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Effective Positive Behavior Interventions for Students with Internalizing Behavior Problems

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Positive Behavior Support Initiative

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Purpose

To compare the methods and outcomes of three second tier PBS studies designed to address internalizing behavior problems in elementary school students.

Definitions

Problem Behavior Classified as:

✴ **Externalizing:** directed outward, toward the social environment, easily observable

✴ **Internalizing:** directed inward, toward the individual, not easily observable

(Achenbach, 1982, 1991)

Internalizing Behavior

4 types of Disorders:

✳ Depression

✳ Anxiety

✳ Social withdrawal

✳ Somatic/physical complaints

(Merrell, 2001)

Internalizing Behavior

Negative influence on:

✳ Academic performance

✳ Physical health

✳ Future psychological adjustment

✳ Future employment opportunities

(Merrell & Walker, 2004; Flook, Repetti, & Ullman, 2005;
Merrell, 2003; Merrell, 1994)

Emotional Disturbance

According to IDEA:

One or more of the following. . .

- Unexplained inability to learn
- Inability to build or maintain good relationships
- Inappropriate behavior or feelings
- General mood of unhappiness/depression
- Develop associated physical symptoms or fears

Referrals

Rarely referred because their behavior:

✳ Is difficult to observe

✳ Does not disturb other students

✳ Does not challenge the teacher's authority

✳ Meets the teacher's behavioral expectation

(Gresham & Kern, 2004)

Screening & Identification

✳ Systematic Screening for Behavior Disorders

(Walker & Severson, 1992)

✳ Early Screening Project (Walker, Severson, & Feil, 1995)

✳ Child Behavior Checklist (Achenbach & Rescorla, 2001)

✳ Student Risk Screening Scale (Drummond, 1994)

✳ Internalizing Symptoms Scale for Children

(Merrell & Walters, 1998)

✳ Preschool and Kindergarten Behavior Scales - 2

(Merrell, 1994)

Intervention

Approaches:

✳ Systematic desensitization

✳ Exposure-based

✳ Modeling

✳ Cognitive-Behavioral

✳ Antecedent- and consequence-based

✳ Social skills training

(Gresham & Kern, 2004)

Intervention

Limited research:

✴ Much of special education research has focused on classification and assessment rather than intervention (Gresham & Kern, 2004)

✴ 1985 – 2001: only 27 well-controlled studies (Compton, Bums, Egger, and Robertson, 2002)

✴ Only 6 prevention or early intervention studies for children (Kendziora, 2004)

✴ Most studies outside of the school setting (Skinner et al., 2002)

✴ Generalization of outcomes to natural settings is difficult (Ollendick & King, 1994; Skinner et al., 2002)

3 Studies

✳ Linking Functional Behavioral Assessment to Peer-Mediated Positive Behavior Support

✳ A Playground Intervention for Students with Internalizing Behaviors

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

Linking Functional Behavioral Assessment to Peer-Mediated Positive Behavior Support

Research Questions

✳ Collaborative FBA

✳ FBA alignment with intervention

✳ Intervention "package"

✳ Social validity

- Teacher - FBA & Intervention
- Student
- Peer
- Normative sample
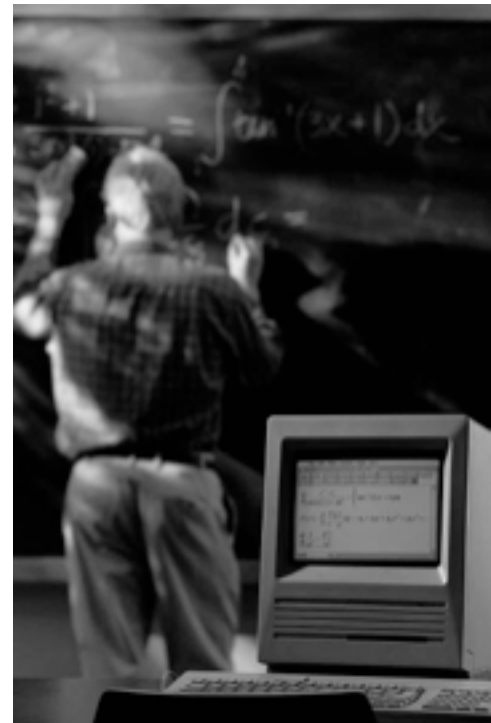
Setting

Urban elementary school

Approximately 573 students

53% Caucasian

40% Hispanic

7% Other ethnic groups

Title I school

67% free or reduced lunch

High mobility rate

Participants

Student

Male

3rd grade

Hispanic

2 parent home

Learning disability

Low SES

Peer

Male

3rd grade

Pacific Islander

2 parent (foster)

No disability

Low SES

Comparison Group

21 students

3rd grade

7 classrooms

3 schools

Dependent Variable
(Response Class)

Socially Appropriate Classroom Behavior

   Attending

   Working

   Getting the Teacher's Attention Appropriately

   Reading Aloud

   Answering Questions

   Following Teacher Instructions

   Other
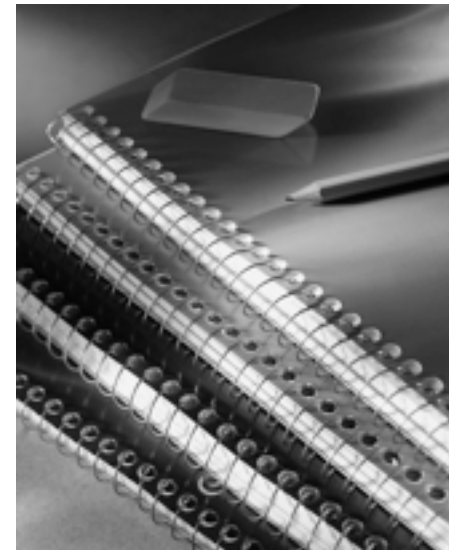   - Following Classroom Rules

Data Collection

✳ Observers

A former teacher

A graduate student

✳ How?

10 second whole interval

Daily sessions

Interobserver Agreement

25 % of all observations

Student Agreement

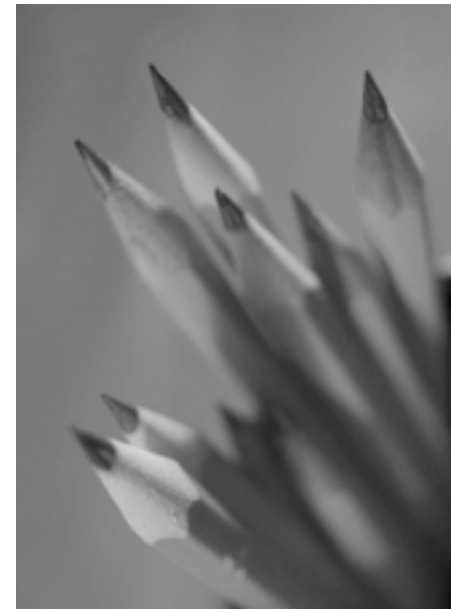   Mean = 90%

    Range = 84% to 98%

Comparison Group Agreement

    Mean = 87%

    Range = 80% to 91%

Problem Behaviors & Function

Problem Behaviors:
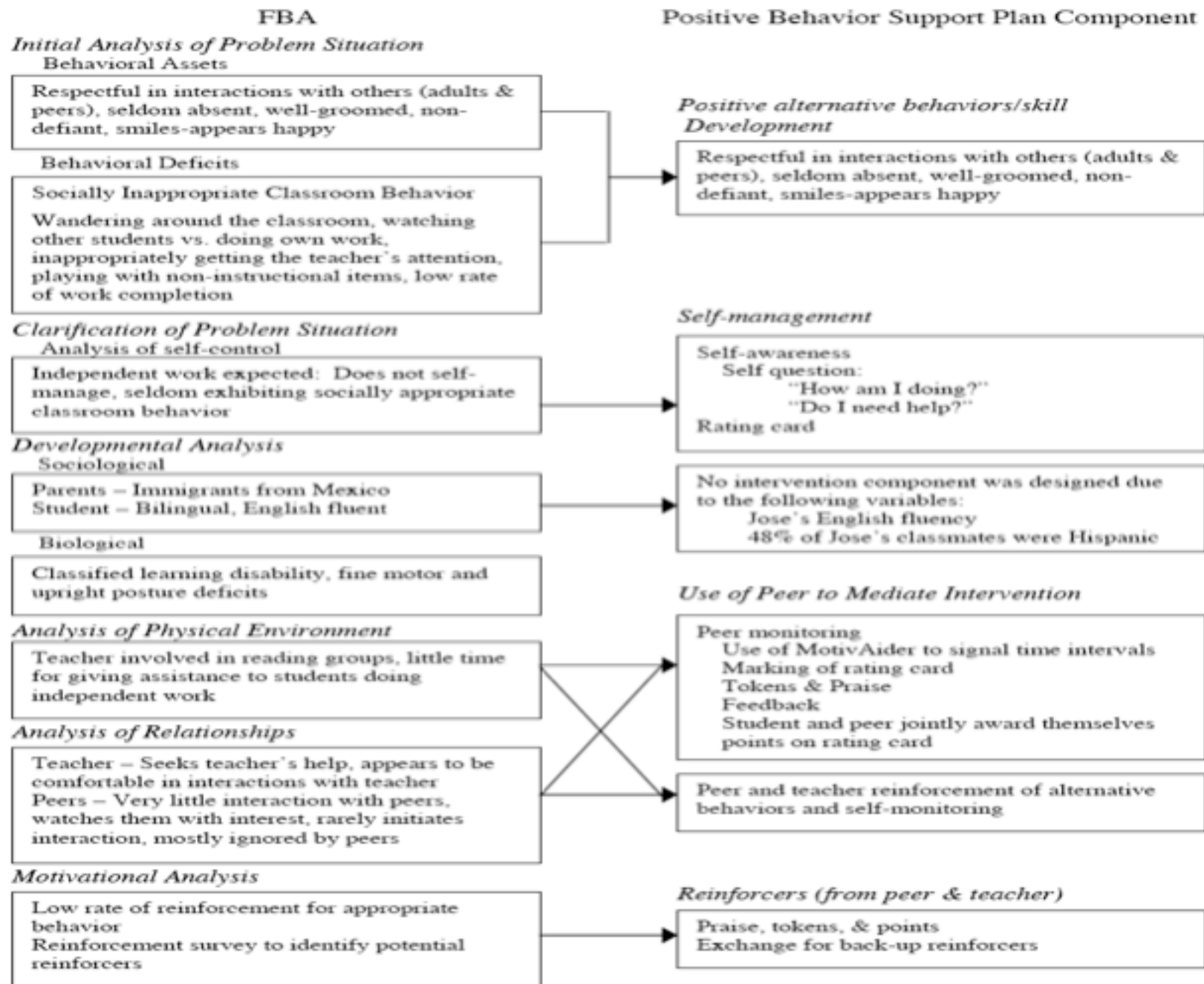
- Socially withdrawn
- Off-task
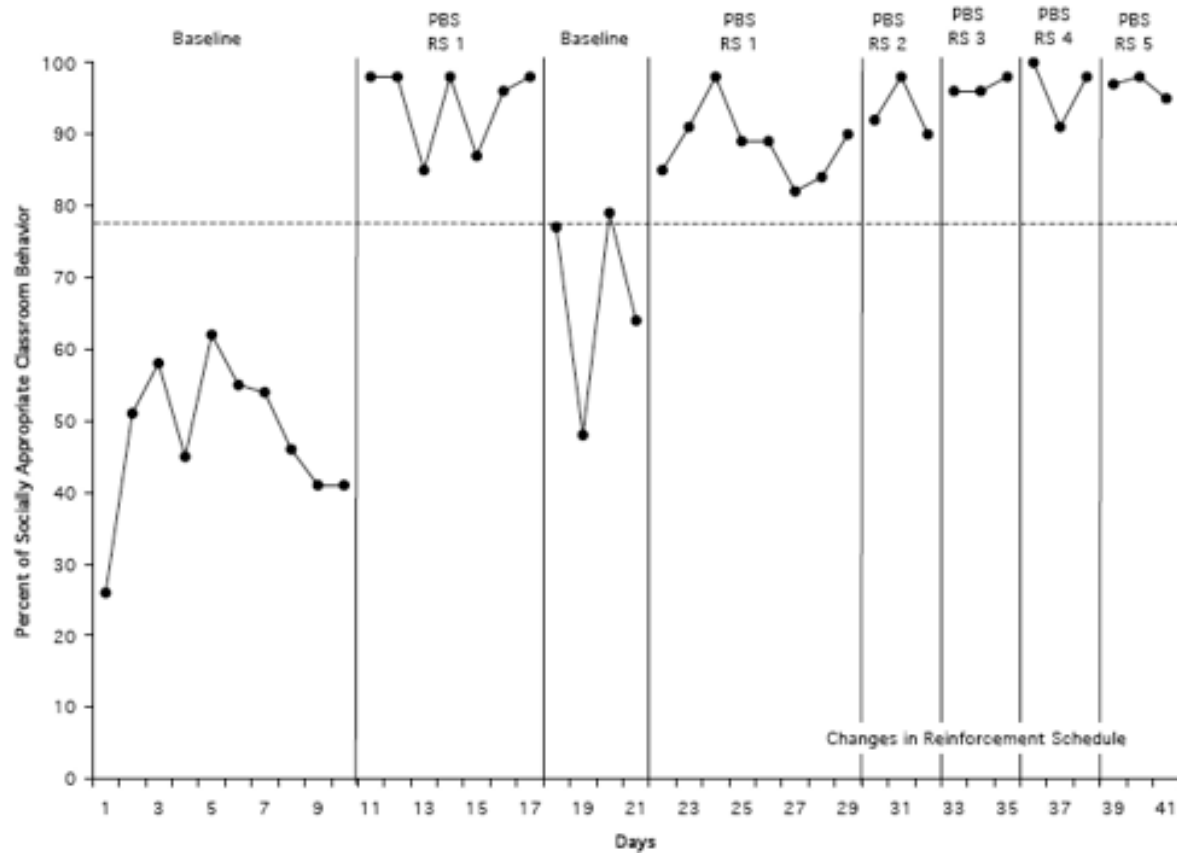- Low rate of work completion
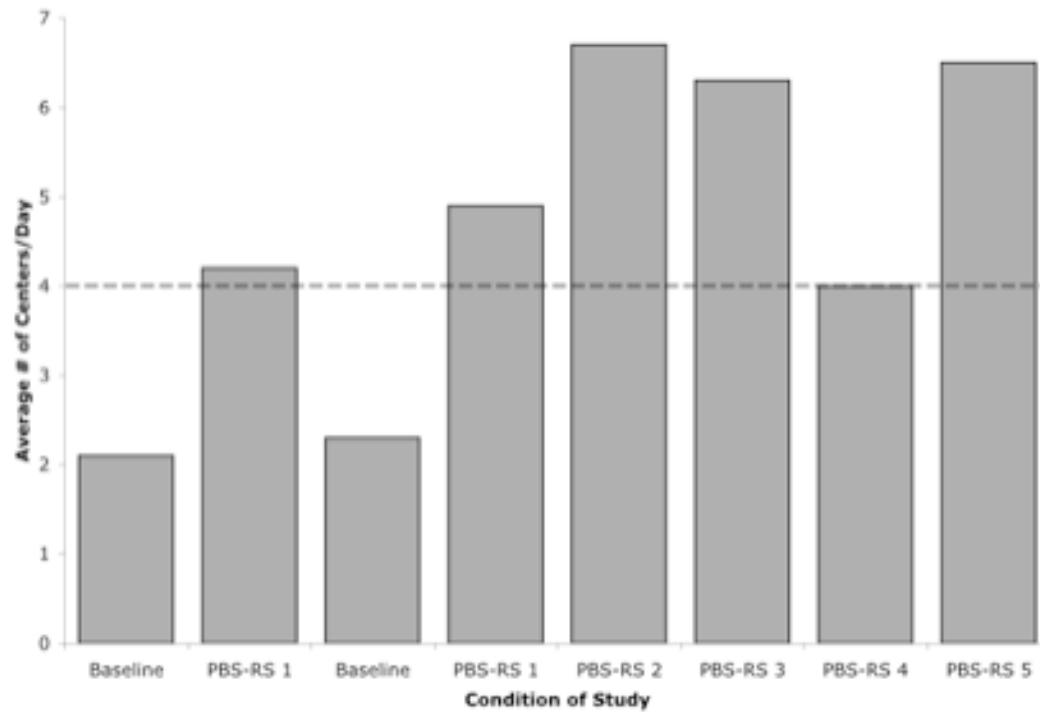- Disrupting teacher

Function:

- Escape/Avoidance
- Attention

Aligning FBA Information to PBS Strategies

FBA	Positive Behavior Support Plan Component

Initial Analysis of Problem Situation
Behavioral Assets

Respectful in interactions with others (adults & peers), seldom absent, well-groomed, non-defiant, smiles-appears happy

Behavioral Deficits

Socially Inappropriate Classroom Behavior

Wandering around the classroom, watching other students vs. doing own work, inappropriately getting the teacher's attention, playing with non-instructional items, low rate of work completion

Positive alternative behaviors/skill Development

Respectful in interactions with others (adults & peers), seldom absent, well-groomed, non-defiant, smiles-appears happy

Clarification of Problem Situation
Analysis of self-control

Independent work expected: Does not self-manage, seldom exhibiting socially appropriate classroom behavior

Self-management

Self-awareness
   Self question:
      "How am I doing?"
      "Do I need help?"
Rating card

Developmental Analysis
Sociological

Parents – Immigrants from Mexico
Student – Bilingual, English fluent

Biological

Classified learning disability, fine motor and upright posture deficits

No intervention component was designed due to the following variables:
   Jose's English fluency
   48% of Jose's classmates were Hispanic

Analysis of Physical Environment

Teacher involved in reading groups, little time for giving assistance to students doing independent work

Analysis of Relationships

Teacher – Seeks teacher's help, appears to be comfortable in interactions with teacher
Peers – Very little interaction with peers, watches them with interest, rarely initiates interaction, mostly ignored by peers

Use of Peer to Mediate Intervention

Peer monitoring
   Use of MotivAider to signal time intervals
   Marking of rating card
   Tokens & Praise
   Feedback
   Student and peer jointly award themselves points on rating card

Peer and teacher reinforcement of alternative behaviors and self-monitoring

Motivational Analysis

Low rate of reinforcement for appropriate behavior
Reinforcement survey to identify potential reinforcers

Reinforcers (from peer & teacher)

Praise, tokens, & points
Exchange for back-up reinforcers

Results

Work Completion Data

Social Validity: Teacher

FBA

* 80% of questions rated a 4 on a scale of 1-5
* Strongly agreed being involved in the assessment was good use of her time

PBS Plan

* 100% of questions rated a 5 on a scale of 1-5
* Practical, feasible & effective
* Would use the intervention again

Social Validity: Teacher

Increased social interaction:

"Jose gained a self-confidence that allowed him to be more aware of his surroundings and peers."

"…enabled him to make friends"

"…empowering for him"

Teacher Comments

Positive effects?   Negative effects?

Jose

  "…overall self-confidence was raised dramatically. I'm very pleased with his growth."

Peer

  "…learned friendshipping skills, responsibility and was helpful."

Teacher Comments

"Jose was so motivated by this. This is a boy who came to me so shy and used to people ignoring him. He really blossomed into a more confident student in all areas because he now had a friend."

Social Validity: Student

Question
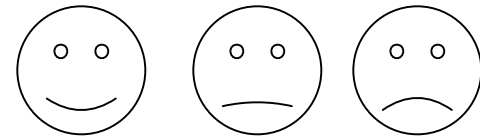
Liked the program…

I would do the program again…

I would do the program again even without a reward

Program helped me do better at managing what I say and do

Program helped me get more work done

Liked having a partner…

Student Comments

Liked best?

  "I liked making partners. Having a partner helped me get 150 points."

Didn't like?

  "I didn't like when Centers were finished because I wanted to do Centers forever to work harder."

Social Validity: Peer Partner

Do it again?

* Yes

Without rewards?

* Yes

Helped Jose do better in class?

* Yes

Best thing?

* Helping and trading points

Hardest thing?

* Nothing

Implications for Future Research & Limitations

✳ FBA

✳ "Packaged" intervention component analysis

✳ Identification and treatment of internalizing behaviors in school settings

✳ Use of peers

✳ Social validity

Modifying Socially Withdrawn Behavior: A Playground Intervention for Students with Internalizing Behaviors

Purpose of the Study

To examine the effects of social skills instruction, peer mediation, and self-management paired with a reinforcement system strategies on the social interaction behavior of 1st and 5th grade children identified with socially withdrawn behavior.

Identifying Internalizers

✳ SSBD

✳ School Service Team

✳ Observation, ISSC/PKBS, Teacher Interview

Participants

* Children

    2 males and 1 female

    1 First graders

    2 Fifth graders

    Ages 7 and 11

* Peer Mediators

* Adult Mediators

Settings

* Playground (Lunch Recess)

   Playground equipment

   Two grassy fields

   Basketball hoops

   Four square boxes

Dependent Variables: Positive Social Interaction

Appropriate Peer Play

When the internalizer is participating appropriately in a game or activity with another child while following the playground rules.

Effective Communication

When the internalizer engages in social signals to another peer. Communication is recorded when the internalizer makes appropriate verbal statements or physical gestures (while maintaining eye contact).

Positive Social Interactions...Continued

Participation

✳ Playground Rules:

    1. Follow rules of game

    2. Use equipment in safe way

    3. Everyone can play

    4. Keep hands and feet to yourself

    5. Use kind words

Independent Variables

✳ Social Skill Instruction (Direct Teaching)

    How to talk to others

    How to play appropriately

✳ Peer and Adult Mediation

✳ Daily and Weekly Goals

✳ Daily Reminder of Definitions
(playing and talking to others)

✳ Token Economy

✳ Self-management program

Peer/Adult Matching

How many times did
my peer communicate
with others?
Goal: 50   Total: 83

Did my peer play with
others the whole time?
Goal: 3   Total: 4

Student:	Michael
#1 20	#3 15
21 #2	27 #4

shake#1 Y N	shake#2 Y N
shake#3 Y N	shake#4 Y N

How many times did
my peer communicate
with others?
Goal: 50   Total: 103

Did my peer play with
others the whole
time?   Goal: 3 Total: 4

Student:	Tito (peer)
#1 24 23	#3 26 30
#2	#4

shake#1 Y N	shake#2 Y N
shake#3 Y N	shake#4 Y N

Self- Management

1) How many times did I communicate
          with others?
                    goal: 55
                    total: 79

2) Did I play with others the whole time?
                    goal: 3
                    total: 4

One EXTRA point if any matches are the same

Jermaine	Adult
1 22 25 2	1 **23** **25** 2

Shake#1 Y N	Y N
Shake#2 Y N	Y N

Jermaine	Adult
3 12 21 4	3 **11** **20** 4

Shake#3 Y N	Y N
Shake#4 Y N	Y N

Experimental Design

Multiple baseline across participants

Results

1st Grade Girl

Results

5th Grade Boy

Michael

Baseline | With Peer | Without Peer
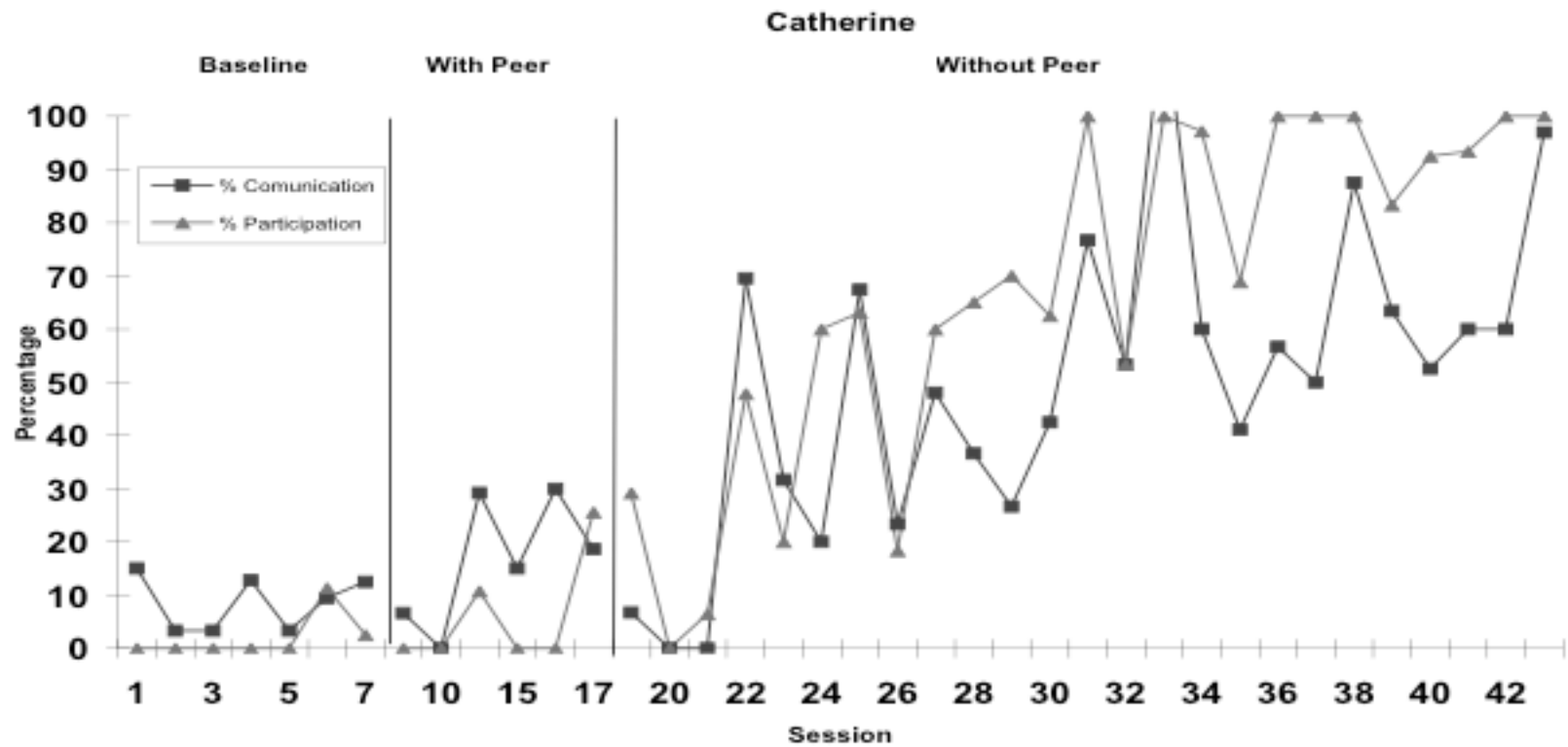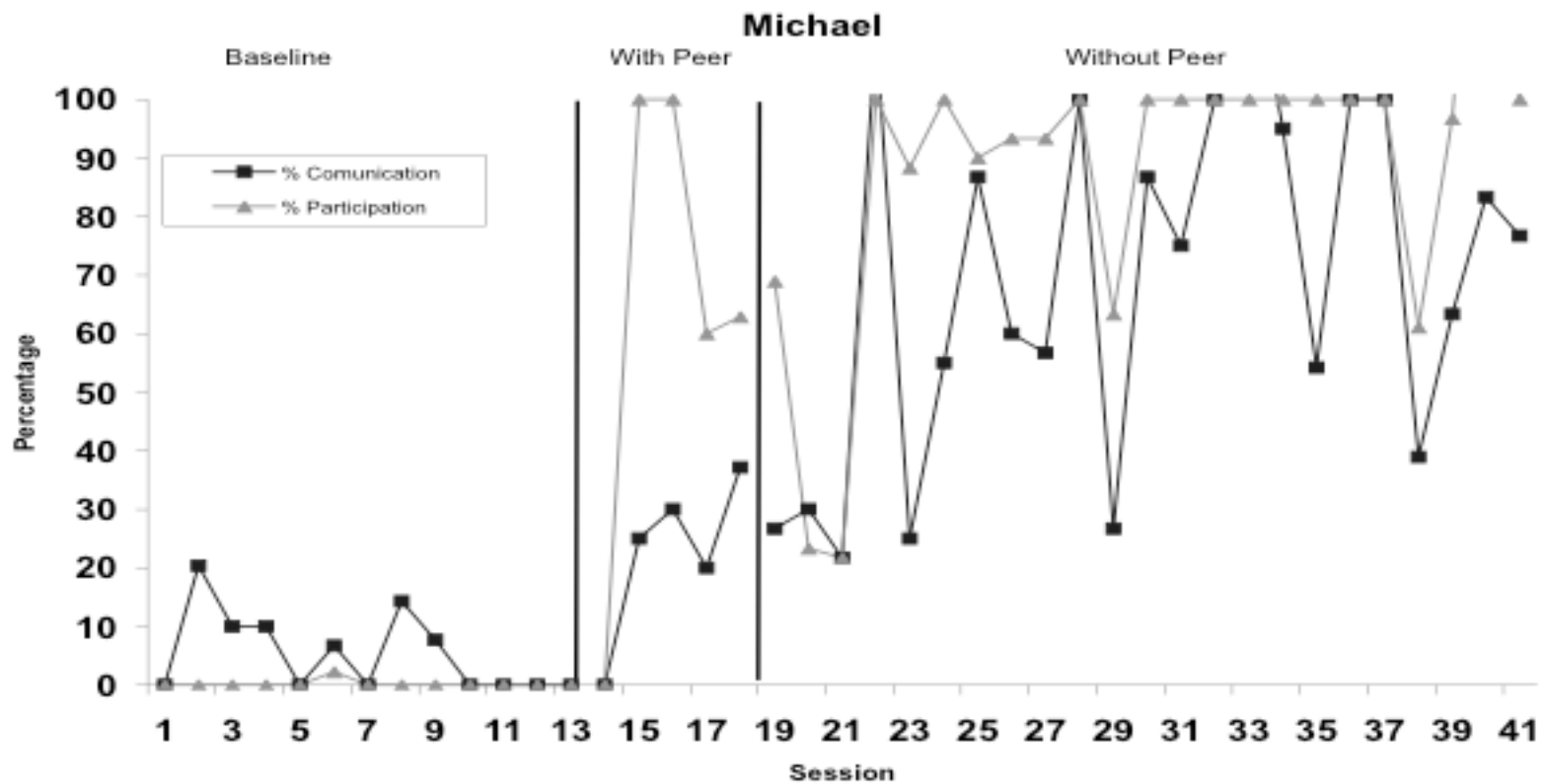
Results

5th Grade Boy
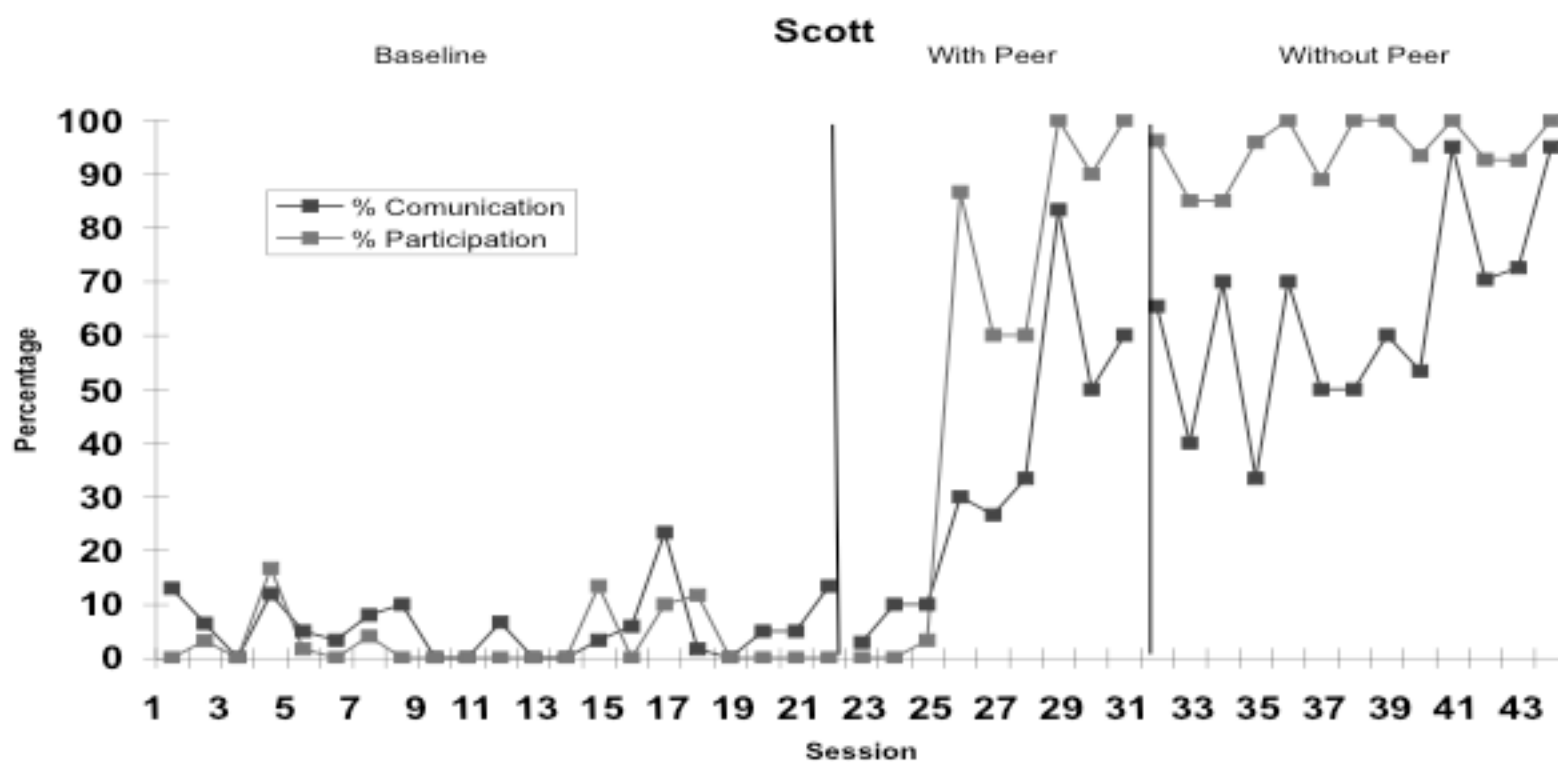
Reliability

* 52% of all sessions
* Mean = 92%
* Range = 82%-98%
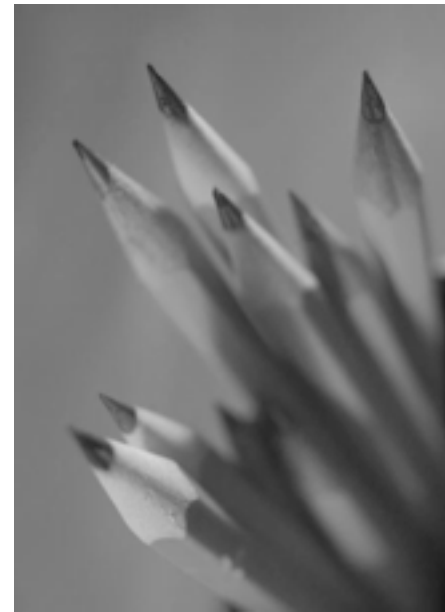
Findings from the Study

✴ Treatment package influenced an increase of positive social interactions.

✴ Anecdotal evidence indicates that students' social behavior and self-esteem increased at home as well as at school.

Implications for Future Research

Needs for…

✳ A methodological approach to selecting peers for peer mediation.

✳ Peer mediation (pairing internalizers together)

✳ Collaboratively designing playground interventions that are acceptable and practical to school staff and internalizing students.

✳ Exploring classroom interventions for students with internalizing behavior problems.

Social Validity (teacher/peer)

Social Validity Questionnaire (Teacher)

Teacher_____ Date_____

Student_____

1. The self-management program for this **student** was practical and feasible to implement.

   Strongly Agree   Agree   Undecided   Disagree   Strongly Disagree

2. If I had a **student** with a similar problem I would recommend this self-management program again.

   Strongly Agree   Agree   Undecided   Disagree   Strongly Disagree

3. The self-management program helped the **student's** behavior in the classroom improve.

   Strongly Agree   Agree   Undecided   Disagree   Strongly Disagree

4. According to your awareness self-management program improved the **student's** social behavior on the playground.

   Strongly Agree   Agree   Undecided   Disagree   Strongly Disagree

5. If there were additional positive or negative effects to the **student**, what where they?

6. Using a **peer** partner was beneficial to the student.

   Strongly Agree   Agree   Undecided   Disagree   Strongly Disagree

7. I would use a **peer** partner again to help other students.

   Strongly Agree   Agree   Undecided   Disagree   Strongly Disagree

8. If there were positive or negative effects to the **peer**, what where they?

Social Validity Questionnaire (Peer)

Student_____ Date_____

Interviewer_____

1. I liked being a partner.   ☺ 😐 ☹

2. I would like to be a partner again.   ☺ 😐 ☹

3. I would be a partner again even if I did not get a reward.   ☺ 😐 ☹

4. I helped my partner talk and play more.   ☺ 😐 ☹

5. What do you think was the best thing about being a partner?

6. What do you think was the hardest thing about being a partner?

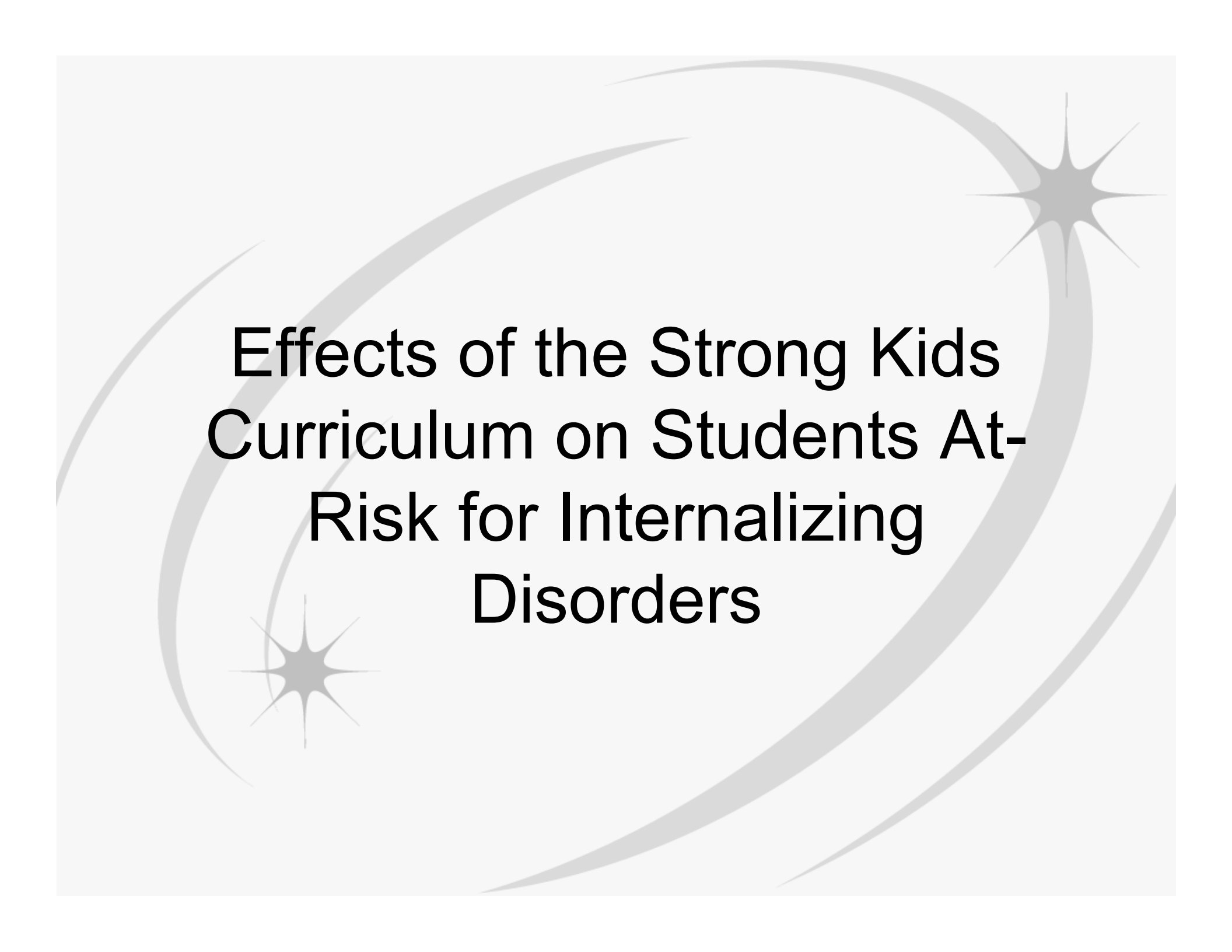Comments:

Social Validity (Participant)

Social Validity Questionnaire
(Participant)

Student _____   Date_____

Interviewer_____

1. I liked the program with the shaker, the card,   ☺   ☐   ☹
    and a partner.

2. I would do the program again if a teacher wanted me to.   ☺   ☐   ☹

3. I would do the program again even if I did not get a reward.   ☺   ☐   ☹

4. The program helped me to speak and play more with others   ☺   ☐   ☹

5. The program helped me like school more.   ☺   ☐   ☹

6. I liked having a partner help me.   ☺   ☐   ☹

7. What did you like best about the program?

8. Was there anything you didn't like about the program?

Comments:

Results from Questionnaires

∗ Teachers, peer partners, and internalizing students were positive in regards to the effectiveness of the intervention procedures.

∗ The teachers responded affirmatively to the screening and assessment process of identifying the internalizing students.

∗ Not all peers enjoyed playing with their internalizing partner.

∗ Internalizing students and peer partners felt the social skills instruction along with the peer monitoring system increased positive social behavior on the playground.

Anecdotal Data

✳ "For the first time my daughter has made friends with the neighborhood kids!"

> - Mother of a participant

✳ "….now recess is fun because I have friends"

> - An internalizing student

✳ "He talks a lot more and he is pretty cool."

> - A peer participant

✳ "What happened? It is like he is a new student!"

> - A teacher of one the internalizing students

✳ "At the beginning of the year, he would not talk to me, and now he feels comfortable to ask me questions."

> - A teacher of on the internalizing student

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

Research Question

What are the effects of the *Strong Kids* curriculum on the social/emotional symptoms and knowledge of 3rd to 5th grade students identified as at-risk for internalizing disorders?

Setting

Three elementary schools in two central Utah districts all using school-wide PBS

Participants

* 22 students in 3rd – 5th grade

* Selection

  1. Systematic Screening for Behavior Disorders (SSBD)
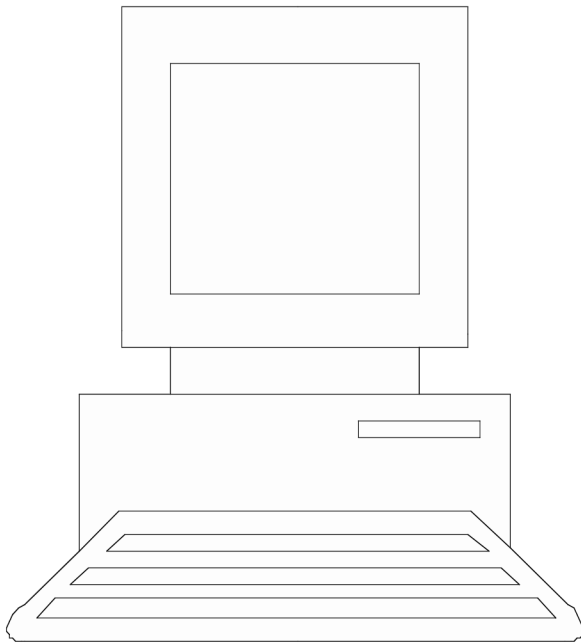   (Walker & Severson, 1992)

  2. Recommendation by the school behavior team

Participants Continued

* BYU PBS Initiative Staff

* School Psychologists

* Teachers

Data Collection

* Quasi-experimental design
* Data was collected **pre**, **post** and **follow-up**
  - 10 item ISSC
  - 20 item *Strong Kids* Knowledge Test
  - TRF

Treatment

Instruction of the *Strong Kids* curriculum

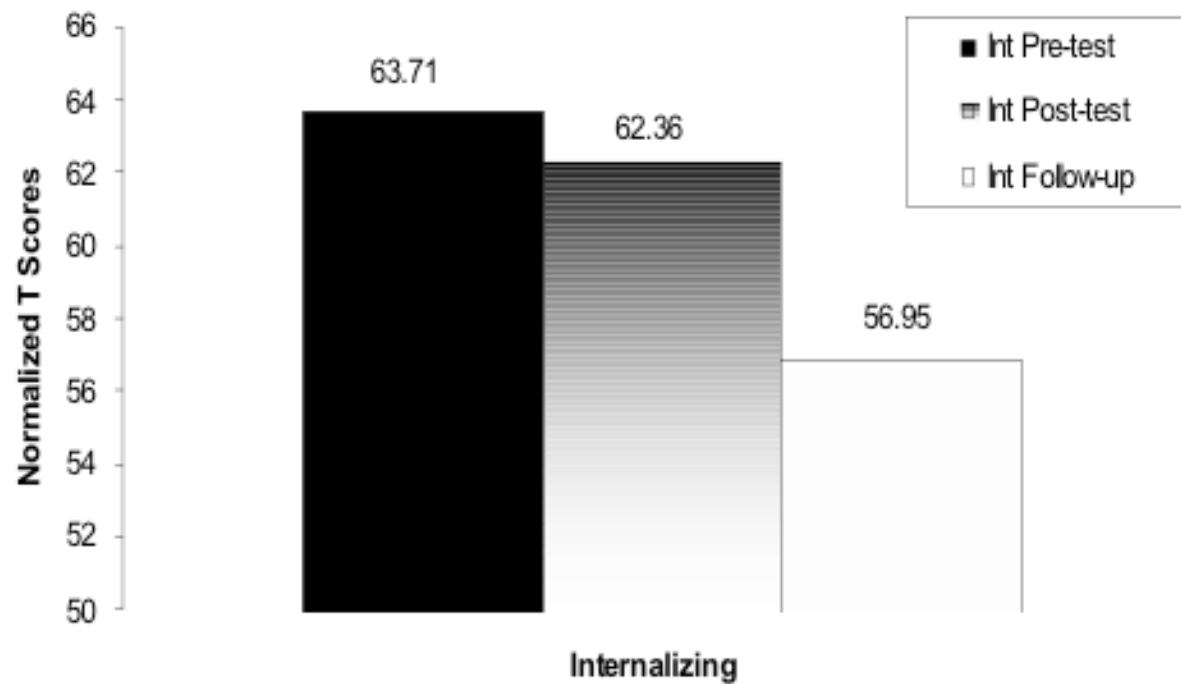- 12 partially scripted lessons
- 45-50 minutes each
- Twice/week for 6 weeks
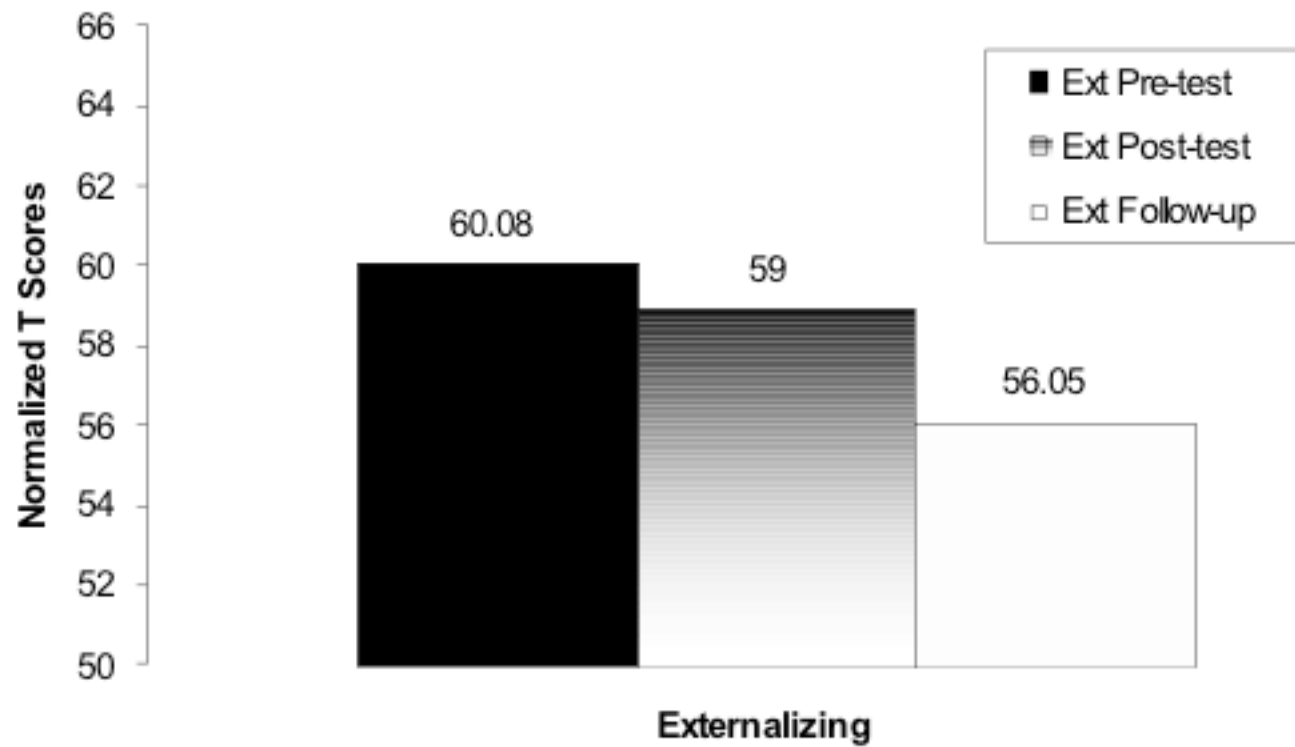
Topics covered

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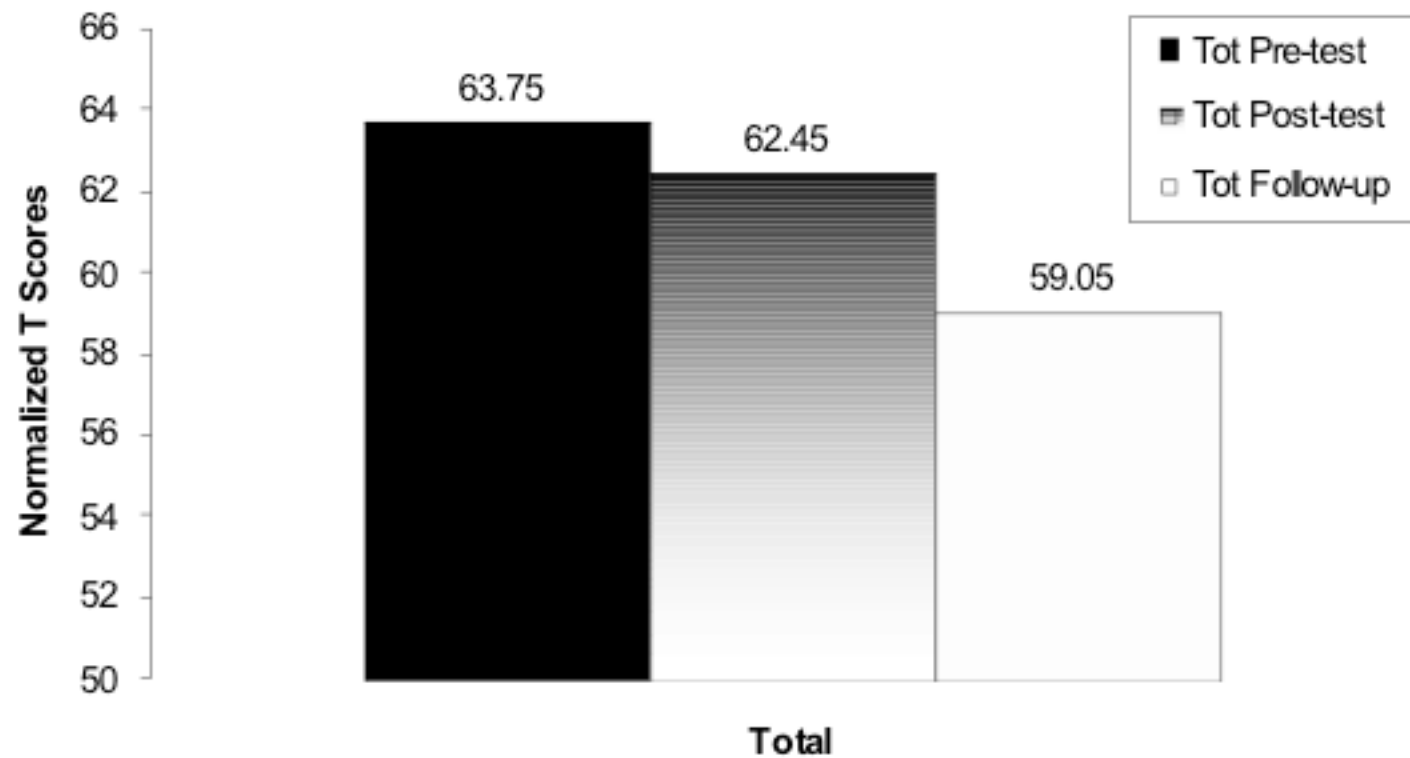- *Setting goals*
- *Finishing up*

TRF Internalizing Results

TRF Externalizing Results

TRF Total Problem Results

T-test Comparison of TRF Means

Measures	Mean Difference	Standard Deviation	Standard Error Mean	t
Internalizing Problems				
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***
Externalizing Problems				
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**
Total Problems				
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

Internalizing
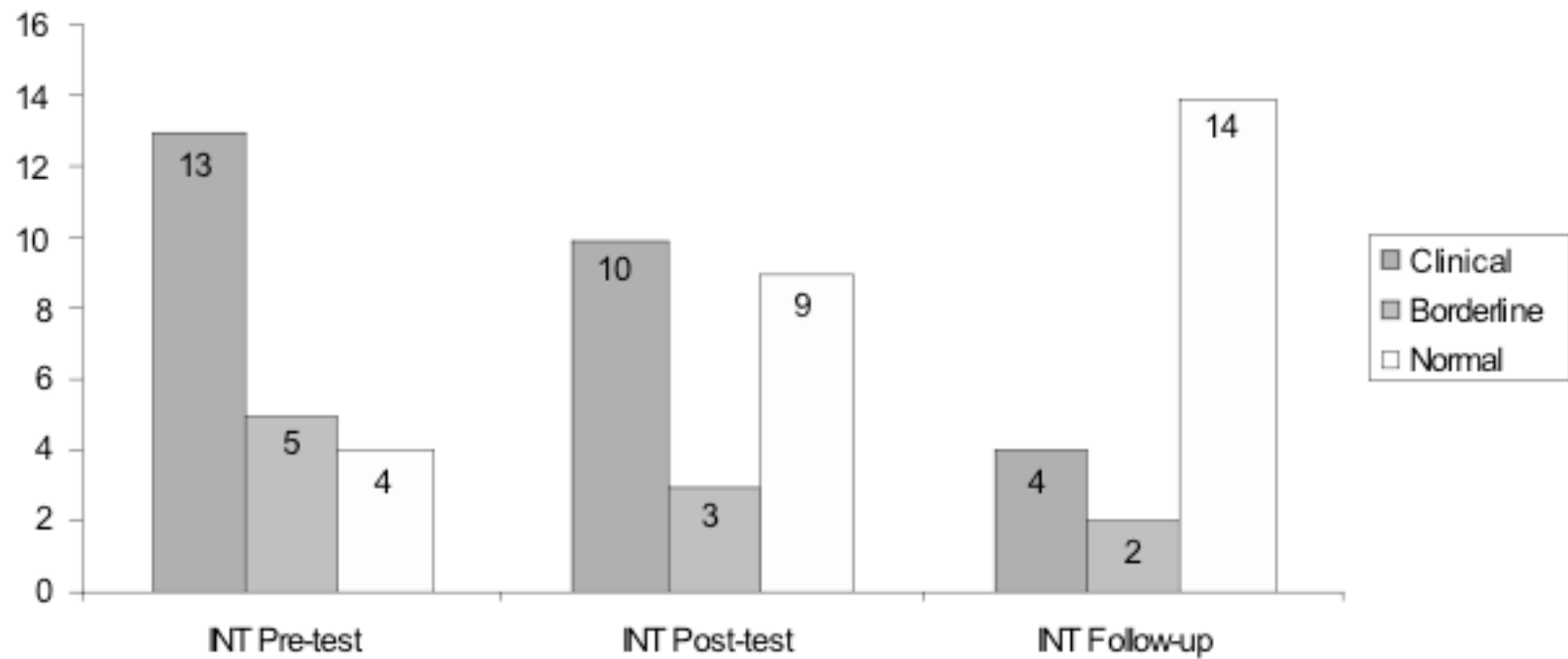
Externalizing
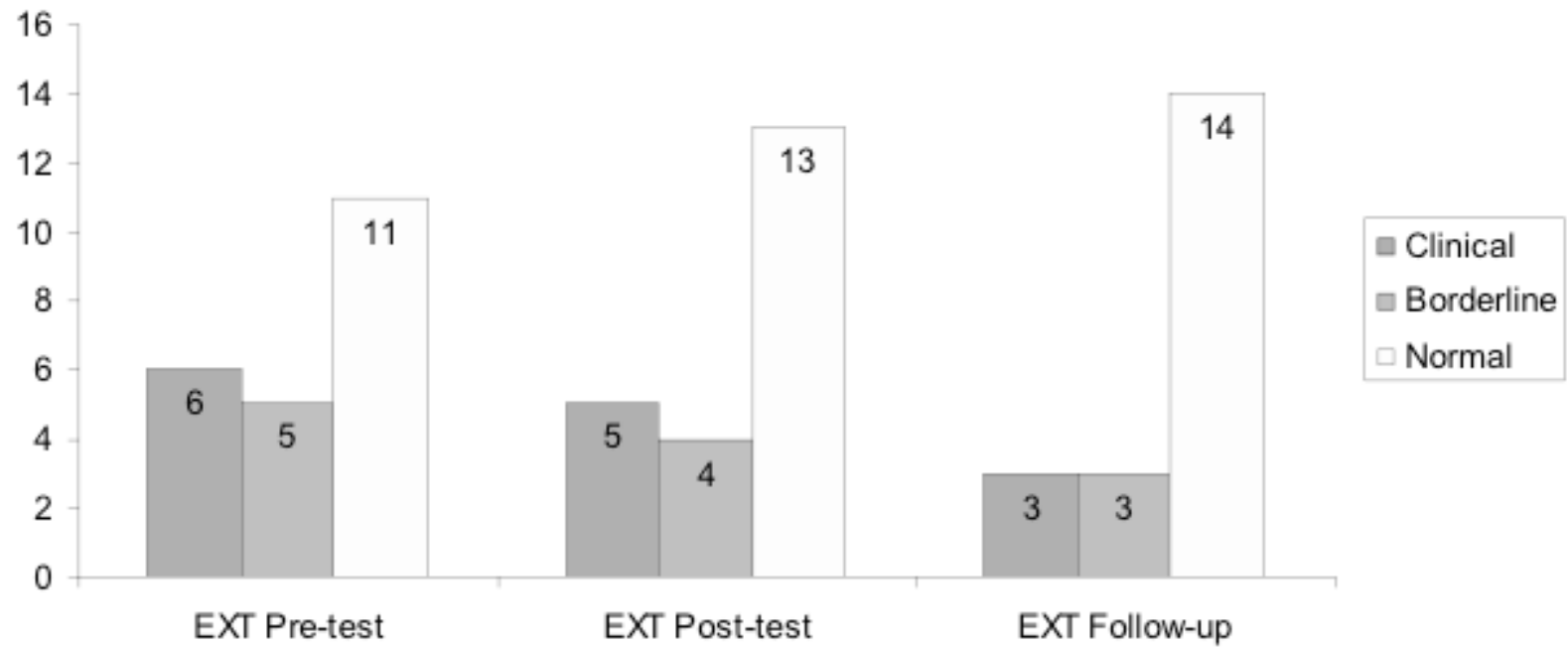
Total
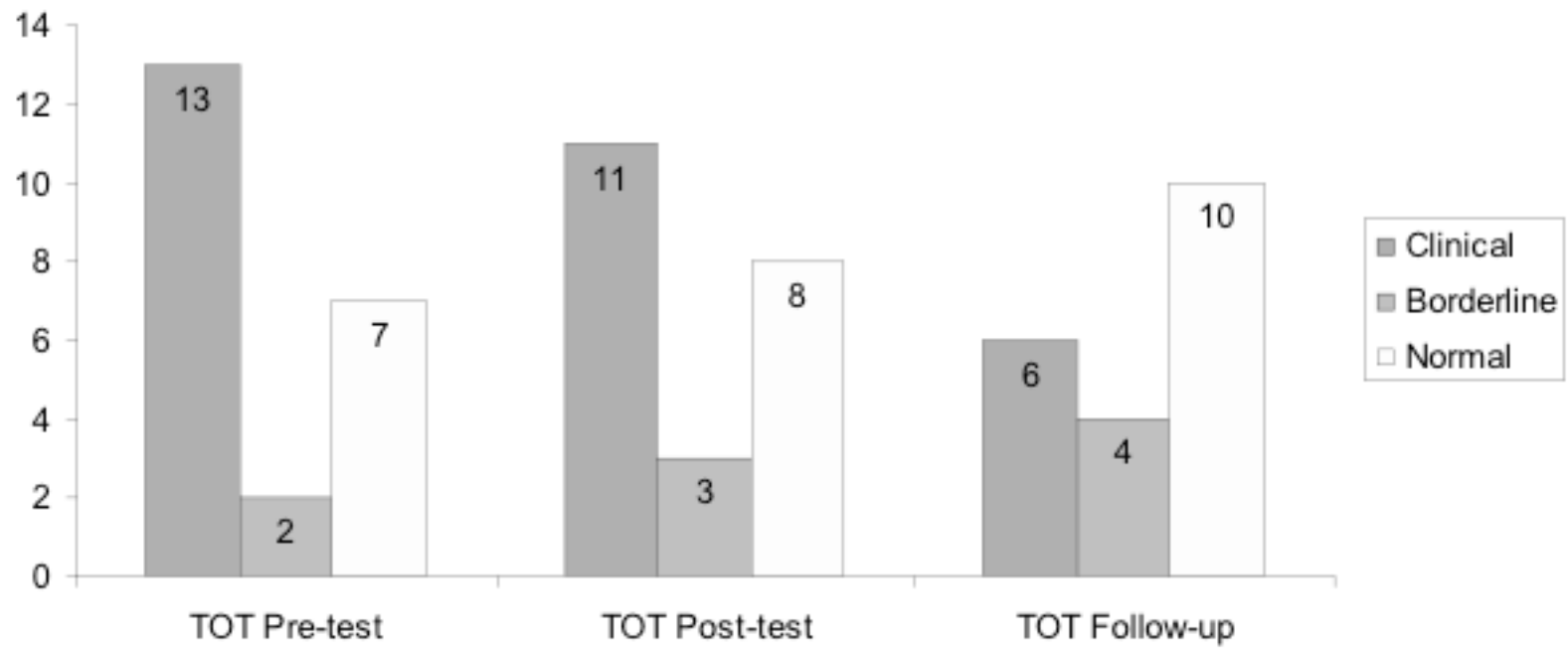
ISSC Results
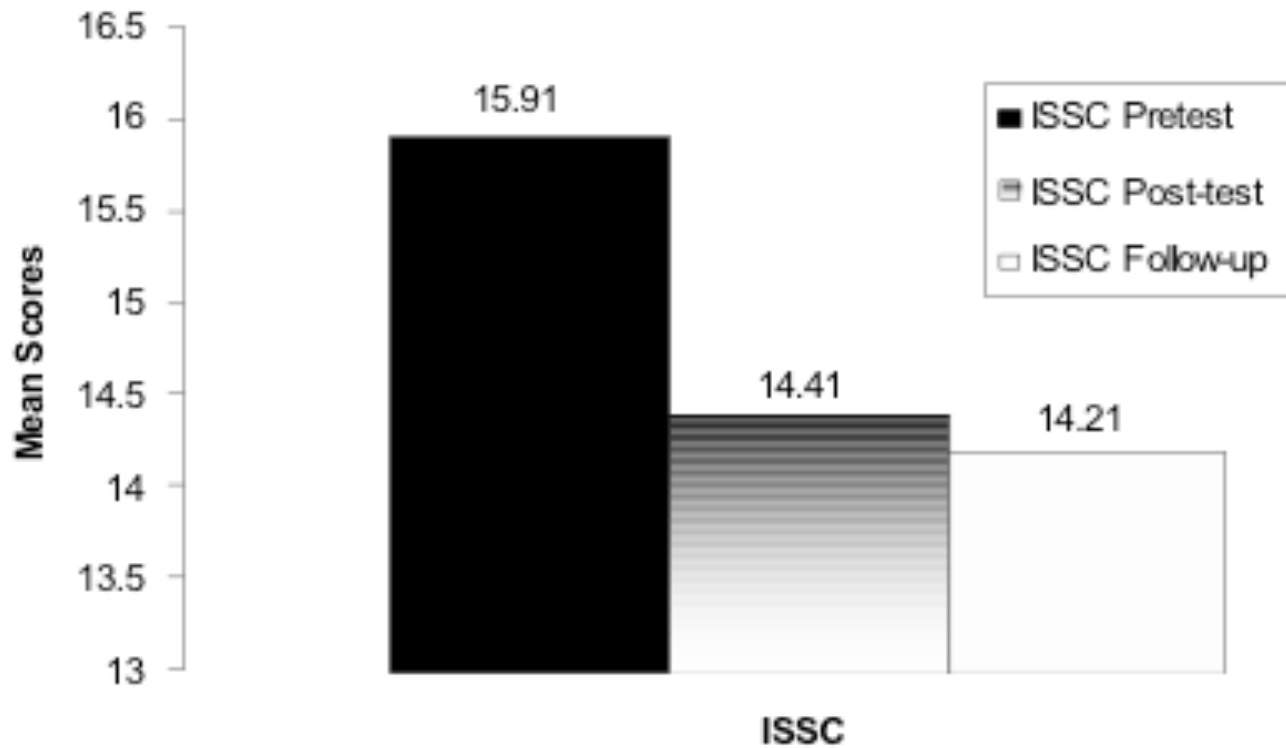
Knowledge Test Results
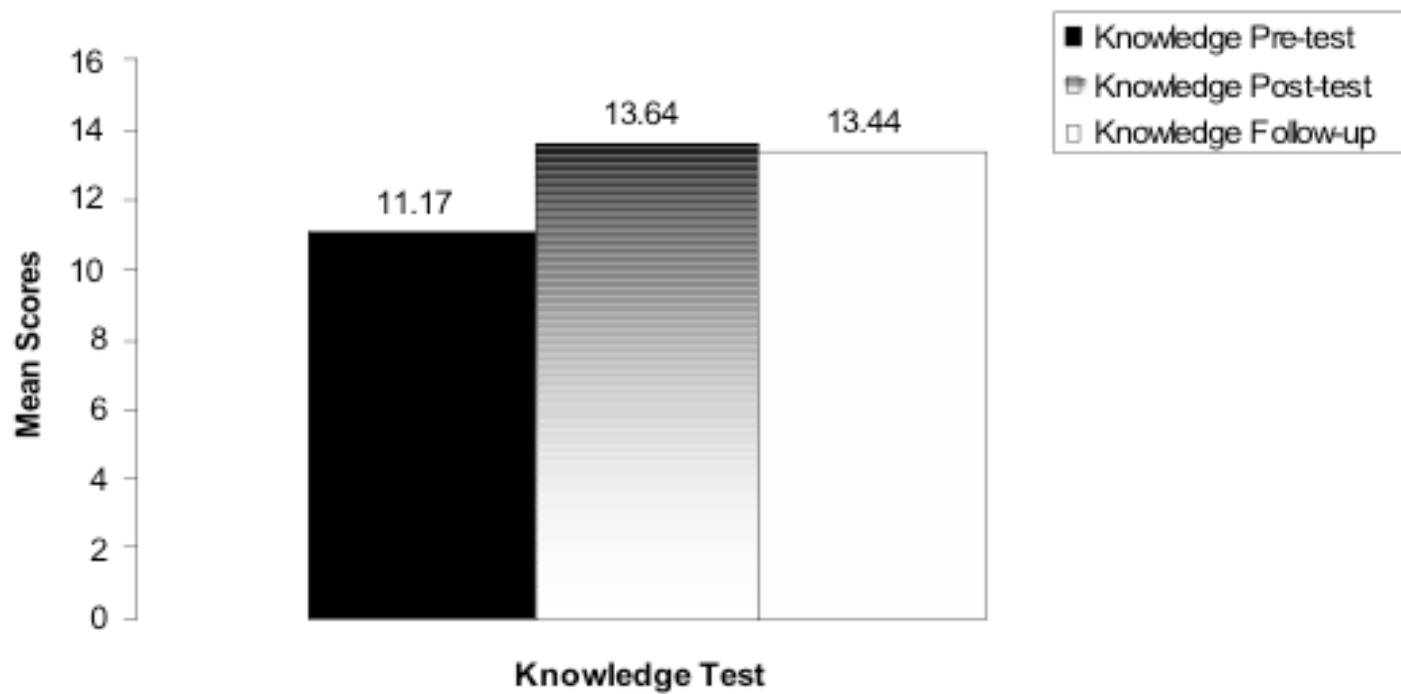
ISSC & Knowledge t-test Comparisons

Measures	Mean Difference	Standard Deviation	Standard Error Mean	t
ISSC				
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
Knowledge Test				
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

SSBD vs. Recommended Participants

* More statistically significant changes in those identified by SSBD

* Only statistically significant change in group of recommended students was in knowledge gains

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

SSBD vs. Recommended

SSBD Participants

t

ISSC
    SSBD Pre and Post   3.07*
TRF Internalizing Problems
    SSBD Pre and Post   2.59*
    SSBD Pre and F-up   6.82***
    SSBD Post and F-up   3.38**
TRF Externalizing Problems
    SSBD Pre and Post   2.72*
    SSBD Pre and F-up   4.01**
    SSBD Post and F-up   3.55**
TRF Total Problems
    SSBD Pre and Post   3.44**
    SSBD Pre and F-up   4.40***
    SSBD Post and F-up   3.70**

Recommended Participants

t

Knowledge Test
    Recommended Pre and Post   -2.53*
    Recommended Pre and F-up   -2.99*
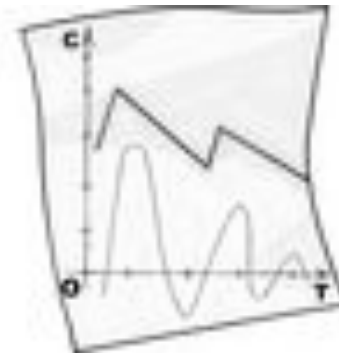
Note. 95% Confidence Interval *p<.05, **p<.01, ***p<.001

Social Validity: Teachers

✳ 89% reported a need for social-emotional training in schools today

✳ 67% reported having students with internalizing problems in their classes

Perceptions of Outcomes

Reported decreased problem behaviors

* Teachers = 72%

* Students = 43%

Open-ended Comments

Students

* Feel more relaxed
* Know more about my feelings
* Listen better
* Know better how to solve problems
* Can calm myself down
* Participate more in class
* Increased interactions with teachers
* Can talk to other people about my feelings
* Asking more questions in class

Teachers

* Handles frustration slightly better
* Sadness is gone
* Handles emotional situations with friends better
* Seems to communicate with me better
* Interacts with the teacher a little more
* A little less over-reacting emotionally
* Seems to be raising his hand more to answer questions in class
* Will come and talk to me
* During group work, she has shown more initiative

Instructors Perceptions

✳ 83% rated program as fairly or highly effective

✳ Most important topics

1. Clear thinking
2. Understanding your feelings
3. Dealing with anger
4. Solving people problems

Conclusions

✳ Use of *Strong Kids* with elementary students at-risk for internalizing behavior problems appears effective:

  - decreased self & teacher rated symptoms

  - increased knowledge

  - positive teacher and student perceptions

  - gains maintained at follow-up

✳ More research needed

Christensen, L., Young, K. R., Marchant, M. (2007). *Linking functional behavioral assessment to peer-mediated positive behavior support strategies.* Manuscript submitted for publication.

Marchant, M., Solano, B., Fisher, A., Caldarella, P., Young, K. R., Renshaw, T. (in press). Modifying socially withdrawn behavior: A playground intervention for students with internalizing behaviors. *Psychology in the Schools*.

Brown, M., Marchant, M., Caldarella, P., Young, E. (2007). *The effects of the Strong Kids Curriculum on students at-risk for internalizing disorders.* (Manuscript in preparation).

http://education.byu.edu/pbsi/documents/apbs_interventions_internalizers.pdf