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The Effects of the Strong Kids Curriculum on Students At-Risk for Internalizing Behavior Disorders

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The Effects of the Strong Kids Curriculum on Students At-Risk for Internalizing Behavior Disorders.

A Presentation by
Marend Brown, Michelle Marchant PhD,
Paul Caldarella PhD, Hilda Sabbah PhD, and
Mike Adams M.A.Ed

Brigham Young University PBS Initiative
Agenda

- Introduction
- Literature Review
- Methods
- Results/Discussion
- Conclusion
• 20% of children suffer from mental health problems (Power, 2003).

• Less than 50% of those children receive services (US Department of Health and Human Services, 1999).

• 5-6% of school age children are eligible for special education services under the classification of emotional disability. Only about 2% receive services (Kauffman, 2001).
Externalizing and Internalizing Behavior Disorders

Externalizing
- Easy to identify
- Yelling, hitting, spitting, kicking, swearing, biting and fighting.
- Observable behaviors

Internalizing
- Not easy to identify
- Problems that usually stem from within an individual and are maintained from within the individual (Merrell, 2001).
- four main areas: depression, anxiety, social withdrawal and somatic or physical problems (Merrell, 2001).
- Not observable
Advantage of Developing Social/Emotional Skills in Schools

- School is a context that is accessible to children and youth.
- Schools provide an environment rich in opportunities for social and emotional development (Miller et al., 1998).
- Classroom experiences are made up of social and emotional interactions (Elksnin & Elksnin, 2006).
- Children typically feel comfortable in the school setting (Roeser, 2001).
Current Models of Interventions in Elementary Schools

- School psychologists or counselors.
- These providers provide services to students in small group or individual settings.
Positive Behavior Support

• PBS is one approach that has the potential of meeting the social and emotional needs of students in a proactive method (Kern & Manz, 2004).

• Levels of support include:
  – School-wide
  – Classroom
  – Non-Classroom
  – Individual
Strong Kids

- Developed by Dr. Kenneth Merrell and the Oregon Resiliency Project
- Partially scripted lessons that promote social and emotional learning and resiliency with children in grades 4-8.

- Three studies have examined the effects of the Strong Kids and Strong Teens curriculum.
- Show statistically significant changes in student’s reported internalizing symptoms and student’s emotional knowledge.
- Offer support for using Strong Kids and Strong Teens as primary and tertiary level interventions
- This study focused on interventions at the PBS secondary level

(Gueldner, Tran, Buchanan & Merrell, 2006)
(Merrell, Julkelis, Tran & Buchanan, Under Review).
What are the effects of the Strong Kids curriculum on social and emotional skills of third, fourth and fifth grade students identified by the SSBD as emotionally at risk for internalizing behaviors?
Three elementary schools in two central Utah school districts

- School A
- School B
- School C
Student Participants and Selection

- 22 students in third, fourth and fifth grade
- Selection
  2. Recommendation by the school behavior team
Research Staff

- BYU PBS Initiative Staff
- School Psychologists
- Teachers
Dependent Variable

- Emotional Resiliency
- Social Skills
Pre, Post and Follow-up Measures

10-item Internalizing Student Symptom Scale (ISSC)

1. There is very little that I like to do
2. I can’t deal with my problems
3. I argue with other people
4. I get so mad that I break or throw things
5. I worry about things
6. I feel depressed or sad
7. Things don’t work out for me
8. I get headaches
9. I feel sick to my stomach
10. I argue with my parents

0 = Never True
1 = Hardly Ever True
2 = Sometimes True
3 = Often True

Pre, Post and Follow-up Measures

Strong Kids Knowledge Test

TRUE and FALSE
1. T F Self-esteem is your feelings of worth for yourself.
2. T F When identifying a problem, it is important to describe how you feel and then listen to how the other person says they feel.
3. T F When most people feel embarrassed, they are likely to stand tall, smile, and talk to others.
4. T F Clenched fists and trembling or shaking hands are often signs of stress.
5. T F Your friend took the last ice cream bar at the class party and you hadn’t gotten one yet. The best way to deal with this is to first identify how you feel, figure out if you feel comfortable or uncomfortable, and then choose 3 positive ways to express your feeling.

MULTIPLE CHOICE.
6. Devin’s gym teacher tells him to try out for the basketball team. Devin thinks that he is too short and won’t make it, so he decides not to try out for the team. What thinking error is described here?
   a. Binocular vision
   b. Black and white thinking
   c. Making it personal
   d. Fortune telling
7. An example of an emotion that is uncomfortable for most people is
   a. Excited
   b. Frustrated
   c. Curious
   d. Content

• 20-item Knowledge test (Merrell, Carrizales, & Feuerborn, 2004a)
Pre, Post and Follow-up Measures

• Teacher’s Report Form (TRF) (Achenbach, 2001).
Instruction of the Strong Kids curriculum

- 12 partially scripted lessons
- 45-50 minutes each
- 2 times a week for 6 weeks

Topics covered in Strong Kids

- Emotional strength training
- Understanding your feelings and other’s feelings
- Dealing with anger,
- Thinking clearly and positively
- Resolving conflict
- Letting go of stress
- Setting goals
- Finishing up
Experimental Design and Conditions

- Pretest-posttest design
- Follow-up assessments 4 – 8 weeks following Instruction
An observer attended four of twelve lessons (30%) at each school and completed treatment fidelity checklists.

- **School A** – 4 lessons observed, all sections instructed.
- **School B** – 4 lessons observed, time constraints led the instructor to leave out one definition and skip role-plays.
- **School C** – 3 lessons observed, all sections instructed.
Data Analysis

- Comparison of means using a t-test
- Significance level $p < .05$
TRF Results

Internalizing Pre-test, Post-test and Follow-up means

T Score Means

<table>
<thead>
<tr>
<th>T Score</th>
<th>Int Pre-test</th>
<th>Int Post-test</th>
<th>Int Follow-up</th>
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<tbody>
<tr>
<td>64.36</td>
<td>62.3636</td>
<td>56.95</td>
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<td>62</td>
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<td>52</td>
<td>50</td>
</tr>
</tbody>
</table>

Intro  Review  Methods  Results/Disc  Conclusion
TRF Results

Externalizing Pre-test, Post-test and follow-up means

- Ext Pre-test: 60.0833
- Ext Post-test: 59
- Ext Follow-up: 56.05
- T Score Means

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Intro  Review  Methods  Results/Disc  Conclusion
TRF Results

Total Problems Pre-test, Post-test and Follow-up Means

- Tot Pre-test: 62.45
- Tot Post-test: 59.05
- Tot Follow-up: 52.00

Intro | Review | Methods | Results/Disc | Conclusion
## T-test Comparison of TRF Means

<table>
<thead>
<tr>
<th>Measures</th>
<th>Difference</th>
<th>Standard Deviation</th>
<th>Standard Error Mean</th>
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</thead>
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<tr>
<td><strong>Internalizing Problems</strong></td>
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<td>Pre-test and Post-test</td>
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<td>Pre-test and Follow-up</td>
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<td>Post-test and Follow-up</td>
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<td>5.39</td>
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<td>3.94***</td>
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<td><strong>Externalizing Problems</strong></td>
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<td>Pre-test and Post-test</td>
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<td>5.22</td>
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<td>Post-test and Follow-up</td>
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<td>2.88**</td>
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<td><strong>Total Problems</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Pre-test and Post-test</td>
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<td>5.23</td>
<td>1.11</td>
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<td>Pre-test and Follow-up</td>
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<td>Post-test and Follow-up</td>
<td>3.30</td>
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<td>.82</td>
<td>4.04***</td>
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</tbody>
</table>

*Note. 95% Confidence Interval *p<.05, **p<.01, ***p<.001*
Internalizing

<table>
<thead>
<tr>
<th></th>
<th>INT Pre-test</th>
<th>INT Post-test</th>
<th>INT Follow-up</th>
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<tr>
<td>Clinical</td>
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<td>10</td>
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<td>Borderline</td>
<td>5</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Normal</td>
<td>4</td>
<td>9</td>
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</table>

Graph showing the distribution of scores across three periods (Pre-test, Post-test, Follow-up) for Clinical, Borderline, and Normal categories.
Externalizing

- Externalizing Pre-test
- Externalizing Post-test
- Externalizing Follow-up

Clinical
Borderline
Normal

Intro
Review
Methods
Results/Disc
Conclusion
ISSC Results

Mean Scores
ISSC Pretest 15.913
ISSC Post-test 14.4091
ISSC Follow-up 14.2059

Intro  Review  Methods  Results/Disc  Conclusion
Knowledge Test Results

Mean Scores

<table>
<thead>
<tr>
<th></th>
<th>Knowledge Pre-test</th>
<th>Knowledge Post-test</th>
<th>Knowledge Follow-up</th>
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<td>Intro</td>
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<td>Methods</td>
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<tr>
<td>Results/Disc</td>
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<td>Conclusion</td>
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## ISSC and Knowledge t-test Comparison

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<th>Standard Error Mean</th>
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<tr>
<td><strong>ISSC</strong></td>
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<tr>
<td>Pre-test and Post-test</td>
<td>1.71</td>
<td>3.53</td>
<td>.77</td>
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<td>Pre-test and Follow-up</td>
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<tr>
<td>Pre-test and Post-test</td>
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</table>

*Note. 95% Confidence Interval *p*.05, **p*.01, ***p*.001*
SSBD vs. Recommended Participants

• More statistically significant changes occurred in those students identified by the SSBD

• The only statistically significant changes in the group of recommended students was in the area of knowledge gains.
## SSBD vs. Recommended

<table>
<thead>
<tr>
<th></th>
<th>SSBD Participants</th>
<th>Recommended Participants</th>
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</thead>
<tbody>
<tr>
<td><strong>Pre-test Mean Scores</strong></td>
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<tr>
<td>ISSC</td>
<td>16.25</td>
<td>15.55</td>
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<td>Knowledge</td>
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<td>10.33</td>
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<tr>
<td>Externalizing</td>
<td>63.83</td>
<td>56.33</td>
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<tr>
<td><strong>Total</strong></td>
<td>67.92</td>
<td>59.58</td>
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</table>
## Significant Changes – SSBD vs. Recommended

### SSBD Participants

<table>
<thead>
<tr>
<th></th>
<th>SSBD Pre and Post</th>
<th>SSBD Pre and F-up</th>
<th>SSBD Post and F-up</th>
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</thead>
<tbody>
<tr>
<td>ISSC</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>TRF Internalizing Problems</td>
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<tr>
<td>SSBD</td>
<td>3.07*</td>
<td>2.59*</td>
<td>6.82***</td>
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<td>TRF Externalizing Problems</td>
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<tr>
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<td>2.72*</td>
<td>4.01**</td>
<td>3.55**</td>
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<td>TRF Total Problems</td>
<td></td>
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<tr>
<td>SSBD</td>
<td>3.44**</td>
<td>4.40***</td>
<td>3.70**</td>
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</table>

### Recommended Participants

<table>
<thead>
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<th>Knowledge Test</th>
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<tbody>
<tr>
<td>Recommended Pre and Post</td>
<td>-2.53*</td>
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<tr>
<td>Recommended Pre and F-up</td>
<td>-2.99*</td>
</tr>
</tbody>
</table>

Note. 95% Confidence Interval *p<.05, **p<.01, ***p<.001
3 Goals of Social Validity

Must ensure that the research endeavor is one of social importance

• Is the research addressing a problem that is commonly accepted as a problem and does it have a commonly accepted goal?

• Are the interventions accepted as appropriate for addressing the problem?

• Will the research produce results that will be acceptable to society?
Social Validity

- General Education teachers – 2 questionnaires
- Strong Kids Instructors
- Student Participants
89% teachers reported a need for social-emotional training in schools today.

67% teachers reported having many students with internalizing problems in their class.
Perception of Outcome

- Teachers’ Perceptions
  - 72% increased social interactions

- Students’ Perceptions
  - 43% increased social interactions
  - 9.5% reported asking more questions
  - 9.5% asked more questions on topic
  - 24% increased interactions with teachers
Comments

Students
• I feel more relaxed
• I can calm myself down
• I know more about my feelings
• I listen better
• I know better how to solve problems
• I participate more in class
• I can talk to other people about my feelings (at home and at recess)

Teachers
• Handles Frustration slightly better
• Sadness is gone
• Handles emotional situations with friends better
• He seems to communicate with me better
• Interacts with the teacher a little more
• A little less over-reacting emotionally
• He seems to be raising his hand more to answer questions in class
• She will come and talk to me
• During group work, she has shown more initiative
Instructors Perceptions

- Effectiveness
  - 2 - highly effective
  - 3 - fairly effective
  - 1 - somewhat effective

- Benefits

- Most important topics
  1. Clear thinking
  2. Understanding your feelings
  3. Dealing with anger
  4. Solving people problems
Implications

- Effective intervention
  - Elementary students
  - At risk for internalizing disorders
  - At the PBS secondary intervention level

- May be more effective for addressing internalizing problems
Limitations

• No random selection or assignment
• Small sample size
• No control
• Teachers knew that students were in a study – expected change
• Treatment Fidelity
• Follow-up 4-8 week time frame
Recommendations

• Replication
• Screening and selection methods
• Internalizing/Externalizing
• 12-week vs. 6-week instruction period
• Strong Kids as a universal, secondary and tertiary level
Conclusion

In order to successfully educate students, schools must be prepared and equipped to both identify and provide services to children with emotional and behavioral problems so that these students are empowered in their efforts to learn.

(Braden, DiMarino-Linnen, & Good, 2001)
The Strong Kids Curriculum

For Information about Strong Kids and Strong Teens see: Oregon Resiliency Project

http://orp.uoregon.edu/
www.uoregon.edu/~strngkds/
http://strongkids.uoregon.edu/

BYU PBS Initiative
byu.pbsi@gmail.com