The Effects of SWPBIS on High School Dropout Rates and Specific Dropout Risk Factors

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CEC 2015
Advanced Organizer

• Summary of Current Research
• Why PBIS?
• Methods
  – Data collection
  – Analysis
• Results
• Implications and recommendations
• Questions
School Completion

• Students who do not complete high school are at higher risk for
  – Underemployment,
  – Unemployment,
  – Criminal or gang activity,
  – Incarceration,
  – Depression or other mental health issues.
• Risk for dropout increases when multiple risk factors are present
  – Most current interventions are focused on only one risk area.
  – More research on multi-component interventions is needed.

• School completion and PBIS are conceptually related
Key Findings From Prior Reviews

• Most Dropout Research
  – Focused on identifying risk factors and protective factors
  – Provided descriptions of prevention programs

• Most Dropout Intervention Research
  – Relied on correlational statistics or descriptive case studies rather than experimental design
  – As a result, many practices currently used do not have strong evidence of effectiveness

(Dynarski & Gleason, 2003; Lehr et al., 2003; Prevatt & Kelly, 2003)
Key Findings From Prior Reviews

What Works Clearinghouse (WWC) has identified programs that help students:

• graduate
• complete school
• stay in school
• progress in school

Only 5 interventions meet standards for **positive or potentially positive effects on completing school**

• 1 whole class and 4 individual interventions
  • 4 out of 5 of these provide GED’s to students who have already dropped out
  • Only 1 is preventative

4 school level interventions have evidence for progressing in school but **no evidence of impact on completing school**
Practice Guide Recommendations

• Use data systems to identify students at risk early
• Provide adult advocates to students at risk
• Provide academic support and enrichment
• Implement programs to improve students classroom behavior and social skills
• Provide personalized learning environments and individualized instruction
• Provide rigorous and relevant instruction to better engage students in learning

Dynarski, Clarke, Cobb, Finn, Rumberger, & Smink, 2008; Hammond, Linton, Smink & Drew, 2007; Schargel & Smink, 2001
Practice Guide Recommendations

Limitations of Practice Guides

• Provide a menu of options and suggest a systemic approach but no advice about integration

• Unclear about which recommendations are based on expert opinion vs. research results

• Little guidance on policy interventions

Mac Iver & Mac Iver, 2010
Systematic Literature Review

- Systematically examine high school dropout intervention research
  - Policy
  - Practice
- Assess the impact of those interventions on:
  - High school dropout rates
  - School completion rates

**Policy Interventions:** affect an entire state or regional population
**Examples:** compulsory attendance age, mandatory high school exit exams

**Practice Interventions:** affect an individual, specific group, or school
**Examples:** wrap around services, CICO, schools within schools

Freeman & Simonsen, 2014
Selection Process

- 1519 unique abstracts reviewed
- 104 full articles screened
- 32 articles included
  - 11 policy
  - 21 practice
• Coded dropout interventions by component
  – Academic
  – Behavior
  – Attendance
  – Study skill
  – School structure
  – other
Intervention Components in Current Research

- **Academic**
  - Policy: 27%
  - Practice: 48%
  - Intervention: 38%
  - Effective: 50%

- **Behavior**
  - Policy: 62%
  - Practice: 40%
  - Intervention: 30%
  - Effective: 50%

- **Attendance**
  - Policy: 27%
  - Practice: 27%
  - Intervention: 14%
  - Effective: 10%

- **Study Skill**
  - Policy: 55%
  - Practice: 43%
  - Intervention: 35%
  - Effective: 35%

- **School Structure**
  - Policy: 36%
  - Practice: 36%
  - Intervention: 48%
  - Effective: 45%

- **Other**
  - Policy: 50%
  - Practice: 50%
  - Intervention: 50%
  - Effective: 50%

*Freeman & Simonsen, 2014*
Number of Intervention Components in Current Research

<table>
<thead>
<tr>
<th>Number of Included Components</th>
<th>Policy Interventions</th>
<th>Practice Interventions</th>
<th>Effective Interventions</th>
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<tbody>
<tr>
<td>1</td>
<td>60%</td>
<td>30%</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>40%</td>
<td>50%</td>
<td>10%</td>
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<td>3</td>
<td>20%</td>
<td>30%</td>
<td>10%</td>
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<tr>
<td>4</td>
<td>10%</td>
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<td>10%</td>
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<tr>
<td>5</td>
<td>10%</td>
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<td>6</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Freeman & Simonsen, 2014
Summary of Current Research

• Less than half incorporated two or more intervention components
• Behavioral components were included in 40% of effective intervention studies
• Primarily target individuals and small groups
• Primarily target high schools
• A gap exists between expert recommendations for multi-component systemic dropout interventions and the available empirical research

Freeman & Simonsen, 2014
Supporting Social Competence & Academic Achievement

Continuum of School-Wide Instructional & Positive Behavior Support

- **Tertiary Prevention:**
  - Specialized
  - Individualized
  - Systems for Students with High-Risk Behavior

- **Secondary Prevention:**
  - Specialized Group
  - Systems for Students with At-Risk Behavior

- **Primary Prevention:**
  - School-/Classroom-Wide Systems for All Students, Staff, & Settings

PBIS is often a recommendation for filling this gap.
## Behavior

### Risk Factors
- Behavior difficulties in school and in community
- Frequent discipline referrals
- Frequent suspensions or expulsion
- Early adult responsibility
- Stressful life events

### PBIS Outcomes
- Reductions in behavior incidents
- Increased on task behavior
- Decrease in number of students with significant behavior difficulties
- Reductions in bully behavior
- Reductions in suspensions/expulsions

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Freeman, Simonsen, McCoach, Sugai, Lombardi, & Horner, in press
Attendance

Risk Factors

- Truancy
- Frequently tardy
- High student mobility

PBIS Outcomes

- Decreases in tardiness
- Decreases in unexcused absences

Freeman et al., in press
Academic Performance

Risk Factors

- Poor academic achievement
- Retention
- Low academic engagement
- Low educational expectations or attitudes about value of education

PBIS Outcomes

- Increase in academic performance
- Increase in on-task behavior
- Increased instructional time

Freeman et al., in press
School Level Factors

Risk Factors

- Negative school climate
- Poor relationships between teachers and students
- Punitive school discipline policies
- High percentage of students misbehaving
- Course offerings
- Large schools or high poverty concentration

PBIS Outcomes

- Increased school level capacity to address intensive student needs
- Increased perceptions of school safety and climate
- Increase use of evidence based classroom management
- Perceptions of organizational health

Freeman et al., in press
Citations

Dropout Risk Factors


PBIS Outcomes

Algozzine, & Algozzine, 2007; Barnhart, Franklin, & Alleman, 2008; Bohanon, Fenning, Carney, Minnis-Kim, Anderson-Harriss, Moroz, & Pigott, 2006; Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008; Caldarella, Schatzer, Gray, Young, & Young, 2011; Chitiyo, Makweche-Chitiyo, Park, Ametepee, & Chitiyo, 2011; Horner, Sugai, Smolkowski, Eber, Nakasato, Todd, & Esperanza, 2009; Johnson-Gros, Lyons, & Griffin, 2008; Lassen, Stelle, & Sailor, 2006; Lewis, Powers, Kelk, & Newcomber, 2002; Luiselli, Putnam, Handler, & Feinberg, 2005; McIntosh, Bennett, & Price, 2011; Muscott, Mann, & LeBrun, 2008; Nelson, Martella, & Marchand-Martella, 2002; Oswald, Safran, & Johanson, 2005; Ross, & Horner, 2009; Scott, & Barrett, 2004; Scott, White, Algozzine, & Algozzine, 2009; Yeung, Mooney, Barker, & Dobia, 2009
Purpose of this Study

High School SWPBIS + Middle School SWPBIS

Specific Risk Factors

Dropout Rates

Freeman et al., in press
Sample and Study Design

School Level Data from SWPBIS Implementing Schools

2005
No SWPBIS

SWPBIS

Each school is its own control

SWPBIS

2012

Freeman et al., in press
Data Base Construction

Sample
- 883 High Schools
- 934 Middle Schools
- 37 States
- Middle Schools Average
  - 644 Students
  - 38% Minority
- High Schools Average
  - 1080 Students
  - P/T Ratio 16.5

PBIS Database

NCES and Publically Available State Data

Freeman et al., in press
Sample Characteristics

- Large or Small Town: 15%
- Large or Mid-Size City: 23%
- Urban Fringe: 29%
- Rural: 33%

Freeman et al., in press
Independent Variable

• Measures

  – School Evaluation Tool (SET)
    • Administered by an outside observer
    • Schools are implementing with fidelity when they score > 80/80

  – Benchmarks of Quality (BOQ)
    • Self-reported
    • Schools are implementing with fidelity when they score > 70%
Fidelity Coding

- Non-SWPBIS schools are likely to have some SWPBIS elements in place
- Expected baseline levels were determined through consultation with SWPBIS experts

SET

- Fid=0: 40
- Fid=1: 80

BOQ

- Fid=0: 35
- Fid=2: 70

Freeman et al., in press
Primary Dependent Variables

- **Event Dropout Rate**
  - Proportion of students that leave school in a given year without a high school diploma or an alternative credential
  - Typically lower than other calculation methods but more sensitive to annual changes so most often used in intervention research
  - Reported for whole school and individual grade levels (only whole schools rates were used for this analysis)

Freeman et al., in press
Secondary Dependent Variables

• Attendance
  – Average daily attendance: is calculated by dividing the total number of days in attendance for all students by the total number of school days
Secondary Dependent Variables

• Attendance

• Academic Performance
  – Aggregate school level academic performance scores in language arts, reading, math, social studies, and science subject areas
  – I created an index variable which represented the difference between a school’s aggregate score and that state’s average for each subject area

Freeman et al., in press
Secondary Dependent Variables

• Attendance
• Academic Performance
• Behavior
  – States vary in reporting requirements, SWIS provides common definitions and became the only data source for this study
  – Because SWIS data was only available for schools implementing SWPBIS – behavior data could not be compared pre and post implementation in this study it was only included in supplemental cross-sectional models
Individual Growth Models

Outcome Measure 05-06
Outcome Measure 06-07
Outcome Measure 07-08
Outcome Measure 08-09
Outcome Measure 09-10
Outcome Measure 10-11
Outcome Measure 11-12

Overall Intercept
Overall Slope

Status Risk
Middle School PBIS

When set equal across time the result is the main effect of SWPBIS on each outcome variable

Freeman et al., in press
Main Effects of SWPBIS on Individual Outcome Areas

<table>
<thead>
<tr>
<th>Outcome Area</th>
<th>Effect of SWPBIS Fid=1</th>
<th>Effect of SWPBIS Fid=2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics</td>
<td>-.129</td>
<td>.255</td>
</tr>
<tr>
<td>Attendance</td>
<td>.295*</td>
<td>.505*</td>
</tr>
<tr>
<td>Behavior</td>
<td>-.812*</td>
<td>-1.070*</td>
</tr>
<tr>
<td>Dropout</td>
<td>-.116</td>
<td>-.074</td>
</tr>
</tbody>
</table>

Freeman et al., in press
Cumulative Fidelity Model

High School SWPBIS (Total Fid)
- Slope -.111
- Intercept .247

Middle School SWPBIS
- Slope .006
- Intercept .086

学术
- Slope -.033*
- Intercept .153**

辍学
- intercept .247

出勤

状态风险因素

Freeman et al., in press
Mean Event Dropout Rate

Total Fidelity across 7 years
Fid= 0 if no PIBS implementation, 1= implementation but not at fidelity, 2= implementation at fidelity

Freeman et al., in press
Why SWPBIS in High Schools?

High School SWPBIS

Specific Risk Factors (ATTENDANCE AND BEHAVIOR)

Dropout

Over Time

Freeman et al., in press
Limitations

- Not a true experimental design
- Missing Data
- Fidelity Measures/ Coding/ Confounding effects from measurement
- Accounted only for tier 1 implementation
- School level data rather than individual student data
What does this mean for High Schools?
Challenges of PBIS Implementation in High School

- **Size**
  - Implementation and data collection are more difficult

- **Developmental age of students**
  - Motivated by peer acceptance rather than adult approval
  - Increased need for student voice in school-wide process
  - Increased student independence creates supervision challenges

(Bohanon-Edmonson, Flannery, Eber & Sugai, 2004; Morrison, Robertson, Laurie, & Kelly, 2002; Murphy, Beck, Crawford, Hodges, & McGaughy, 2001.)
Challenges of PBIS Implementation in High School

- Academic perspective/priority
  - Less time for social skill instruction
  - Isolated academic departments
- Misconception about depth and breadth of social needs for adolescents
- Paucity of appropriate assessments
- Over-reliance on zero tolerance or exclusionary discipline policies
- Disjunction between disciplinary policies / practices and developmental / social needs

(Bohanon Fenning, Borgmeier, Flannery & Malloy, 2009; Skiba & Rausch, 2006)
Conclusions

• Largest differences
  – Student and staff knowledge of rules
  – Establishing and using reward systems
  – Use and sharing of data for decision making

• These items require the most school-wide collaboration and staff buy in

Swain-Bradway, Freeman, & McIntosh, in preparation
Implications for Practice

• Time spent securing staff buy in and participation will pay off
• Teach school wide expectations to all students and staff
• Ensure routines are in place for collecting and reporting data for decision making

Swain-Bradway, Freeman, & McIntosh, in preparation
• The solution to dropout is more than just a HS diploma it is students who are college and career ready!

## Rules within Routines Matrix PBIS+CCR

<table>
<thead>
<tr>
<th>Routines</th>
<th>Cafeteria</th>
<th>Hallway</th>
<th>Bus</th>
<th>LEARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respect</td>
<td></td>
<td></td>
<td></td>
<td>• Complete assignments with a professional appearance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Have goals and a plan to achieve them</td>
</tr>
<tr>
<td>Responsibility</td>
<td></td>
<td></td>
<td></td>
<td>• Be attentive and ready to learn</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Keep track of missed assignments and have a plan to make them up</td>
</tr>
<tr>
<td>Be Informed</td>
<td></td>
<td></td>
<td></td>
<td>• Use course/reading content to answer questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Self monitor your learning by asking clarifying questions</td>
</tr>
</tbody>
</table>

What if we add a Learning Column focused on CCR skills?
Matrix Study

• 10 schools submitted their matrix
  – Represented Illinois, Colorado, New York

• Clearly Present: Academic Engagement, Mindset, Social Skills

• Potentially to Clearly Present: Learning Processes

• Not present to Potentially Present: Critical Thinking, Transition Knowledge
Fitting this all into the PBIS framework
PBIS

Supporting Social Competence & Academic Achievement

Supporting Staff Behavior

Supporting Decision Making

OUTCOMES

SYSTEMS

DATA

PRACTICES

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CBER

OSEP Center on Positive Behavioral Interventions & Supports

Effective Schoolwide Interventions

Promoting Academic and Behavior Supports
Outcomes

• Measure both short term and long term outcomes
  – Risk factors
  – Graduation
  – Post HS College or Career

• Monitor cost-benefit of new practices
  – Work smarter not harder
PBIS

Supporting Social Competence & Academic Achievement

OUTCOMES

SYSTEMS

DATA

PRACTICES

Supporting Staff Behavior

Supporting Decision Making

UCONN

CBER

Promoting Academic and Behavior Supports

OSEP Center on Positive Behavioral Interventions & Supports

Effective Schoolwide Interventions
Supporting our most at-risk students

- FBA/BIP
- Case management
- Wrap Around
- RENEW
- Career Academies
- Talent Development Schools
- ALAS
- Integrated Mental Health
- Credit Recovery Programs
- Check and Connect

- Peer and Adult Connections
- Academic Support
- Behavioral Support
- Attendance Support
- College/Career Relevance

UCONN

CBER

Center for Behavioral Education & Research
Promoting Academic and Behavior Supports

OSEP Center on Positive Behavioral Interventions & Supports
Effective Schoolwide Interventions
~80% of Students

- Attendance Support
- Behavior Support
- Academic Support
- College/Career Relevance
- Peer and Adult Connections
- Freshman Academies
- Targeted Advisories
- School-wide study skill/organization systems
- Expanded school-wide reinforcement systems (not “just” behavior)
- School Climate

UCONN

CBER
Center for Behavioral Education & Research
Promoting Academic and Behavior Supports

OSEP Center on Positive Behavioral Interventions & Supports
Effective Schoolwide Interventions
PBIS

Supporting Social Competence & Academic Achievement

Supporting Staff Behavior

Supporting Student Behavior

SYSTEMS

DATA

PRACTICES

Supporting Decision Making
Data

2 Main Purposes
• Universal Screening: Identify at risk students early
• Progress Monitoring: Monitor effectiveness of interventions

What data do we need?
• High school early warning systems
  • Academic Risk
  • Behavioral Risk
  • Attendance Risk
  • Student demographics (IEP, Mobility ect)
• Elementary and middle school systems
  • Beginning at least in 6th grade but hopefully sooner
PBIS

Supporting Social Competence & Academic Achievement

Supporting Staff Behavior

Supporting Decision Making

SYSTEMS

DATA

PRACTICES

OUTCOMES
Systems

- **Integrate practices** into a tiered system of support using data
- Provide ongoing training (coaching) for staff to support new practices and data systems
- Intervene early!
Using the PBIS framework to address dropout in your school

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Your Next Steps</th>
</tr>
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<tbody>
<tr>
<td><strong>Data</strong></td>
<td></td>
</tr>
<tr>
<td>• Monitor student risk factors and protective factors early</td>
<td></td>
</tr>
<tr>
<td>• Use data to target specific school-wide and student needs</td>
<td></td>
</tr>
<tr>
<td><strong>Practices</strong></td>
<td></td>
</tr>
<tr>
<td>• Don’t forget tier 1!</td>
<td></td>
</tr>
<tr>
<td>• Use evidence based practices to prevent issues and to address specific student needs</td>
<td></td>
</tr>
<tr>
<td><strong>Systems</strong></td>
<td></td>
</tr>
<tr>
<td>• Plan to support staff and build systems to ensure fidelity of implementation</td>
<td></td>
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<tr>
<td>• Consider integrating student support teams</td>
<td></td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>• Set clear goals</td>
<td></td>
</tr>
<tr>
<td>• Monitor progress toward those goals and adjust as needed</td>
<td></td>
</tr>
<tr>
<td>• Consider the cost and benefit to the system</td>
<td></td>
</tr>
</tbody>
</table>
We are seeking high schools interested in partnering in an important research study addressing school climate, college and career readiness and positive behavior interventions and supports.

QUESTIONS?

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CBER
Promoting Academic and Behavior Supports

OSEP Center on Positive Behavioral Interventions & Supports
Effective Schoolwide Interventions
THANK YOU!

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