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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

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

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**Brigham Young University PBS Initiative**

# Agenda



- Introduction
  - Literature Review
  - Methods
  - Results/Discussion
  - Conclusion
-

# Prevalence of Mental Health and Emotional Disorders

- 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).

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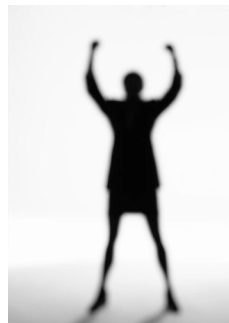
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# Externalizing and Internalizing Behavior Disorders

## 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

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# 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).

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# Current Models of Interventions in Elementary Schools



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

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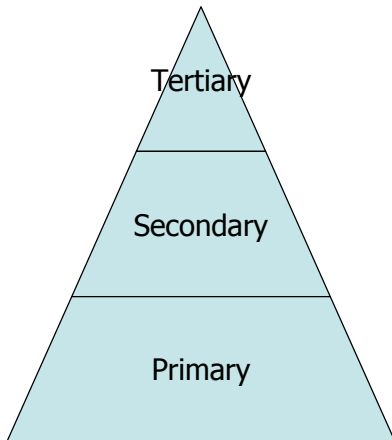
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# Positive Behavior Support



- 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

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# 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

(Guedner, Tran, Buchanan & Merrell, 2006)  
(Merrell, Julkelis, Tran & Buchanan, Under Review).



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# Research Question

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?



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# Setting

Three elementary schools  
in two central Utah  
school districts

- School A
- School B
- School C



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# Student Participants and Selection

- 22 students in third, fourth and fifth grade
- Selection
  1. Systematic Screening for Behavior Disorders (SSBD) (Walker & Severson, 1992).
  2. Recommendation by the school behavior team

SYSTEMATIC SCREENING FOR BEHAVIOR DISORDERS (SSBD)  
Stage Two Rating for  
Internalizing Students

**Critical Events Index**

Date Oct 5/05 Teacher Maranda Brown School BYE  
Student Michelle Merchant Sex F Grade 5<sup>th</sup>

Check one: Stage One SSBD Rank:  1  2 or  3

**INSTRUCTIONS:** Check each behavior from the list below that you are aware the student has exhibited during this school year.

1. Steals.
2. Sets fires.
3. Vomits after eating.
4. Has tantrums.
5. Physically assaults an adult.
6. Exhibits painful shyness.
7. Exhibits large weight loss or gain over past three months. (Significant weight fluctuation would be in excess of 20% change in body weight.)
8. Exhibits sad affect, depression and feelings of worthlessness to such an extent as to interfere with normal peer and classroom activities.
9. Is physically aggressive with other students or adults (hits, bites, chokes, or throws things).
10. Damages others' property (academic materials, damages personal possessions).
11. Demonstrates obsessive-compulsive behaviors. (Student can't get his/her mind off certain thoughts or obsessions.)
12. Reports having nightmares or significant sleep disturbances.
13. Engages in inappropriate sexual behaviors (masturbation, exposes self).

© 1990 Hill M. Walker & Herbert Severson

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# Research Staff



- BYU PBS Initiative Staff
- School Psychologists
- Teachers

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# Dependent Variable

- Emotional Resiliency
- Social Skills



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# 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

(Merrell, Carrizales, & Feuerborn, 2004a)(Merrell & Walters, 1998).

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# 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 to not 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)

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# Pre, Post and Follow-up Measures

- Teacher's Report Form (TRF) (Achenbach, 2001).



**Please print** **TEACHER'S REPORT FORM FOR AGES 6-18** For office use only ID #

Your answers will be used to compare the pupil with other pupils whose teachers have completed similar forms. The information from this form will also be used for comparison with other information about this pupil. Please answer as well as you can, even if you lack full information. Scores on individual items will be combined to identify general patterns of behavior. Feel free to print additional comments beside each item and in the spaces provided on page 2. *Please print, and answer all items.*

PUPILS FULL NAME First Middle Last		PARENTS' USUAL TYPE OF WORK, even if not working now. <small>(Please be specific — for example, auto mechanic, high school teacher, homemaker, laborer, crane operator, shoe salesman, army sergeant.)</small>	
PUPILS GENDER <input type="checkbox"/> Boy <input type="checkbox"/> Girl	PUPILS AGE	PUPILS ETHNIC GROUP OR RACE	FATHER'S TYPE OF WORK
TODAY'S DATE Mo. Day Year		PUPILS BIRTHDATE (if known) Mo. Day Year	MOTHER'S TYPE OF WORK
GRADE IN SCHOOL	NAME AND ADDRESS OF SCHOOL		THIS FORM FILLED OUT BY: (print your full name)
			Your gender: <input type="checkbox"/> Male <input type="checkbox"/> Female
			Your role at the school: <input type="checkbox"/> Classroom Teacher <input type="checkbox"/> Counselor <input type="checkbox"/> Teacher's Aide <input type="checkbox"/> Special Educator <input type="checkbox"/> Administrator <input type="checkbox"/> Other (specify)

I. For how many months have you known this pupil? \_\_\_\_\_ months

II. How well do you know him/her? 1.  Not Well 2.  Moderately Well 3.  Very Well

III. How much time does he/she spend in your class or service per week?

IV. What kind of class or service is it? (Please be specific, e.g., regular 5th grade, 7th grade math, learning disability, counseling, etc.)

V. Has he/she ever been referred for special class placement, services, or tutoring?  
 Don't know 0.  No 1.  Yes — what kind and when?

VI. Has he/she ever repeated any grades?  Don't know 0.  No 1.  Yes — grades and reasons:

VII. Current academic performance — list academic subjects and check box that indicates pupil's performance for each subject:

Academic subject	1. Far below grade	2. Somewhat below grade	3. At grade level	4. Somewhat above grade	5. Far above grade
1. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Be sure you answered all items. Then see other side.*

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# Independent Variable

## 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*

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# Experimental Design and Conditions

- Pretest-posttest design
- Follow-up assessments 4 – 8 weeks following Instruction



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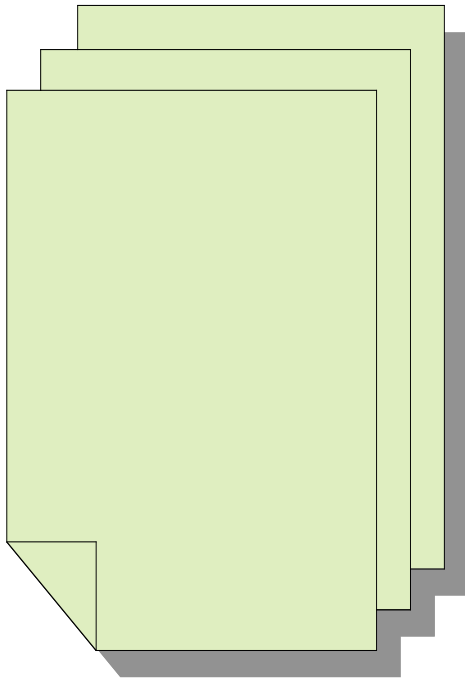
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# Treatment Fidelity



- 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

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# Data Analysis

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



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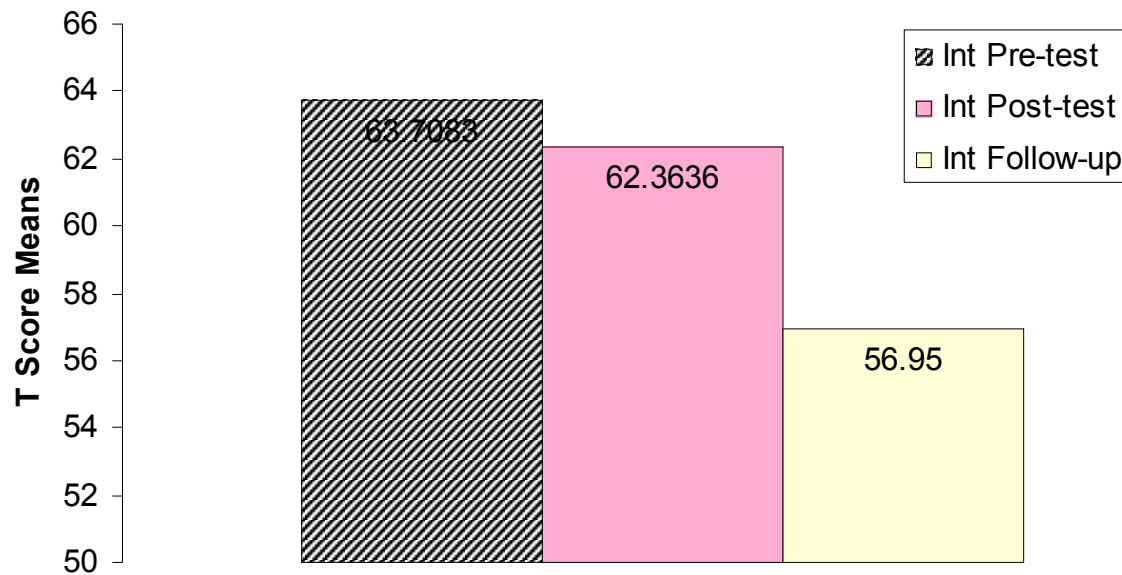
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# TRF Results

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



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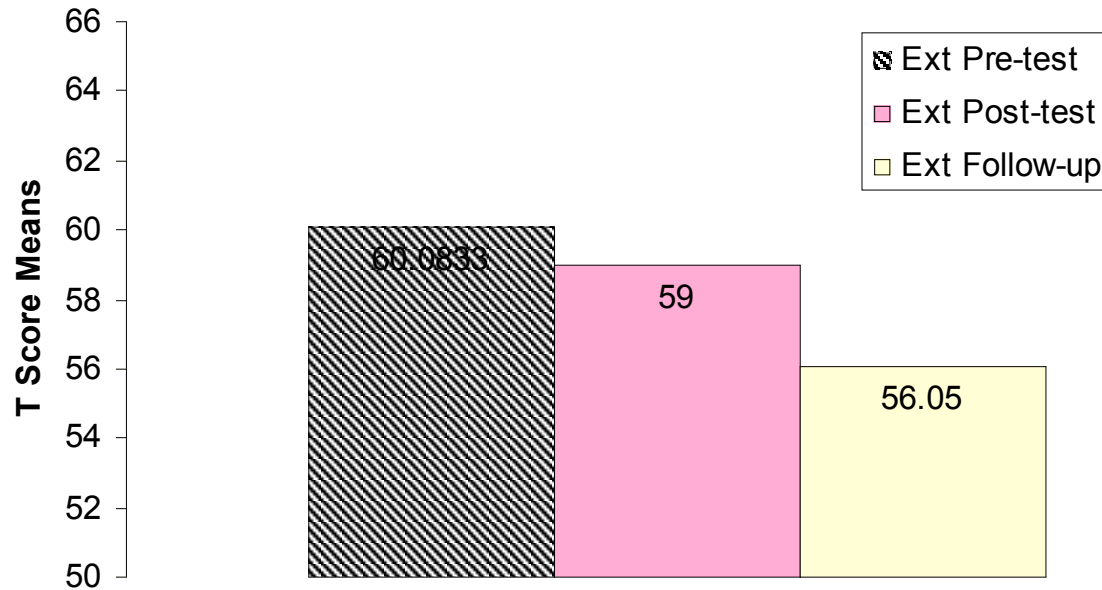
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# TRF Results

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



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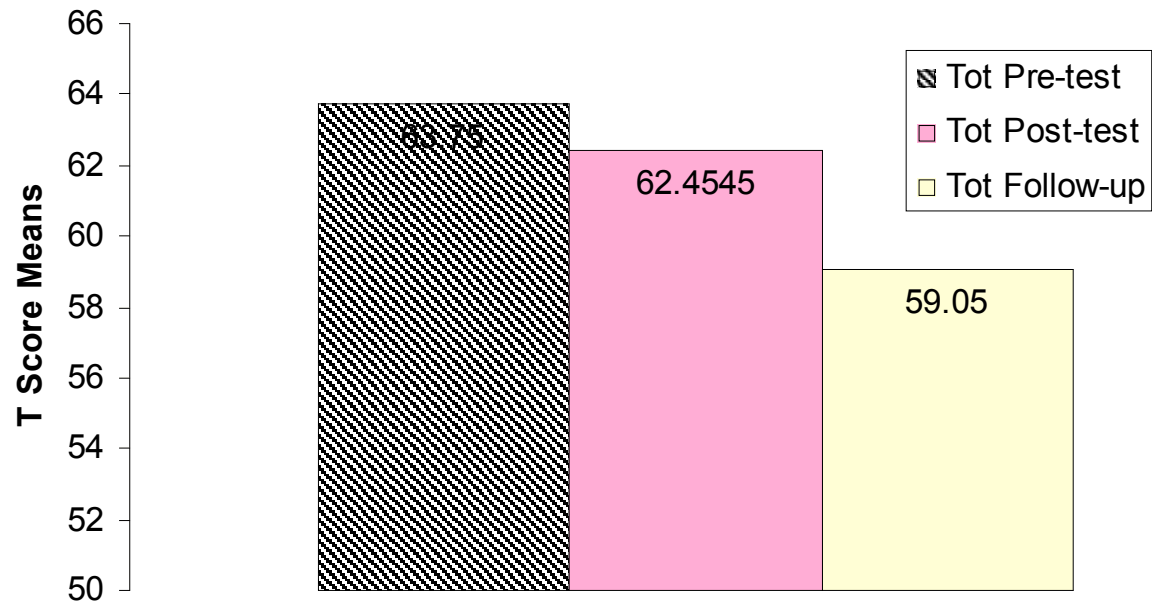
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# TRF Results

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



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# T-test Comparison of TRF Means

Measures	Mean Difference	Standard Deviation	Standard Error Mean	<i>t</i>
<b>Internalizing Problems</b>				
Pre-test and Post-test	.90	6.49	1.38	.66
Pre-test and Follow-up	6.50	5.77	1.29	5.04***
Post-test and Follow-up	4.75	5.39	1.20	3.94***
<b>Externalizing Problems</b>				
Pre-test and Post-test	.82	5.22	1.11	.73
Pre-test and Follow-up	3.95	6.73	1.51	2.62*
Post-test and Follow-up	3.00	4.66	1.04	2.88**
<b>Total Problems</b>				
Pre-test and Post-test	1.23	5.23	1.11	1.10
Pre-test and Follow-up	5.20	5.90	1.32	3.94***
Post-test and Follow-up	3.30	3.66	.82	4.04***

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

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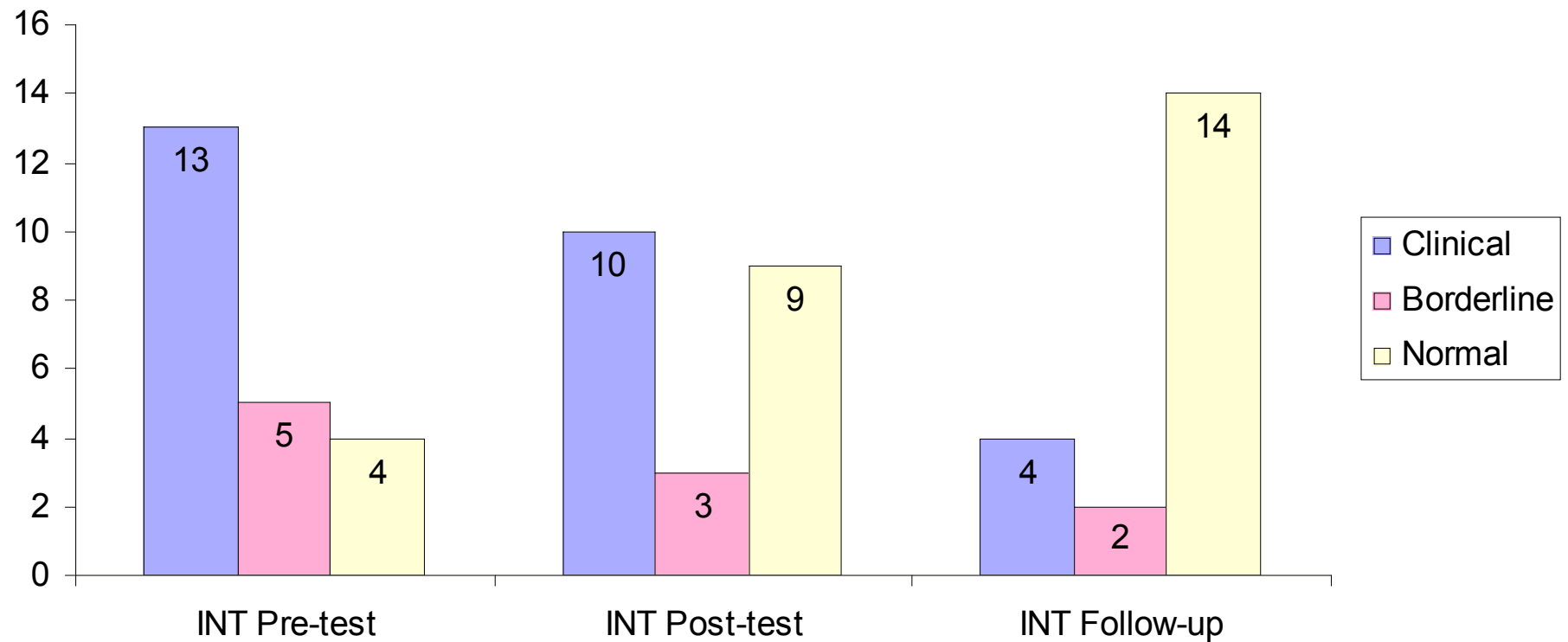
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# Internalizing



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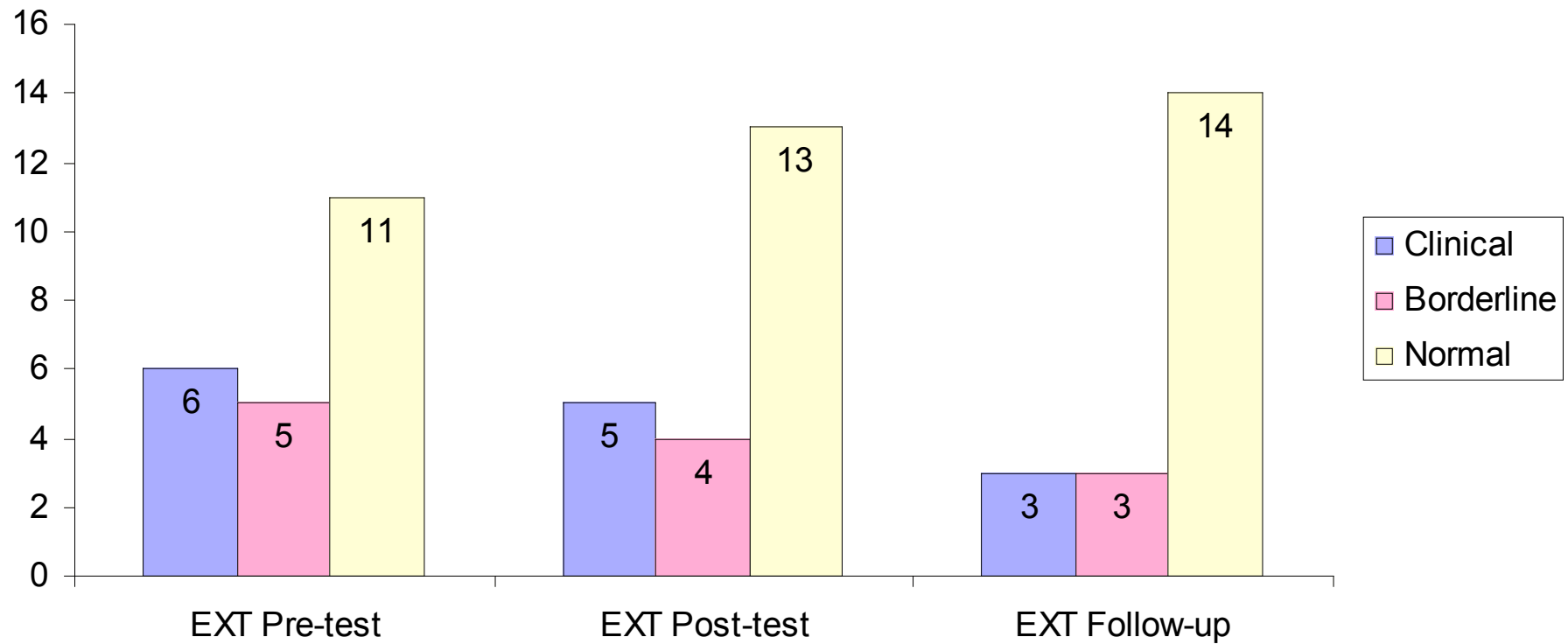
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# Externalizing



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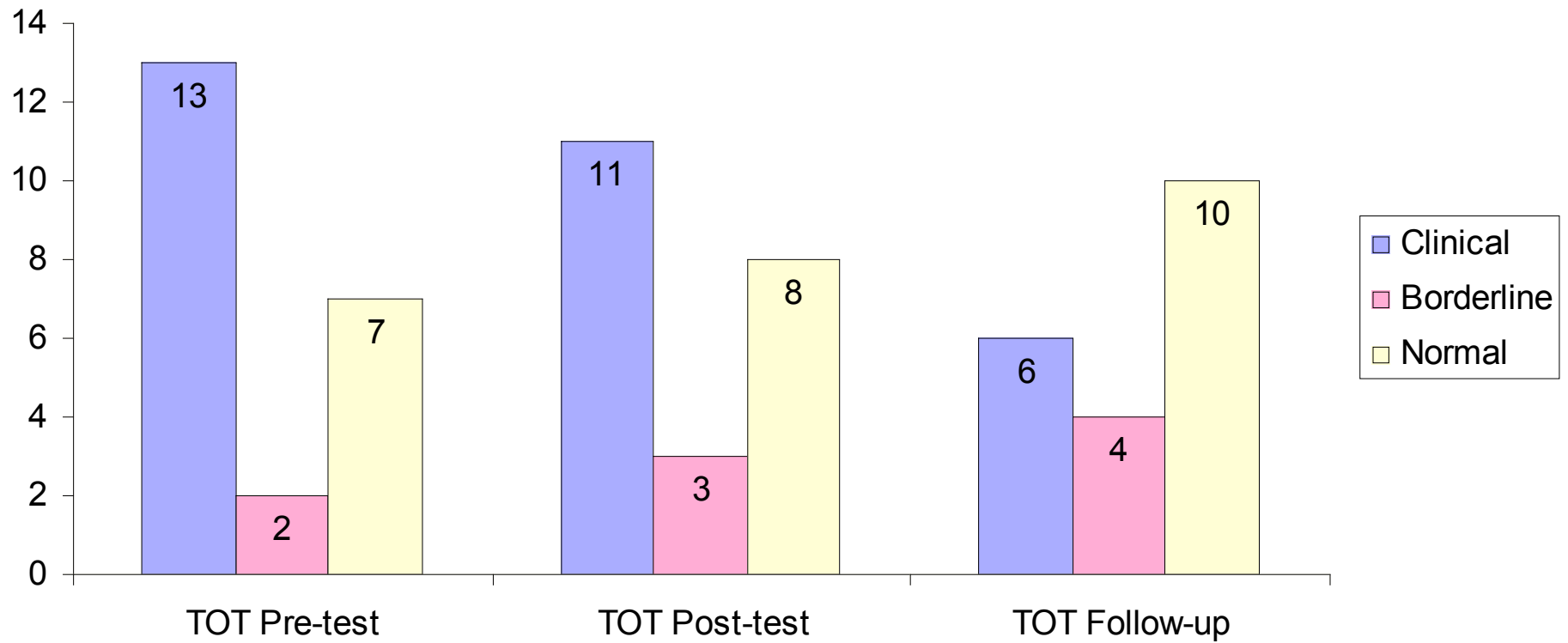
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# Total



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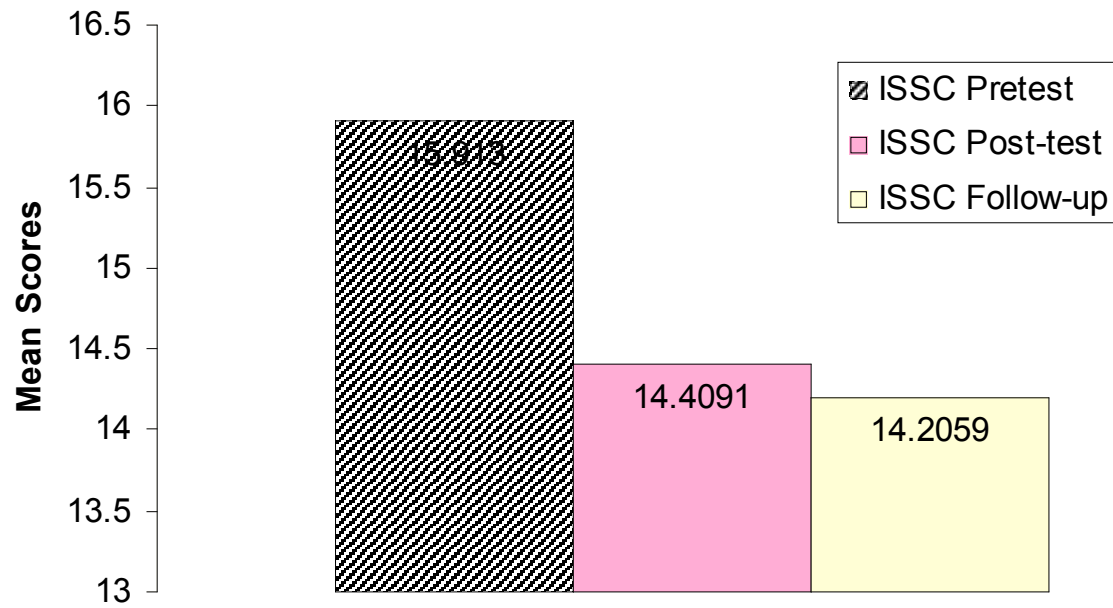
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# ISSC Results



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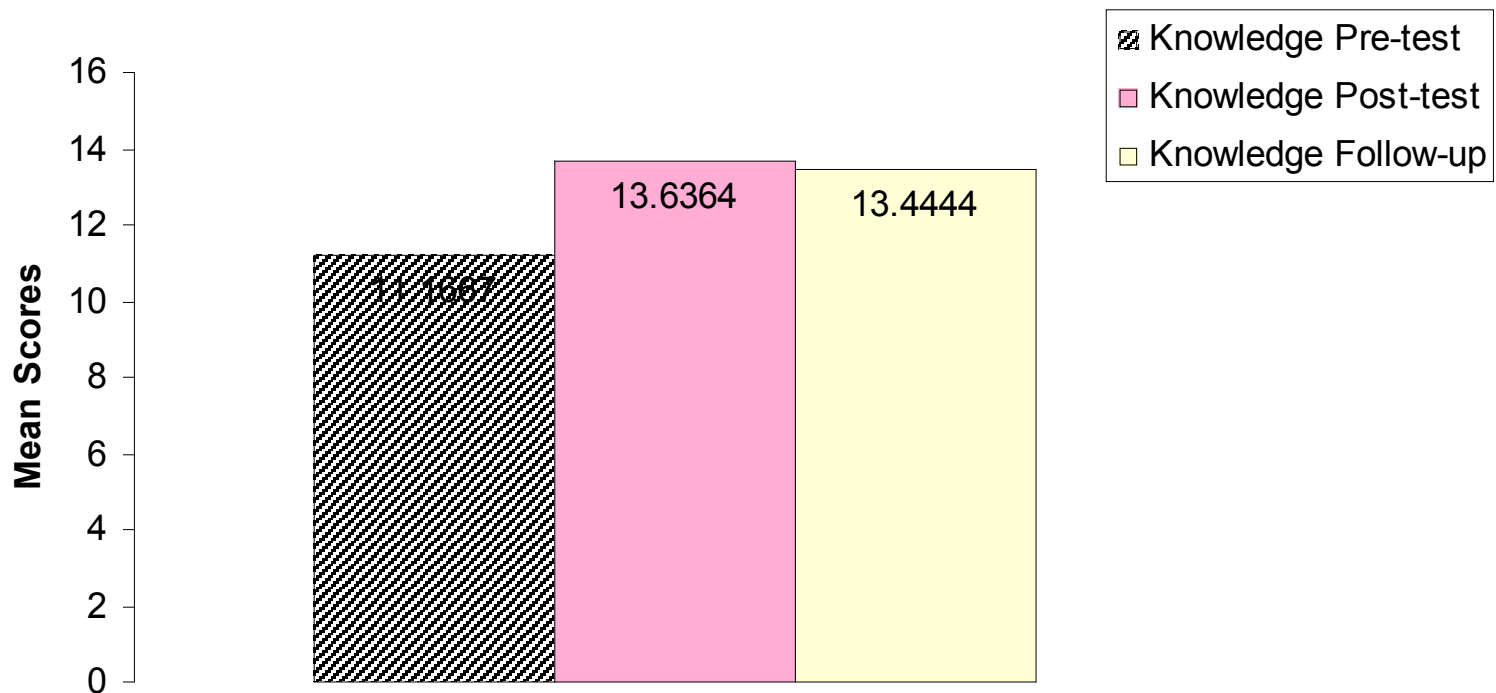
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# Knowledge Test Results



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# ISSC and Knowledge t-test Comparison

Measures	Mean Difference	Standard Deviation	Standard Error Mean	<i>t</i>
<b>ISSC</b>				
Pre-test and Post-test	1.71	3.53	.77	2.23*
Pre-test and Follow-up	1.94	3.65	.89	2.19*
Post-test and Follow-up	.44	4.10	.99	.44
<b>Knowledge Test</b>				
Pre-test and Post-test	-2.70	4.88	1.04	-2.62*
Pre-test and Follow-up	-2.61	5.01	1.18	-2.21*
Post-test and Follow-up	-.72	2.72	.64	-1.13

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

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# 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.



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# SSBD vs. Recommended

## SSBD Participants

### Pre-test Mean Scores

ISSC	16.25
Knowledge	12.00
Internalizing	66.83
Externalizing	63.83
Total	67.92

## Recommended Participants

### Pre-test Mean Scores

ISSC	15.55
Knowledge	10.33
Internalizing	60.58
Externalizing	56.33
Total	59.58

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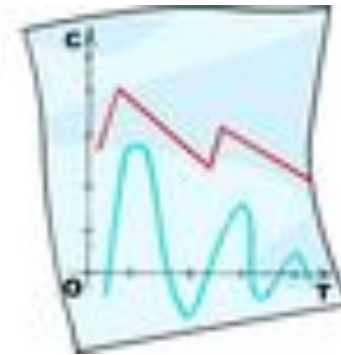
# Significant Changes – SSBD vs. Recommended

SSBD Participants	<i>t</i>
<b>ISSC</b>	
SSBD Pre and Post	3.07*
<b>TRF Internalizing Problems</b>	
SSBD Pre and Post	2.59*
SSBD Pre and F-up	6.82***
SSBD Post and F-up	3.38**
<b>TRF Externalizing Problems</b>	
SSBD Pre and Post	2.72*
SSBD Pre and F-up	4.01**
SSBD Post and F-up	3.55**
<b>TRF Total Problems</b>	
SSBD Pre and Post	3.44**
SSBD Pre and F-up	4.40***
SSBD Post and F-up	3.70**

## Recommended Participants

### Knowledge Test

	<i>t</i>
Recommended Pre and Post	-2.53*
Recommended Pre and F-up	-2.99*



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

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# 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?

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# Social Validity

- General Education teachers – 2 questionnaires
- Strong Kids Instructors
- Student Participants



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# Social Validity Perception of Need

- 89% teachers reported a need for social-emotional training in schools today.
- 67% teachers reported having many students with internalizing problems in their class.

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# 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



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# 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

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# 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



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# Implications

- Effective intervention
  - Elementary students
  - At risk for internalizing disorders
  - At the PBS secondary intervention level
- May be more effective for addressing internalizing problems

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# 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

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# Recommendations

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

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# 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)

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# 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://www.uoregon.edu/~strngkds/)  
<http://strongkids.uoregon.edu/>



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