

Tier 2 Interventions within the Context of a Tiered Prevention Framework

Barbara Mitchell, Nicholas Gage,
Melissa Stormont

University of Missouri-Columbia



What Do We Know?

Challenge:

- Nearly 20% of the school-age population is affected with social-emotional/behavioral and/or mental health CONCERNS (U.S. Department of Health and Human Services, 1999)
- Of the 20% affected only 30% of those students actually receive services (U.S. Public Health Service, 2000)
- Fewer than 1% of students receive special education services for emotional disturbance (Kauffman, 2001)

What Do We Know?

- Although signs of emotional and behavioral disorders can be detected at an early age
 - children and youth are often inadequately supported
 - delayed in accessing services or
 - receive no treatment at all

(NRC and IOM, 2009)

What Do We Know?

- Long-term outcomes for students experiencing E/BD symptoms or concerns are very poor
 - Drop-out, Incarceration
 - Homelessness, Psychopathology
 - Diminished functioning
 - Difficulty finding & maintaining employment
 - Problems developing interpersonal relationships

(NRC and IOM, 2009)

What Do We Know?

- A number of research-based prevention programs are available for students showing early signs of E/BD
 - BEP: Check-in/Check-out
 - Check & Connect
 - Coping Power
 - First Step to Success
 - Incredible Years Small Group Dinosaur School Program
 - Strong Kids

What Do We Know?

- Schools are natural context for promoting healthy development and preventing E/BD (Adelman & Taylor, 2006)
- Schools are recommended as primary location for identification and support (U.S Public Health Service, 1999)

What Do We Know?

- Use of a tiered prevention framework is burgeoning as an evidence-based practice.
- Horner, R. H. Sugai, G., & Anderson, C. A. (2010). Examining the evidence base for school-wide positive behavior support. *Focus on Exceptional Children*, 42(8), 1-16.

What Do We Know?

- Extensive research has been conducted for both Tier 1 and Tier 3 supports
- Less is known about Tier 2 e.g.
 - How decisions are made for identification and intervention selection
 - Feasibility of implementation by typical school personnel
 - Added effects – after universals are in place

Tier 2 Interventions

- For students who...
 - Are at-risk for an academic and/or social-behavioral concern
 - Continue to engage in frequent problem behavior despite effective school-wide, tier 1 prevention efforts
 - Need additional teaching, monitoring and feedback
 - Could benefit from extra attention or support at school before they are in crisis

(Crone, Hawken & Horner, 2010)

Tier 2 Interventions

For students with...

- Low level problems
 - Non-compliance, disrespect
 - Work completion
 - Attendance, tardy
- ODR 2-5, classroom minor 4-6 range
- Behavior occurs across multiple locations
- Students with internalizing or externalizing concerns

(Crone, Hawken & Horner, 2010)

Goals of Tier 2

- Have available a menu of interventions for responding to the diverse range of student needs
- Provide interventions to support approximately 15% of the student population who are at risk, but not currently engaging in severe problem behavior

(Walker & Horner, 1996; Crone, Hawken & Horner, 2010, p. 7)

Key Features of Tier 2 Interventions

- Continuous availability & quick access to the intervention
- Similar implementation across students
- Low effort by classroom teachers
- Intervention is consistent with school wide expectations

Office of Special Education Programs (OSEP, 2005)

Why Use Tier 2 Interventions

- Not all students require an intensive, individualized intervention
- Can be effective in preventing severe problem behavior
- Allows use of fewer resources while still providing positive effect

Focus of Session

- To what extent can the existing research base for Tier 2 interventions guide practice among typical schools and personnel?
 - Research Questions
 - Method
 - Results
 - General Implications

Purpose

- To explore the existing research base for Tier 2
- Focus on group interventions
 - Potential for efficiently serving a number of students using limited resources
 - Emphasis on studies conducted within a tiered continuum model is also an important distinction.

Research Questions

1. To what extent has integrity of Tier 1 implementation been assessed prior to the addition of Tier 2 interventions?
2. What are the characteristics of students who have participated in Tier 2 interventions and how was identification for these additional supports determined?

Research Questions

3. What outcomes are most often targeted, which types of interventions have been implemented within a tiered framework and what effects do they show?

Research Questions

4. Have school based teams demonstrated capacity to implement and sustain Tier 2 interventions or have these efforts largely been conducted by research personnel?
5. Have school based personnel rated Tier 2 interventions as socially valid (i.e., important, effective and feasible)?

Method

- Completed a comprehensive search for published studies of Tier 2 interventions provided and investigated within a tiered prevention framework
 - 1984-2009
 - Initial Database Search = 52
 - Hand Search of 10 Recommended Journals = 15

Total Yield = 67 articles

Method

- Application of inclusion criteria
 - Intervention study published in peer-reviewed journal
 - Explicit statement that investigation was conducted within
 - SW-PBS framework
 - a tiered prevention model that included social behavior,
 - a continuum of supports or
 - a systems based RTI approach

Method

- Application of inclusion criteria
 - Intervention applied to a selected set of students (2 or more receive same treatment vs. individualized planning)
 - Participants determined “at-risk” by one or more criteria
 - Results examined a social or behavioral outcome
 - Studies that reported academic outcomes alone, not included

Method

- Application of inclusion criteria narrowed acceptance to 13 articles
- Ancestral review of reference list for each studied accepted, no additional studies located.

Excluded Studies

- Two Studies of BEP/CICO
 - March & Horner, 2002
 - Hawken & Horner, 2003
- Check & Connect Mentoring Program
- First Step To Success

Overall Results

- A total of 13 studies met all inclusion criteria and were included for review
- Range in date from 2002-2009
- 10 specifically implementing SW-PBS
- 3 different research method utilized
 - Single Subject (7)
 - Quasi-experimental (5)
 - Descriptive Case Study (1)

Research Question 1

- To what extent has integrity of Tier 1 implementation been assessed prior to the addition of Tier 2 interventions?

Tier 1 Implementation - Results

- 4 of 13 studies provided SET results
 - 80%-100% of features implemented
- 3 of 13 studies provided observation and teacher self-report checklist data
 - Mean integrity ratings ranged from 77% - 86%
- Remaining 6 did not assess Tier 1 implementation

Research Question 2

- What are the characteristics of students who have participated in Tier 2 interventions?
- How was identification for these additional supports determined?

Participant Characteristics - Results

- Total of 185 participants
 - One study accounted for 65 of the total
- Among studies that reported demographic information:
 - 64% male, 25% female (others not specified)
 - 83% Caucasian, 6% African American, 6% Hispanic, 2% Native American
 - 14% received special education services

Participant Characteristics - Results

- Elementary = 11 studies
 - (ages 6-12)
- Middle School = 2 studies
 - (ages 11-15)
- High School = No studies specifically indicated as implementation of Tier 2 intervention

Participant Identification - Results

- Nomination process
 - Teacher referral based on perception of need
- Student data
 - No studies relied on use of student data *alone*
 - When data utilized ODR most frequent, but number not specified
- Screening score results
 - SRSS, SSBD, SSRS, ISSC, PKBS-2

Research Question 3

- What outcomes are most often targeted?
- Which types of interventions have been implemented and what effects do they show?

Outcomes Targeted - Results

- Behavioral outcomes alone = 12
- Behavioral & academic outcomes = 1
- Problem behavior (10)
 - Non-compliance, disruption, negative physical or verbal interactions, out of seat, off-task, talking out
- Appropriate behavior (3)
 - Academic engaged time, effective communication, appropriate peer interactions, use of study skills and/or conflict resolution skills

Intervention Types & Effects - Results

Check-in/Check-out = 8 studies

- 5 delivered as standard treatment protocol
- 53 participants; 70% demonstrated positive outcomes
 - decreases in ODR,
 - decrease in percentage of intervals engaged in problem behavior,
 - percentage daily points earned averaging 80% or higher

Intervention Types & Effects - Results

Check-in/Check-out (McIntosh et al., 2009)

- Standard treatment protocol- 34 students
 - attention maintained (n = 18)
 - escape maintained (n = 16)
- Outcomes for Attention Maintained
 - Decrease in problem behavior rating (e.s. = 1.04)
 - Decrease in ODR (e.s. = .78)
 - Increase in prosocial ratings (e.s.= .99)
- Results for escape group not statistically significant on any measure

Intervention Types & Effects - Results

Check-in/Check-out

- Campbell & Anderson, 2008
- Fairbanks et al., 2007
- Students unresponsive to standard treatment received function-based adaptation
 - e.g. Access to preferred peer for lunch and during end of day check-out
- Demonstrated decreases in problem behavior

Intervention Types & Effects - Results

Social Skill Instructional Groups = 4 studies

- Total of 79 participants
- One study alone accounted for 65 students
 - Received study skill instruction or study skill + conflict resolution skill
 - Both groups showed increases in knowledge of skills, but knowledge did not transfer to increases in use for either group (Robertson & Lane, 2007)

Intervention Types & Effects - Results

Social Skills Instructional Groups

- 4 students received 60 hours using published curriculum (SSIG)
- Classroom teacher provided DRO
- Students demonstrated decreases in
 - disruptive behavior, alone time, and negative social interactions
- Teacher ratings of prosocial behavior also increased

(Gresham et al., 2006)

Intervention Types & Effects - Results

Social Skills Instructional Groups

- Identified at-risk using SRSS score
- 7 students received 10 hours of instruction for targeted skills
- Groups included typically developing peers
 - Demonstrated decreases in disruptive behavior and negative social interactions
 - Showed increase in academic engaged time

(Lane et al., 2003)

Intervention Types & Effects - Results

Social Skills Instructional Group

- 3 participants received treatment package that included
 - social skill instruction for appropriate play,
 - self-management strategy,
 - adult attention & reinforcers for meeting goals
- Only study that included students with identified internalizing concerns

(Marchant et al., 2007)

Intervention Types & Effects - Results

Academic Instructional Group

- Only example to examine behavioral outcomes after providing an academic intervention
 - 15 hours of literacy instruction across 9 weeks
 - Decreases in problem behavior and in one academic measure (NWF) for 5 students who completed
- As decoding skills increased, problem behaviors decreased

(Lane et al., 2002)

Research Question 4

- Have school based teams demonstrated capacity to implement Tier 2 interventions or have these efforts largely been conducted by research personnel?

Implementation - Results

- School-based personnel provided intervention in 6 of 13 studies (CICO) e.g.
 - District personnel provided training to school faculty
 - Behavior Support Team, paraprofessional & classroom teacher
 - Special education teacher
 - School counselor

Implementation - Results

- 3 studies measured fidelity of implementation
- Checklists indicated levels of implementation
 - Averaging 82%-100% for most components
 - Lower levels for family feedback (41%)
- Review of permanent product (DPR)
 - 94%-100% for 4 components
 - Family feedback (36%)

Research Question 5

- Have school based personnel rated Tier 2 interventions as socially valid?
 - e.g. important, effective and feasible

Social Validity - Results

- 9 of the 13 studies reported measures of social validity
 - Teachers, staff, administrators most frequent respondents
 - Student perceptions included in 6 of the 9 studies that measured
 - Parent perceptions considered in only one investigation

Social Validity - Results

Check-in/Check-out (5)

- Staff & Students Rated Highly For:
 - Reducing problem behavior
 - Increasing appropriate behavior
 - Ease of implementation
 - Effectiveness
 - Recommendation for use & acceptability
- Parent Ratings
 - Generally positive, but lower for whether intervention led to academic improvement

Social Validity - Results

Social Skills Instructional Group (3)

- Teacher & student perceptions generally favorable
 - Teachers noted variable outcomes across students
 - Interference with scheduled class activities

Social Validity - Results

- Academic Instructional Group (1)
 - 4 students rated favorably
 - 1 very unfavorably
 - Teacher rated intervention as acceptable
 - However, did not perceive change in behavior despite data indicating positive outcome

(Lane et al., 2003)

Implications

“The question is seldom is there evidence, but rather, is there sufficient evidence to allow unequivocal documentation that a practice is effective”

(Horner, Sugai & Anderson, 2010, p.3)

Implications

- Research to date is valuable starting point but there is need for
 - Stronger base of rigorous investigation
 - Use of a *variety* of designs
 - May include but should not be limited to single subject methods

Implications

- Need for demonstrations of “value add”
 - Use of Tier 2 interventions leads to better outcomes than in schools where these supports are not available

Implications

- Existing studies demonstrated reductions in problem behavior
- Need for additional investigations that target
 - increases in appropriate behavior
 - academic engagement
 - longer-term outcomes such as increases in grade point average, credit accrual, and graduation rates

Implications

- Other types of treatments need investigation
 - Evidence for the use of a BEP/CICO is promising
 - Currently less support available for social skill and academic instructional groups
 - Investigations of how additional interventions work within a tiered continuum e.g. Check & Connect, Strong Kids, Incredible Years

Implications

- Types of students who will benefit most
 - Existing sample predominantly Caucasian
 - Majority male students
 - Limited information for students with high incidence disability (SLD, AD/HD)
 - Consideration for escape maintained behaviors
 - SES status is notably absent in documented literature

Implications

- Limited availability of data once an intervention is removed.
- Need for investigations that include maintenance and generalization measures.

Studies Published Since Review

- Simonsen, B., Myers, D., & Briere, D. E. (2011). Comparing a behavioral check-in/check-out intervention to standard practice in an urban middle school setting using experimental design. *Journal of Positive Behavior Interventions*, 13(1), 31-48.
- Wills, H., Kamps, D., Abbott, M., Bannister, H., & Kaufman, J. (2010). Classroom observations and effects of reading interventions for students at risk for emotional and behavioral disorders. *Behavioral Disorders*, 35(2), 103-119.

Contact Information

Barbara Mitchell – University of Missouri

mitchellbs@missouri.edu

Nick Gage

GageN@missouri.edu

