

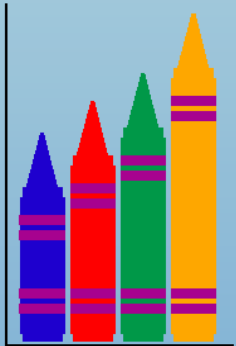


## Evidence-Based Practice for Young Children with Challenging Behavior

Glen Dunlap, U. of South Florida  
Lee Kern, Lehigh University  
Micki Ostrosky, U. of Illinois

# Agenda

- Overview of National Center and Introduction to Syntheses of Evidence-based Practices - Glen
- Positive Behavior Support - Glen
- Stimulant Medications - Lee
- Classroom Preventive Practices - Micki
- Comprehensive Social-emotional Learning Programs – Micki
- Questions/Discussion






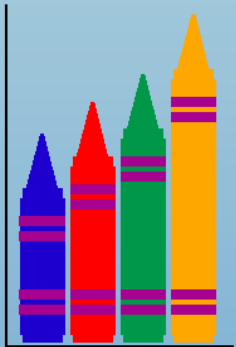
# Center for Evidence-Based Practice: Young Children with Challenging Behavior

\* **One National Center  
funded through a  
cooperative agreement  
by OSEP**

\* **Jan. 2002 – Dec.  
2006 (5 years)**

# GOALS

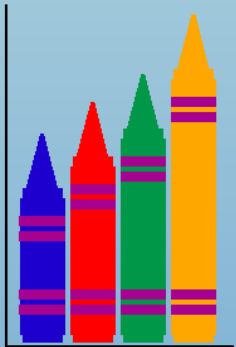
- 
- Raise awareness of positive, evidence-based practices
  - Increase implementation of positive, evidence-based practices
  - Build enhanced data base of practical, positive, evidence-based practices



# Management Team



- University of South Florida
  - Glen Dunlap, Principal Investigator
  - Lise Fox, co- Principal Investigator
- University of Colorado at Denver
  - Barbara Smith, co- Principal Investigator
  - Phillip Strain, co- Principal Investigator



# Research, Training, and Dissemination Team

## ➤ **University of Kansas**

- Judith Carta, Wayne Sailor, Ann Turnbull, Barbara Thompson, Eva Horn, Jean Ann Summers, Charles Greenwood

## ➤ **University of Illinois**

- Mary Louise Hemmeter, Micki Ostrosky, Amy Santos

## ➤ **Tennessee Voices for Children**

- Matt Timm, Diane Dixon

## ➤ **Lehigh University**

- Lee Kern, George DuPaul

## ➤ **University of Florida**

- Maureen Conroy

## ➤ **Pyramid Parent Training**

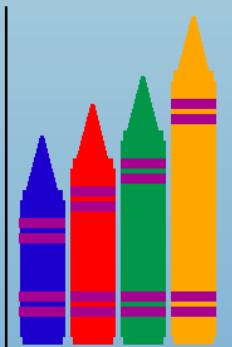
- Ursula and DJ Markey

## ➤ **University of Colorado - Denver**

- Phil Srain, Barbara Smith, Gail Joseph






## ➤ **University of South Florida**

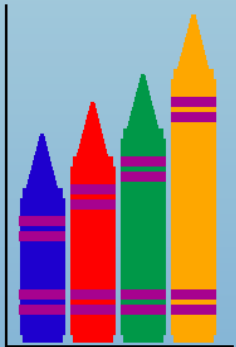
- Lise Fox, Glen Dunlap



# Additional Key Center Personnel







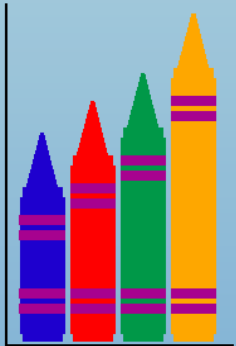
-  Pat Snyder, LSU
-  Maureen Mele, USF
-  Diane Powell, USF
-  Dean Fixsen, USF
-  Julie Walden, UC-D



# Primary Dissemination Partners



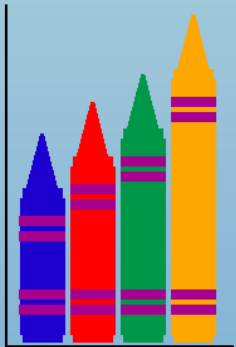
-  National Association for the Education of Young Children
-  Division for Early Childhood, Council for Exceptional Children
-  National Association of Child Care Resource and Referral Agencies
-  National Head Start Association



# Associate Dissemination Partners



-  Parent groups
-  Disability groups
-  Professional organizations
  -  e.g., mental health, medicine, education
-  Cultural/racial diversity groups
-  State/regional agencies and organizations



# Advisory Group

 George Askew

 Donna Bryant

 Kathy Dennis

 Carl Dunst

 Mario Hernandez

 Roxane Kaufman

 Jane Knitzer

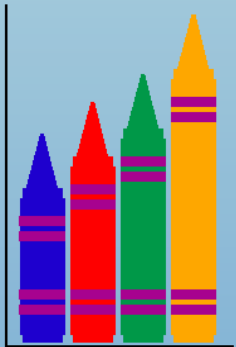
 Bruce Ramirez

 George Sugai

 Maria Synodi

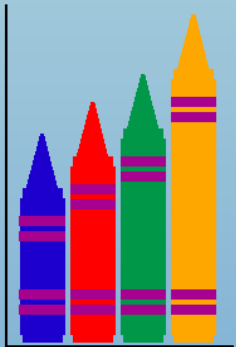
 Mark Wolery

 Terry Harrison



# Center Activities (Year 1)

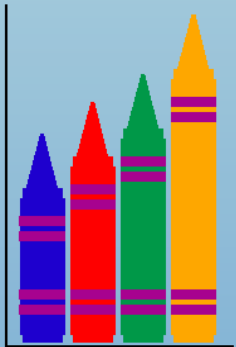
- Identify evidence-based practices
  - Prepare major syntheses in three areas:
    - Systems of Service Delivery
    - Effective Practices for Young Children and Families
    - Service Utilization
- Develop materials and implement strategies to impact personnel preparation




# Center Activities (Year 1) - 2

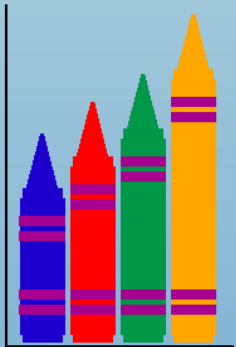


- Develop partnerships with national organizations and other dissemination networks to conduct widespread campaign of awareness
- Develop and finalize research agenda based on syntheses and input from stakeholders
- Establish national Advisory Group




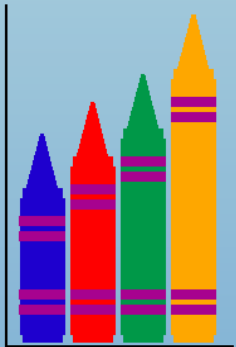
# Center Activities (Years 2-5)

- 
- Disseminate information to enhance awareness and implementation of evidence-based practices for young children and families affected by challenging behavior
  - Agreements with state and national organizations for training and dissemination
  - Web site
  - Press releases
  - Articles in multiple formats
  - Materials for pre- and in-service training



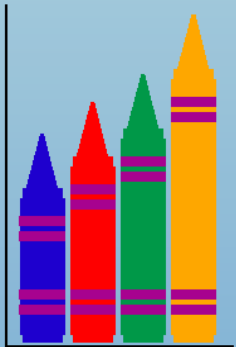
# Center Activities (Years 2-5)

- 
- Implement a national program of research to address critical issues for young children and families affected by challenging behavior, including:
    - Longitudinal, multi-site study to investigate relative and interactive effects of ecological and intervention variables
    - Studies on direct services and interventions
    - Studies on administrative operations and systems variables
    - Studies on personnel preparation and utilization



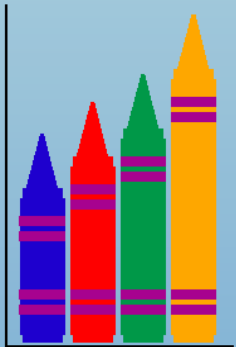
# Principal Stakeholders

- Young children w/ challenging behavior
- Families
- Service providers
- Training and TA systems
- Colleges and universities
- Administrators
- National, state, and local organizations and agencies
- U.S. Department of Education



# Overall Purpose of the Center

- To improve the lives and futures of young children and their families by:
  - (1) building a more unified and widespread awareness of positive, evidence-based practices,
  - (2) enhancing the capacity of families, educators, and other professionals to implement evidence-based practices, and
  - (3) adding to the data base of evidence-based practices that are incorporated in the comprehensive service delivery system.




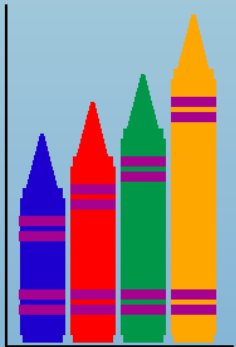


# Center for Evidence-Based Practice: Young Children with Challenging Behavior

Syntheses of  
Existing  
Knowledge

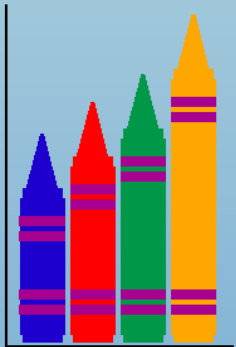
# Center for Evidence-Based Practice: Young Children with Challenging Behavior

- 
- Syntheses of Evidence  
Conducted in the Following  
Areas:
- Service Utilization (Pathways to Service Utilization)
  - Systems of Service Delivery
  - Interventions




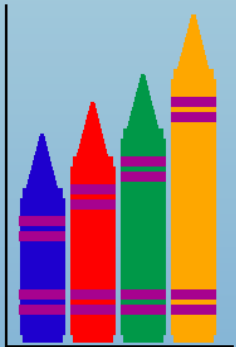
# Definition of Challenging Behavior

- Any repeated pattern of behavior that interferes with or is at risk of interfering with optimal learning or engagement in pro-social interactions with peers and adults.



# General Procedures

- 
- Literature reviews of primary and secondary sources using data bases in medicine, psychology, child development, education, etc.
  - Interviews with authorities in these fields
  - Development of draft document with summary statements
  - Review of document by authorities in relevant disciplines
  - Revise and submit for formal peer review
  - (Synthesis is a dynamic project)











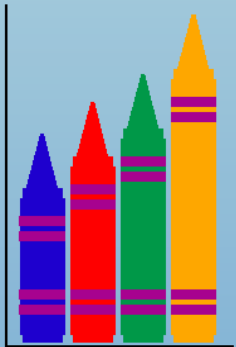
# Center for Evidence-Based Practice: Young Children with Challenging Behavior

## Synthesis of Effective Interventions

# Level of Confidence Indicators



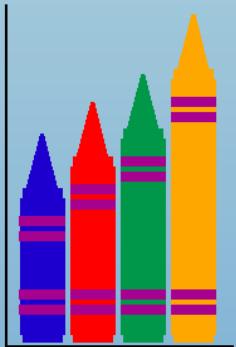
-  Evidence of treatment fidelity
-  Evidence for treatment generalization
-  Evidence for treatment maintenance
-  Evidence for social validity of outcomes
-  Evidence for acceptability of intervention
-  Evidence for replication across investigators



# Level of Confidence Indicators



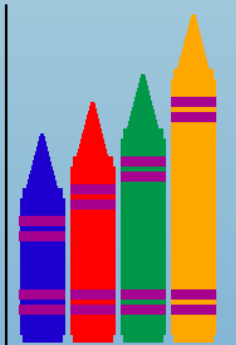
- Evidence of replication across clinical groups
- Evidence of replication across ethnic/racially diverse groups
- Evidence of replication across settings
- High Confidence – meets 7 or more indicators
- Medium Confidence – meets 4-6 indicators
- Low Confidence – meets less than 4 indicators



# Center for Evidence-Based Practice: Young Children with Challenging Behavior





## Synthesis of Knowledge on Positive Behavior Support for Young Children with Challenging Behaviors

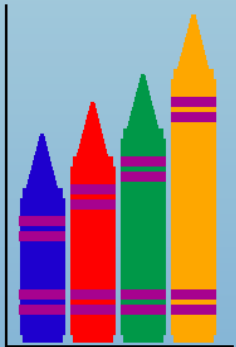
Glen Dunlap & Maureen Conroy



# PBS Categories

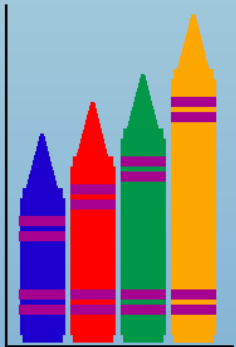


-  Functional (Behavioral) Assessment and Assessment-based Interventions
-  Functional Communication Training
-  Self-Management
-  Choice Making



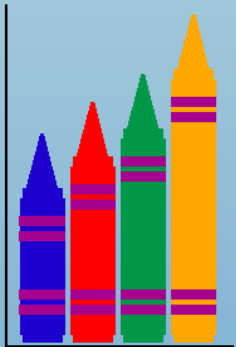
# Functional Assessment and Assessment-based Interventions

- *High Confidence Rating*
- A great deal of data exist, across settings and investigators
- Very clear and consistent effects for preventing and resolving challenging behaviors
- Almost all of the data are with children above 3 years of age






# Functional Communication Training

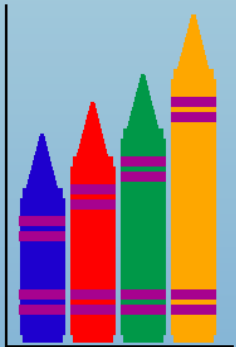
- *Medium Confidence Rating*
- While the data are strong and the effects have been replicated across many participants, there are relatively few studies with children under the age of 6
- Few studies with measures of fidelity or generality



# Self-management

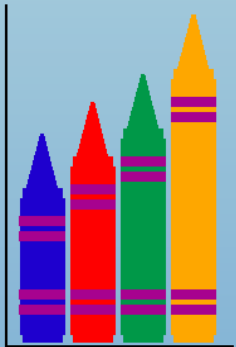



-  *Medium Confidence Rating*
-  All of the data are with children above 3 years of age (self-management is not likely to be relevant for younger children)
-  Data that exist are strong, but little evidence of replicability or application across many different population groups

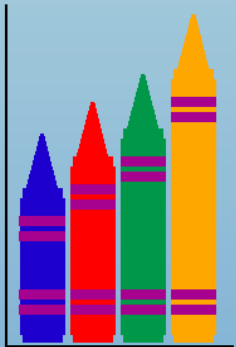


# Choice Making


- *Low confidence rating*
- Though the existing data are strong, and the rationale is clear, there have been few studies conducted with children under the age of 6
- Little evidence of social validity, acceptability, fidelity, and use with diverse populations



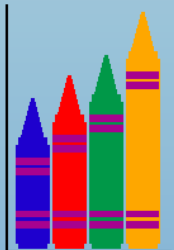
- 
- There is very good support for PBS as an intervention approach for young children with challenging behaviors
  - However, for some particular categories of PBS interventions, the existing data are still few
  - It is expected that additional data will increase the confidence ratings, however some procedures may still have limited relevance for very young children



# Coming of Age: Stimulant Medication Use with Preschool-Aged Children



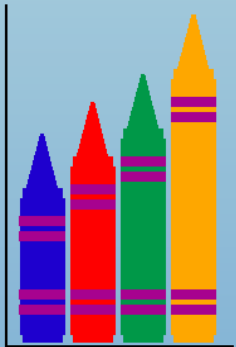
Lee Kern, George DuPaul  
Lehigh University  
John VanBrakle  
Lehigh Valley Hospital



Center for Evidence-Based Practice:  
Young Children  
with Challenging Behavior

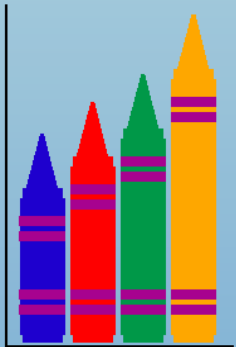
# Presence of Behavioral Characteristics of ADHD in Preschool-Aged Children

- 2-5.7% of preschool aged children receive diagnoses of ADHD
- (Lavigne et al., 1996; Keenan et al., 1997)
  
- Symptoms continue in elementary school for approximately 50%
- (Campbell & Ewing,



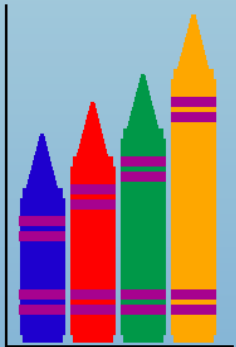
# Use of Stimulant Medication in Preschool Aged Children

- 94% of prescriptions for children are off-label
- Use of MHP in children 2-4 tripled between 1991-1995 (Zito et al. 2000)
- MHP among three most commonly prescribed medications for children under age 6 (Zito et al., 2000)
- National Disease and Therapeutic Index reported 400,000 prescriptions of MHP for children under 6 (IMS America, 1995)



# Use of Stimulant Medication in Preschool Aged Children

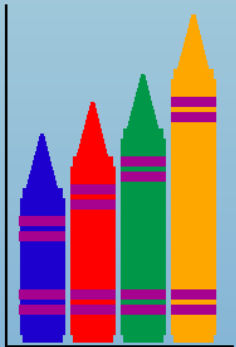
- Michigan Medicaid found 60% of children 3 years or younger diagnosed with ADHD receive stimulants (Coyle, 2000)
  - 50% receive 2 or more medications
  - Only 25% receive psychological services
- White House listed MHP as highest priority medication needing further safety and efficacy research for use in pediatric population



# Issues with Use of Stimulant Among Preschool-Age Children

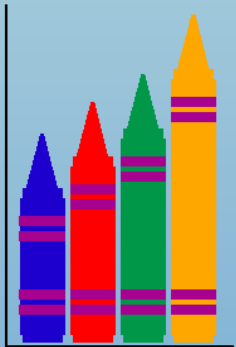
Dopamine transmitter system involved in MPH response in adults is in state of development in preschool-aged children (Volkow et al., 1998)

- MPH studies did not include preschoolers, therefore nothing known about safety or dose range
- Lack of support for biochemical or physical basis for ADHD
- Diagnostic difficulties in preschool-age children



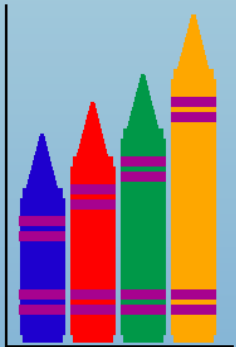
# Purpose of Review

- To determine the level of evidence supporting the effectiveness of stimulant medications with preschool age children



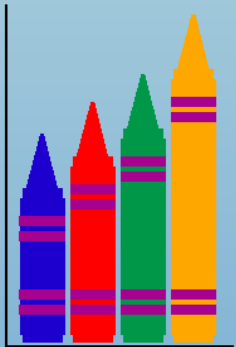
# Literature Review: Inclusion Criteria

- Computer searches (Medline, Psychlit, ERIC), ancestral searches
- Descriptors: medication related, child related, behavior related, disability related
- Articles published between 1975-2001
- Peer reviewed publications
- Preschool age children



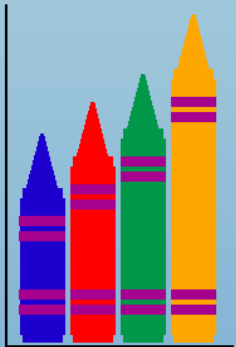
# Criteria Used to Determine Level of Evidence

1. Evidence for treatment fidelity
2. Evidence for treatment generalization
3. Evidence for maintenance
4. Evidence for social validity
5. Evidence for acceptability



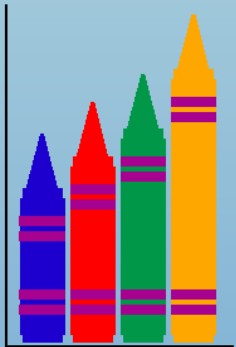
# Criteria Used to Determine Level of Evidence

6. Evidence for replication across investigative teams
7. Evidence for replication across gender and ethnically/racially diverse groups
8. Evidence for replication across settings
9. Evidence for naïve evaluation
10. Evidence for evaluation of side effects



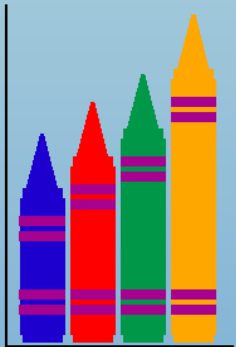
# Findings

- 16 studies identified meeting inclusion criteria
- 247 participants (range, 1-59)
- 20 additional participants served as controls
- Age range of participant: 2.5 to 6 years



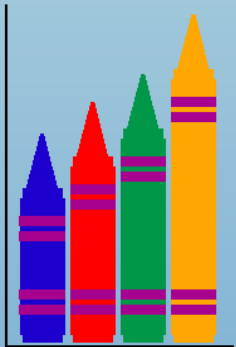
# Overall Findings

- Approximately 50% of participants showed a positive response to stimulant medication
- Behaviors showing improvement included decreases in off-task and motor activity and increases in compliance; Lab studies indicated increases in sustained attention and impulse control
- In general, significant improvements more likely with higher dosage
- Of the studies that measured side effects, they were noted in approximately 45% of participants (10% experienced severe side effects)



# Level of Evidence

1. Treatment fidelity: assessed in 3 of 16 studies
2. Treatment generalization:



# Level of Evidence

Variable	Number of Studies (Total=16)
1. Treatment Fidelity	3
2. Treatment Generalization	13
3. Maintenance	4
4. Social validity	2
5. Acceptability	1

# Level of Evidence

Variable	Number of Studies (Total=16)
6. Replication: investigative teams	14
7. Replication: gender, ethnic/racial groups	14
8. Replication: settings	16
9. Naïve evaluation	13
10. Side effects	13

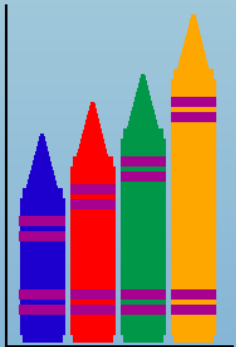
# Overall Level of Evidence

OVERALL RATING	NUMBER OF STUDIES
<b>High</b> (criteria met in 7-10 categories)	0
<b>Medium</b> (criteria met in 4-6 categories)	5
<b>Low</b> (criteria met in less than 5 categories)	11

# Research Limitations/Concerns



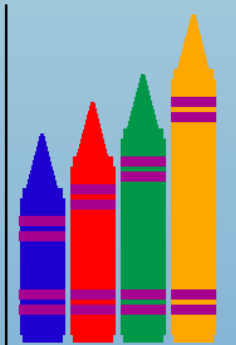
1. No direct observations have been conducted in home or typical preschool settings
2. Few behaviors evaluated
3. Most participants Caucasian, middle-class, males
4. Failure to assess treatment fidelity
5. Limited duration of evaluation
6. High rates of side effects
7. Lack of social validity/consumer satisfaction data



# Center for Evidence-Based Practice: Young Children with Challenging Behavior

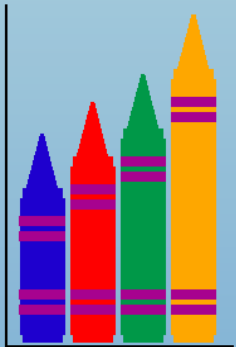
Syntheses of Knowledge on Classroom  
Preventive Practices ..... and  
Comprehensive Social-Emotional  
Learning Packages

Presented by Micki Ostrosky



# Level of Confidence Criteria

- (1) Treatment fidelity,
- (2) Treatment generalization,
- (3) Treatment maintenance,
- (4) Social validity of outcomes,
- (5) Acceptability of interventions,
- (6) Replication across investigators,
- (7) Replication across clinical groups,
- (8) Evidence across ethnic/racially diverse groups,
- (9) Evidence for replication across settings.



# Classroom Preventive Practices

## Environmental arrangement

Relationship between amount of space and children's social behaviors

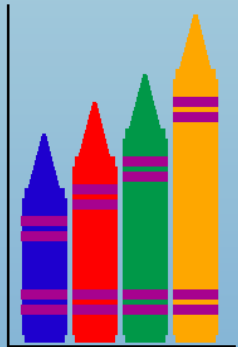
Relationship between type of toy and children's social behaviors

Structure of the classroom on children's social behaviors

## Transition planning

Types of transition schedules on children's behaviors

Activity sequence and choice on children's behavior



# Classroom Preventive Practices

Schedules and routines

Length of activity

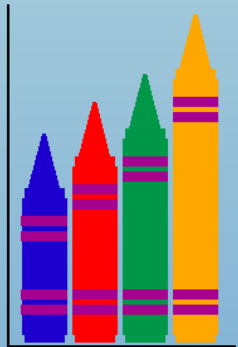
Scheduling of activities

Staffing patterns

Opportunity for child choice

Flexibility of schedule

Classroom rules and expectations



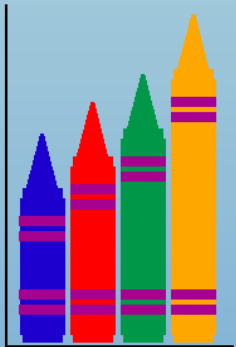
# Findings

Overall, the research is limited

Medium confidence levels for transitions and environmental arrangements and low confidence level for schedules and routines

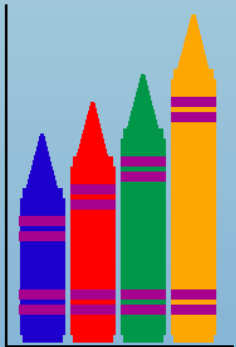
Most of the studies reported positive results but lacked data on maintenance, generalization, fidelity of treatment, and social validity

Some research has included these strategies as part of a larger package but it is not possible to look at the effects of any specific part of the intervention



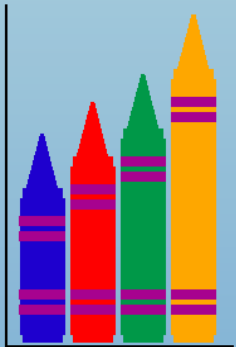
# Comprehensive Social Emotional Learning Programs: Criteria for Inclusion

- Focused on fostering social emotional skills and/or decreasing problem behavior
- Targeted children under age 6
- Children were intervention foci
- Manualized curriculum



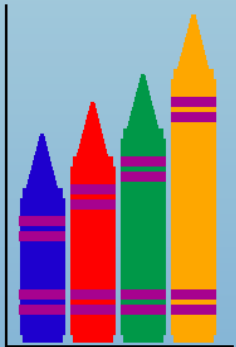
# Methods

- Searched data bases (PsychInfo, ERIC, Medline)
- Reviewed previous comprehensive review papers and government reports
- Reviewed early childhood education websites for recommended curricula



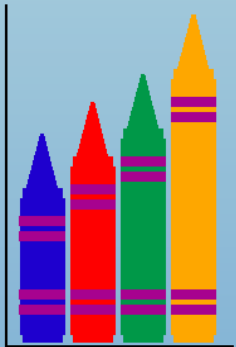
# Methods

- Reviewed all published curriculum efficacy studies
- Contacted all program developers
- Evaluated studies utilizing established “level of confidence” criteria
- Assigned each curriculum a confidence rating



# Results

- Identified 8 comprehensive social emotional curricula
- Identified 2 promising programs

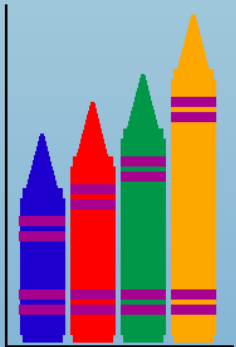


**Table 2. Levels of Evidence**

<b>Program Name</b>	<b>First Author</b>	<b>Treatment Fidelity</b>	<b>Treatment Generalization</b>	<b>Treatment Maintenance</b>	<b>Social Validity of outcomes</b>	<b>Acceptability of Interventions</b>	<b>Replication across Investigators</b>	<b>Replication across clinical groups</b>	<b>Evidence across ethnic/racially diverse groups</b>	<b>Replication across settings</b>	<b>Level of Evidence</b>
<b>Social-emotional intervention for at-risk 4 year olds</b>	Denham	✓							✓		Low
<b>Self-Determination Curriculum</b>	Serna							✓	✓		Low
<b>PALS: Developing Social Skills Through Language</b>	Vaughn			✓			✓	✓			Low
<b>DARE to be You</b>	Miller-Heyl	✓		✓					✓		Low
<b>ICPS</b>	Shure		✓	✓			✓		✓	✓	Medium
<b>AI's Pals: Kids Making Healthy Choices</b>	Geller	✓				✓	✓		✓	✓	Medium
<b>The Incredible Years: Dinosaur School</b>	Webster-Stratton	✓	✓	✓		✓	✓	✓	✓	In progress	High
<b>First Steps</b>	Walker	✓	✓	✓	✓		✓	✓	✓	In progress	High

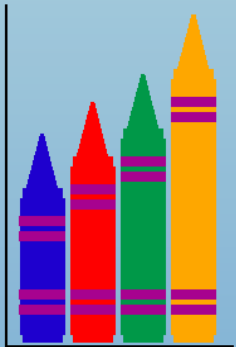
# Highest Rated

-  First Steps to Success
-  Incredible Years: Dinosaur School



# Promising Programs

- PATHS: Promoting Alternative Thinking Strategies
- Second Step Violence Prevention Program



# The Ending



Questions?



Discussion?



Thanks very much.....

