suggested rewording of specific items

SUBSIST Psychometrics

- **Internal Consistency**
  - .77 to .94 ($n = 25$)

- **Test-retest Reliability (two-week)**
  - .96 ($n = 19$)

- **Interrater Reliability**
  - .95 ($n = 11$)

- **Concurrent Validity (with SET)**
  - .68 ($n = 13$ [7 schools])

A Measure for School Teams

- The SUBSIST Checklist
  - A self-assessment and action planning tool for school teams and coaches
  - 50 critical features based on SUBSIST items
  - An integrated action plan for sustainability
  - Available for free at:
    [http://bcpbs.wordpress.com/evaluation](http://bcpbs.wordpress.com/evaluation)
Research Questions

1. What features were perceived as most and least important for (a) initial implementation and (b) sustainability?
2. What features were rated as significantly more important for sustainability than for initial implementation?

Sample: 257 respondents from 14 US states
- 49% Elementary
- 16% Middle
- 5% High School
- Average implementation: 6 years (1 to 15)

Measure
- SUBSIST perceived impact questions

Method

Recruitment

Two methods of recruitment
- State SWPBS coordinator contacts
- List of schools from PBIS center database
  - 32% response rate
- Pilot study schools added \( n = 15 \)
Most Important Features for Sustainability

1. School administrators actively support SWPBS
2. School administrators describe SWPBS as a top priority for the school
3. A school administrator regularly attends and participates in SWPBS team meetings
4. The SWPBS school team is well organized and operates efficiently
5. The school administrators ensure that the SWPBS team has regularly scheduled time to meet

Less Important Features for Sustainability

1. Other initiatives are present that compete with SWPBS
2. School personnel are opposed to SWPBS because it goes against their personal values
3. High levels of administrator turnover
4. High levels of school personnel turnover
5. High levels of SWPBS “champion” turnover

More Important to Sustainability than Initial Implementation

- Parents are actively involved in the SWPBS effort (e.g., as part of team or district committee)***
- SWPBS is viewed as a part of systems already in use (as opposed to being an “add-on” system)***
- SWPBS has been integrated into new school or district initiatives***
- A vast majority of school personnel (80% or more) support SWPBS***

Note. ***p < .001

Prediction of Sustained Implementation of SWPBS

Research Questions

1. What factors emerge from the items on the SUBSIST?
2. How are these factors related?
3. How do these factors predict sustained implementation of SWPBS?

Respondents ($N = 217$)

- Role
  - 43% school team leaders
  - 32% school administrators
  - 12% school team members
  - 9% district coaches
  - 4% other/no answer

Schools ($N = 217$)

- Representation
  - 14 US states
  - 90 districts (cluster $M = 2$, range = 1 to 18)
- Level
  - 50% elementary, 16% middle, 5% high
- Free/Reduced Price Lunches
  - 53% had over half of students receiving FRL
- Years of SWPBS Implementation
  - $M = 5.4$ years, $SD = 3.2$, range = 1 to 15
- Implementation level (year of response)
  - 64% implementing at fidelity criterion

Measures: SWPBS Implementation

- *School-wide Evaluation Tool*  
  (Sugai, Lewis-Palmer, Todd, & Horner, 2001)
- *Schoolwide Benchmarks of Quality*  
  (Kincaid, Childs, & George, 2005)
- *PBS Self-Assessment Survey*  
  (Sugai, Horner, & Todd, 2001)
- *Team Implementation Checklist*  
  (Sugai, Horner, & Lewis-Palmer, 2001)
Measure: SUBSIST

- Removal of items
  - 5 items removed for redundancy
  - Potential Barriers items (5 items) removed due to low factor loading
- Two levels of data
  - 31 School-level variables
  - 8 District-level variables

Analysis: Multi-Level Structural Equation Modelling (ML-SEM)

- Analyses conducted using Mplus 6.1 (Muthén & Muthén, 2010)
- Mean and variance adjusted weighted least squares (WLSMV) estimator
  - Used with categorical data
- Analyses used
  - Measurement Model (Exploratory Factor Analysis with Geomin rotation, Parallel analysis, COMPLEX)
  - Predictive Model (COMPLEX)

Results: Measurement Model (School-level)

- Model fit indices acceptable (except $\chi^2$)
  - $\chi^2$ (434) = 575.41, $p < .001$, CFI = .97, TLI = .97, RMSEA = .04
- Priority (20 items, reliability = .94)
  - Administrator support, staff support, perceived effectiveness, perceived efficiency, integration into new initiatives
- Implementation (11 items, reliability = .94)
  - School team/staff skill, functioning, regular meetings, data collection, use of data for decision making, presenting data to staff and community

Results: Measurement Model (District-level)

- Model fit indices acceptable
  - $\chi^2$ (19) = 27.47, $p = .09$, CFI = .93, TLI = .90, RMSEA = .05
- District Priority (5 items, reliability = .72)
  - District support, state support, funding, district policy, promoted to external organizations
- Capacity Building (3 items, reliability = .73)
  - Access to district coaching, yearly professional development, connection to a community of practice
### Results: Zero-order Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>1. Priority (School-level factor)</td>
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<td></td>
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<tr>
<td>2. Implementation (School-level factor)</td>
<td>.78***</td>
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<tr>
<td>3. District Priority (District-level factor)</td>
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<tr>
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Note. $n = 217$  
*p < .05  **p < .01  ***p < .001

### Results: Predictive Model

- **Model fit indices acceptable (except $\chi^2$)**
  - $\chi^2 (731) = 881.55, p < .001, \text{CFI} = .96, \text{TLI} = .96, \text{RMSEA} = .03$
- **$R^2 = .45**
- **Factors**
  - **Priority** ($B = .14, SE = .39, ns$)
  - **Implementation** ($B = .61, SE = .24, p < .05$)
    - 1 SD increase = fidelity 1.6 times as likely
  - **District Priority** ($B = -1.14, SE = .66, ns$)
  - **Capacity Building** ($B = .98, SE = .43, p < .05$)
    - 1 SD increase = fidelity 1.5 times as likely

Note. School and District levels were analyzed in the same model. Error terms, fixed loadings, and factor covariances removed for figure clarity.
Discussion

- School team functioning (esp. use of data for decision making) was strongly related to implementation
  - No significant independent contribution of school administrator, staff support, perceived effectiveness, perceived efficiency, braiding
- District coaching, professional development, and connection to a community of practice were effective district supports
  - No significant independent contribution of active support, general funding, policy

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Note. n = 217  
*p < .05  **p < .01  ***p < .001

Limitations

- Response rate adequate but not high
- Sample was primarily elementary and school based
- Small number of districts and schools per district
- Results are exploratory and require replication
- Results are specific to SWPBS

Implications

- School teams can use the SUBSIST Checklist to assess sustainability and identify next steps
- School teams can benefit from training in running meetings and using data
- Districts can support schools by supporting school-level implementation
Create a Plan to Sustain from the Start

- **“Train and Hope”**
  - Not an effective approach to implement a practice
- **“Implement and Hope”**
  - Not an effective way to sustain a practice

3 big ideas to plan for sustainability...

1. **Start with the Ending**
   - Let the outcomes drive the selection of practices
   - Identify the valued outcomes for everyone
     - No one has ever been bullied or nagged into long-term sustainability
   - Measure and use data in decision making

2. **Death, Taxes, and…**
   - …Attrition
   - If the fidelity drops, the effects stop
   - Plan for your champions to move on/up
   - Focus on POSITIONS, not PERSONS
     - Create positions tied to the practice
       - Titles
       - Job Descriptions
       - FTE
3. If you keep doing what you’re doing, you MAY NOT keep getting what you’re getting

- Environments change –
  - adjust to changes
- New ideas keep the practice novel
- Spread the practice
  - To new settings
  - To new systems

Contact Information

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Selected References


