

SCIENCE-BASED PROGRAMS LIST – NREPP RATING ANALYSIS

PROMOTING ALTERNATIVE THINKING STRATEGIES (PATHS), PATHS PRESCHOOL

Promoting Alternative Thinking Strategies (PATHS) and PATHS Preschool are school-based preventive interventions for children in elementary school or preschool. The interventions are designed to enhance areas of social-emotional development such as self-control, self-esteem, emotional awareness, social skills, friendships, and interpersonal problem-solving skills while reducing aggression and other behavior problems. Skill concepts are presented through direct instruction, discussion, modeling, storytelling, role-playing activities, and video presentations. The elementary school PATHS Curriculum is available in two units: the PATHS Turtle Unit for kindergarten and the PATHS Basic Kit for grades 1-6. The curriculum includes 131 20- to 30-minute lessons designed to be taught by regular classroom teachers approximately 3 times per week over the course of a school year. PATHS Preschool, an adaptation of PATHS for children 3 to 5 years old, is designed to be implemented over a 2-year period. Its lessons and activities highlight writing, reading, storytelling, singing, drawing, science, and math concepts and help students build the critical cognitive skills necessary for school readiness and academic success. The PATHS Preschool program can be integrated into existing learning environments and adapted to suit individual classroom needs.

PROGRAM REQUIREMENTS

- Universal, selective, and/or indicated prevention program
- Targets one or more alcohol, tobacco, drug, disruptive behavior, and/or violence outcomes
- Targets students in one or more grades K-12

Does this program meet the minimum program requirements for inclusion on the Science-Based Programs List?

- YES** This universal social and emotional skills program targets preschool and elementary school students.
- NO**

RESEARCH RATINGS FOR BEHAVIORAL OUTCOMES

Quality of Research Ratings by Criteria (0.0-4.0 scale)

Outcome	Reliability	Validity	Fidelity	Missing Data/Attrition	Confounding Variables	Data Analysis	Overall Rating
Outcome 1: Emotional knowledge	3.0	2.3	2.5	2.0	2.8	2.8	2.5
Outcome 2: Internalizing behaviors	3.0	3.0	3.0	2.9	2.8	3.0	2.9
Outcome 3: Externalizing behaviors	2.8	3.0	3.0	3.0	2.8	3.0	2.9
Outcome 4: Depression	3.5	3.8	2.5	3.5	2.8	3.0	3.2
Outcome 5: Neurocognitive capacity	2.5	2.5	3.0	2.5	2.8	3.3	2.8
Outcome 6: Learning environment	2.5	2.3	2.8	2.3	2.8	3.0	2.6
Outcome 7: Social-emotional competence	3.3	2.8	3.0	2.0	3.0	3.0	2.8

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Outcome 3: Externalizing behaviors

Children's externalizing behavior symptomatology was rated using teacher and peer reports. In two separate studies, teachers of children in 2nd- and 3rd-grade regular education classrooms and 1st- through 3rd-grade special education classrooms rated their students' externalizing behavior symptomatology using the CBCL-TRF. In another study conducted in high-risk schools (defined by estimated rates of delinquency and juvenile arrest in the neighborhoods), aggressive and hyperactive-disruptive behavior of children in 1st-grade classrooms were rated by peers using individual sociometric interviews. The child raters were asked to name one or more students from their class who matched descriptions of children with aggressive and hyperactive-disruptive behavior. After the sociometric scores for each classroom were corrected for the number of raters, the classroom mean scores for all children were standardized across the entire sample within each of the three cohorts of 1st-graders who received the intervention. Teacher ratings of externalizing behaviors in children in special education classrooms who received a modified version of the PATHS Curriculum decreased at a rate of 0.37 points per year over 3 years. In contrast, ratings of comparison children increased at a rate of 0.72 points per year over the same period ($p < .05$). The effect size for this finding was very small (Cohen's $d = 0.18$). Children in regular education classrooms who participated in PATHS demonstrated fewer externalizing behaviors at 1-year follow-up than did children in the comparison group ($p < .05$). Children in high-risk schools who received an adapted version of PATHS had lower average aggression and hyperactive-disruptive behavior scores than children in comparison classrooms ($p = .03$ and $p = .02$, respectively). Effect sizes for aggression and hyperactive-disruptive behavior were small (Cohen's $d = 0.22$ for both analyses).

Criteria:	Reliability	Validity	Fidelity	Missing Data/Attrition	Confounding Variables	Data Analysis	Study Design
Rating:	2.8	3.0	3.0	3.0	2.8	3.0	Experimental
Meets Minimum:	✓	✓	✓	✓	✓	✓	✓

Outcome meets minimum standard for all criteria

Outcome 6: Learning environment

For 30 minutes on 2 different days, trained, unbiased observers watched 1st-grade children previously identified as high risk (demonstrating the greatest degree of early conduct problems) in their classrooms. The classrooms were all in high-risk schools, defined by estimated rates of delinquency and juvenile arrest in the neighborhoods. To assess the quality of the classroom atmosphere, the observers rated 10 items derived from the Classroom Rating Form on a scale from 1 (low) to 5 (high): (1) level of disruption during academic time, (2) ability to handle classroom transitions, (3) ability to follow rules, (4) level of cooperation, (5) use of problem solving during conflict or need, (6) ability to express feelings appropriately, (7) level of interest and enthusiasm, (8) ability to stay focused and on task, (9) responsiveness to individual student's needs and feelings, and (10) level of criticism versus supportiveness. A mean score for each rating and a total classroom atmosphere score were computed for each classroom, with lower scores indicating a more positive atmosphere. Key Findings Classrooms exposed to an adapted version of the PATHS Curriculum were rated as having a more positive classroom atmosphere than comparison classrooms ($p < .01$). According to exploratory analyses, results on 4 of the 10 separate rating scales were statistically significant: ability to follow rules ($p < .05$), ability to express feelings appropriately ($p < .05$), level of interest and enthusiasm ($p < .01$), and ability to stay focused and on task ($p < .005$).

Criteria:	Reliability	Validity	Fidelity	Missing Data/Attrition	Confounding Variables	Data Analysis	Study Design
Rating:	2.5	2.3	2.8	2.3	2.8	3.0	Experimental
Meets Minimum:	✓	✓	✓	✓	✓	✓	✓

Outcome meets minimum standard for all criteria

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Outcome 7: Social-emotional competence

Social-emotional competence of preschool children was measured using both teacher and parent ratings. Teachers completed the Social Skills Scale of the PKBS. This 34-item scale describes adaptive or positive behaviors across three subscales: Social Cooperation, Social Interaction, and Social Independence. Parents completed the Head Start Competence Scale (HSCS), a 12-item measure of children's social and emotional skills that reflects interpersonal relationships and emotion regulation. At posttest, teachers who taught the PATHS Preschool program described their students as significantly more cooperative (only for children with higher mean levels of verbal ability), emotionally aware, and interpersonally skilled than did teachers in the comparison classrooms ($p < .0001$ for the social skills composite score). The effect size for the composite social skills rating was small (Cohen's $d = 0.48$). Parents of preschool children who received the PATHS Preschool program described their children as significantly more socially and emotionally competent than did parents of children in comparison classrooms ($p < .01$). The effect size was small (Cohen's $d = 0.36$).

Criteria:	Reliability	Validity	Fidelity	Missing Data/Attrition	Confounding Variables	Data Analysis	Study Design
Rating:	3.3	2.8	3.0	2.0	3.0	3.0	Experimental
Meets Minimum:	✓	✓	✓	✓	✓	✓	✓

Outcome meets minimum standard for all criteria

Do this program's NREPP ratings meet the minimum research ratings for inclusion on the Science-Based Programs List?

- YES** NREPP reports at least one behavioral outcome related to tobacco use, alcohol and other drug use, disruptive behavior, and/or violence for PATHS. Of these behavioral outcomes related to disruptive behavior at least one is rated at or above the minimum standards on all criteria.
- NO**