An Ounce of Prevention is Worth a Pound of Cure:
Preliminary findings from a small-scale trial of the Fun FRIENDS Program in a rural elementary school

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Virginia Tech
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Presenter Disclosure Information

I have no actual or potential conflict of interest in relation to this program/presentation.

Nor do I have any financial relationships to disclose.
Paper Outline:

1. Introduction
2. Rationale
3. School-mental health
4. Research Goals
5. Current Study
6. Findings
7. Conclusions
8. Challenges
Prevalence

- Anxiety disorders are common among children and adolescents
  - 8% - 27% (Costello, Egger, & Angold, 2005)
  - Samples including 6 & 7 year olds
    - 2.6% - 41.2% (Cartwright-Hatton, McNicol, & Doubleday, 2006)

- Fear and anxiety reported by parents and children < 7
  (Edwards et al., 2010; Ialongo et al., 1995; Muris & Merckelbach, 2000)

- More research demonstrating prevention and treatment interventions effective to reduce early anxiety (Hirshfeld-Becker et al., 2010; Pahl & Barrett, 2010; Rapee et al., 2005)
An Ounce of Prevention....

- Increase social skills
- Improve regulation of emotions
- Teach relaxation skills & restructuring of unhelpful cognitions
School Mental Health (SMH)

- **Advantages** *(Barrett et. al., 2006)*
  - Student accessibility
  - Transportation
  - Early identification
  - Opportunities for teacher consult/training
  - Decrease stigmatization and normalize experiences
FIGURE 1 Factors that Can Affect Implementation Quality: A Multi-Level Model

(From Domitrovich, C.E., Bradshaw, C.P., Poduska, J.M., Hoagwood, K., Buckley, J.A., et al., 2008)
Research Goals

- **Goal$_1$**: Explore the feasibility of implementing program in a small rural school

- **Goal$_2$**: Evaluate the effects of this program on child social skills, emotional skills, and anxiety symptoms
  - *Intervention school would demonstrate greater decreases in anxiety symptoms and increases in social emotional skills*

- **Goal$_3$**: Compare results for children at high/low risk for anxiety
  - “High-risk” children will evince greater gains from the treatment program than “low-risk” children.
Participants

- Two rural schools in Southwest Virginia

- Three kindergarten classroom teachers at each school (all females)

- 110 children
  - 57 children received the intervention (54% female; mean age 5.1)
  - 53 children participated at the control school (55% female; mean age 5.2)

- Large majority (>90%) were Caucasian
Procedure

① Train the trainer model
   ✷ 3-hour one-to-one training session

② Guidance counselor provided weekly implementation of Fun FRIENDS over 16 weeks (total 12 sessions)

③ Weekly consultation with trained graduate student
   ✷ 30-minute in-person meetings and e-mail/phone contacts

④ Documentation of program adherence with independent raters
Intervention Description

- **Fun FRIENDS** *(Barrett, 2008)*
  - Downward extension of the Friends program

- **Cognitive behavioral techniques**
  - Developmentally-appropriate for young children
    - Use of relaxation, cognitive restructuring, exposure to fears

- **Teach essential social and emotional skills**
  - Emotion regulation, emotional understanding, empathy, social skills, sharing, positive coping strategies, self-esteem
## Session Content

<table>
<thead>
<tr>
<th>Lessons</th>
<th>FRIENDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Session 1:</strong> Getting Started</td>
<td></td>
</tr>
<tr>
<td><strong>Session 2:</strong> My Feelings</td>
<td>F (Friends)</td>
</tr>
<tr>
<td><strong>Session 3:</strong> Your Feelings</td>
<td></td>
</tr>
<tr>
<td><strong>Session 4:</strong> Our Bodies and Relaxation Games</td>
<td>R (Relax)</td>
</tr>
<tr>
<td><strong>Session 5:</strong> “Red and “Green” Thinking Bubbles</td>
<td>I (I Can Try)</td>
</tr>
<tr>
<td><strong>Session 6:</strong> Challenging “Red” and “Green” Thoughts</td>
<td></td>
</tr>
<tr>
<td><strong>Session 7:</strong> Doing Things One Step at a Time</td>
<td>E (Encourage)</td>
</tr>
<tr>
<td><strong>Session 8:</strong> Steps to Being a Good Friend</td>
<td></td>
</tr>
<tr>
<td><strong>Session 9:</strong> Giving Ourselves a Pat on the Back</td>
<td>N (Nurture)</td>
</tr>
<tr>
<td><strong>Session 10:</strong> Family, Schools, Neighborhoods</td>
<td></td>
</tr>
<tr>
<td><strong>Session 11:</strong> Our Circle of Love</td>
<td>D (Don’t forget to practice)</td>
</tr>
<tr>
<td><strong>Session 12:</strong> Party</td>
<td>S (Stay 😊)</td>
</tr>
</tbody>
</table>
Outcome Measures

Teachers

- Strengths and Difficulties Questionnaire *(Goodman, 1997)*
- Spence Anxiety Scale *(Spence, 2001)*
- Teacher Sense of Self Efficacy Scale-Short Form *(Tschannen-Moran, 1998)*
- Satisfaction Measure

Guidance Counselor

- Program Adherence Checklists
- Debriefing Interview
# Reliability Analysis: Treatment Adherence

## Reliability Statistics

<table>
<thead>
<tr>
<th>Cronbach's Alpha (on Standardized Items)</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.969</td>
<td>.969</td>
</tr>
</tbody>
</table>

## Inter-Item Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>Rater 1</th>
<th>Rater 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rater 1</td>
<td>1.000</td>
<td>.941</td>
</tr>
<tr>
<td>Rater 2</td>
<td>.941</td>
<td>1.000</td>
</tr>
</tbody>
</table>

## Symmetric Measures

<table>
<thead>
<tr>
<th>Measure of Agreement</th>
<th>Value</th>
<th>Asymp. Std. Error</th>
<th>Approx. T</th>
<th>Approx. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kappa</td>
<td>.812</td>
<td>.127</td>
<td>6.606</td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Results: Descriptives

<table>
<thead>
<tr>
<th>School</th>
<th>Age</th>
<th>Gender</th>
<th>Spence-Pre Mean</th>
<th>Strengths &amp; Difficulties Pre Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention (N=57)</td>
<td>5.08 (n=57)</td>
<td>54% female (31 girls, 26 boys)</td>
<td>7.6 (SD=10.04)</td>
<td>21.29 (SD=3.70)</td>
</tr>
<tr>
<td>Control (N=53)</td>
<td>5.15 (n=53)</td>
<td>55% female (30 girls, 24 boys)</td>
<td>6.0 (SD=7.46)</td>
<td>20.88 (SD=3.17)</td>
</tr>
</tbody>
</table>
Pre/Post Differences & School Comparisons

- No significant differences between the pre and post scores on the Spence scale for the total sample

- However, total scores were significantly correlated at pre ($r = .44, p < .000$) and post ($r = .35, p < .000$)

- Scores on the Spence were significantly different between schools at post, with lower scores for the Control school ($M = 3.13$) than for the intervention school ($M = 9.23$)
  - $t(108) = 3.83, p < .000$
Changes in Anxiety Symptoms (Whole Sample)

- **Intervention** (n=56)
- **Control** (n=53)
Risk Analyses

- Sample was divided and children with scores in the highest third of full sample were labeled as “high-risk”
  - Teacher ratings on anxiety symptoms significantly decreased at post follow up (for both schools)
    - $t(34)=2.84, p=.007$ (M=17.06, M=9.96)

- 19 of the 35 children experiencing higher anxiety levels were in the intervention school
  - Teacher ratings for these children decreased at post as well; however did not reach significance ($p=.314$)
    - $t(18)=21.04, p=.314$ (M=18.84 M=14.79)
Risk Analyses.....

Higher Risk Classification

Spence Scores

- Intervention (n=19)
- Control (n=16)

Pre  Post
Anxiety Symptoms in the Intervention School

Change in Anxiety Symptoms for Risk Groups

- Low Risk (n=37)
- High Risk (n=19)
Intervention School: significant decreases in peer relation difficulties, increases in prosocial behaviors, and decreases in total symptoms endorsed

<table>
<thead>
<tr>
<th>Area</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer problems</td>
<td>$t(57)=4.71, p=.000^{***}$</td>
</tr>
<tr>
<td>Prosocial Behaviors</td>
<td>$t(57)= -2.03, p=.047^*$</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>$t(57)= 1.51, p=.14$</td>
</tr>
<tr>
<td>Emotional Symptoms</td>
<td>$T(57)=.05, p=.96$</td>
</tr>
<tr>
<td>Conduct Symptoms</td>
<td>$T(57)=-.09, p=.93$</td>
</tr>
<tr>
<td>Total Symptoms</td>
<td>$t(57)= 2.45, p=.02^{**}$</td>
</tr>
</tbody>
</table>

However, there were no significant improvements in the control school

Generally, at post, students at intervention school demonstrated significantly fewer peer problems $F(1, 109)= 6.81, p = .01$
Changes in SDQ scores

Group differences on SDQ subscales

Peer Difficulties  Prosocial Behaviors  Total Symptoms

Intervention (n=57)  Control (n=53)
General Satisfaction

Fun FRIENDS Satisfaction Ratings

<table>
<thead>
<tr>
<th></th>
<th>Satisfaction Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child (n=57)</td>
<td>85</td>
</tr>
<tr>
<td>Teacher (n=4)</td>
<td>93</td>
</tr>
</tbody>
</table>

Series1
Most enjoyable topic for the children:

What part of the program did you like the most?

- Thought Identification/Changing: 39%
- Relaxation: 36%
- Social Skills: 25%
Discussion

- **Anxiety**
  - Per teacher report, there were no significant changes in anxiety symptoms for children in the intervention or control school.
  - Trends for increases across both schools (awareness).
  - Risk analyses demonstrate for those children with high levels of anxiety (18) their scores decreased following the program whereas those low risk students experienced slight increases in their anxiety.

- **Social Emotion Skills**
  - Children in the intervention skills demonstrated decreased peer problems, increased prosocial behaviors, and decreased general symptoms whereas there were no significant changes in the control school.

- **Follow-up data**
  - Data collected at the three and eight month follow-up time points will better determine long-term effects of the program.
Facilitator Statement:

“I feel a lot more comfortable in general- I feel like I have better ways to teach the skills with younger kids. Better ways to teach the topics and now have more relevant and appropriate ways and activities to use to demonstrate skills to the children. Now that I have done it, I feel more comfortable in teaching these skills and have more methods to teach them and I feel like I know how to modify or change things for the next time I do it with younger and older children”
Challenges & Barriers

- Getting into the school
- “Selling” the benefits of implementing such a program not directly targeting academic outcomes
- School closings (teacher workdays, snow days, assemblies, crises)
- Shorter sessions due to limited time given during the day
- Generalization of program use
- Parent and family involvement
Follow-up data points:

**Parent**

- Preschool Anxiety Scale (*Spence, 2001*)
- Strengths and Difficulties Questionnaire (*Goodman, 1997*)
- Emotion Regulation Checklist (*Shields & Cicchetti, 1997*)
- Satisfaction Measure

**Child**

- Academic records & Attendance
Future Research

- **Child Level**
  - Appropriate time to intervene
  - Role of the parent?

- **Program Level**
  - Cost effective, feasible programs
  - Development of more culturally relevant programs
    - No modifications to Australian-developed program
    - Language could have been turn-off for parents
  - Targeted age range

- **School Level**
  - Improving parent/teacher involvement
  - Consistency in having weekly session despite “crisis”

- **Good News!**
Questions or Comments?