

Introducing Thinking Skills to Promote Resilience in Young Children*

Darlene Kordich Hall
Jennifer Pearson

Reaching IN...Reaching OUT Project (RIRO)
Child & Family Partnership
Toronto, Ontario

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Introduction

Resilience helps people steer through day-to-day stresses, overcome childhood disadvantage, bounce back from adversity and reach out to opportunities. It can be defined as “the ability to persevere and adapt when things go awry (Reivich & Shatté, 2002, p. 1).”

Thirty years of research tells us that resilient people are healthier, live longer, are more successful in school and jobs, are happier in relationships and are less prone to depression (Reivich & Shatté, 2002; Seligman, 1991; Werner & Smith, 2001).

Stress and adversity are an inevitable part of life. It is important, therefore, to introduce children to resiliency-enhancing strategies at an early age. Resiliency promotion programs for young children have existed since the 1970's and have focused primarily on building self-esteem, increasing school readiness and supporting the parent-child relationship (Garnezy, 1991; Luthar & Ziegler, 1991; Werner, 1993). Many promotion efforts, however, have overlooked the importance of thinking processes in the development of resilience, handling of stress and adversity, and prevention of depression (Reivich & Shatté, 2002; Shatté, Reivich, Gillham & Seligman, 1998).

According to researchers at the University of Pennsylvania, thinking processes directly affect several critical abilities associated with resilience including emotional regulation, impulse control, causal analysis, empathy, self-efficacy, maintaining realistic optimism, and reaching out to others and opportunities (Reivich & Shatté, 2002).

Most of us have developed habitual ways of thinking about stress and adversity – thought processes that can either help or hinder our response to life's inevitable bumps in the road (Beck, 1976; Ellis, 1962; Seligman, 1991).

Martin Seligman, a social psychologist at the University of Pennsylvania, focused on thought processes to produce his seminal work on learned helplessness. And later, he studied people's thinking habits to inform his work on learned optimism. He found that the habitual way people explain why life events happen to them has an important impact on their ability to handle adversity and opportunity. He referred to these thinking habits as explanatory style (Seligman, 1991; Seligman & Teasdale, 1978).

Explanatory style consists of three dimensions – personalization, permanence and pervasiveness. These dimensions correspond to three questions people typically ask themselves when faced with stress, adversity, challenge and opportunity:

1. Who is responsible?
2. How long will it last?
3. How much of my life will it affect?

Seligman and others have found that these thinking habits are not immutable. People can learn to be more resilient by changing how they think about adversity and opportunity (Abela, 2003; Seligman, 1991; Stark et al., 1998).

Based on the work of Albert Ellis (1962) and Aaron Beck (1976), as well as more than 20 years of systematic research at the University of Pennsylvania, Seligman and his colleagues developed the Penn Resilience Program (PRP). The PRP trains teachers and children eight years and older in resiliency promotion and depression prevention skills (Seligman, 1991; Shatté, Reivich, Gillham & Seligman, 1998). This evidence-based program is associated in the literature with depression prevention. Unlike most prevention programs, children at greatest risk

were reported to benefit most from the PRP skills training. And, based on follow-up studies, the results appear to be long-lasting (Gillham & Reivich, 1999; Gillham, Reivich, Jaycox & Seligman, 1995; Jaycox, Reivich, Gillham & Seligman, 1994).

Because their research has found that accurate and flexible thinking is a hallmark of resilient people, the PRP uses a 12-session cognitive behavioral and social problem-solving approach to facilitate development of more accurate and flexible thinking about life's adversities and opportunities (Reivich & Shatté, 2002; Seligman, Reivich, Jaycox & Gillham, 1995).

Further support for the efficacy of PRP-type programs comes from other school-based intervention programs (Stark et al., 1998). And, more recently, studies conducted by John Abela (2003) have found that while children of depressed parents were more likely to exhibit thinking styles associated with depression, they could be trained to think in a more resilient way.

These programs have shown success with children eight years and older, who are capable of meta cognition, but younger children are reportedly not developmentally able to “think about their thinking.” However, research suggests that children as young as 2-1/2 to 3 years can mimic the thinking styles of adults around them (Shatté, Reivich, Jaycox & Gillham, 1998). So how do we introduce resilient thinking skills to younger children in order to influence their emerging thinking styles?

Seligman suggests this might be accomplished by helping young children to: (a) experience true mastery (i.e., where children see outcomes contingent upon their own actions); (b) gain a perspective of positivity (through authentic praise and identification of positive life experiences); and (c) experience positive explanatory styles modeled by adults around them (Seligman et al., 1995).

Based on the body of research to date, the Child and Family Partnership¹ decided to use the adult skill set from Penn Resilience Program school-age model to test whether it could be adapted for use with younger children by training adults to model resilient thinking styles/skills in their everyday interactions with 2-1/2 – 6 year olds and to evaluate the outcome.

The pilot project, *Reaching IN...Reaching OUT (RIRO)*, evolved from the Partnership's effort, and the findings from the first stage of RIRO are the focus of this paper. The project's name comes from its goal to promote resilience by helping children “reach in” to think more flexibly and accurately and to “reach out” to others and opportunities.

The following questions guided the testing of the PRP model in the RIRO project:

1. What is the impact of training adults working with young children in the PRP adult model?
 - What is the impact of the skills training on educators – professionally and personally?
 - Do the PRP skills help adults model more resilient responses to everyday obstacles and challenges in their daily interaction with young children?
2. Can the PRP school-age model be adapted for use with young children?
 - Can any of the PRP skills be introduced directly through developmentally-adapted activities to children six years and under?
 - Do teachers observe behavior in the children that they think is attributable to their modeling and direct skills activities with the children?

Method

A universal, as opposed to a targeted, approach was used to test the PRP model. Child care settings were chosen because of the intense daily exposure Early Childhood Educators have to children and their parents, and the possibility of creating partnerships between the teachers and parents.

The setting also provided a base to look at the efficacy of the PRP model with children having a wide range of needs. While the child care setting was chosen to test the model with young children, the PRP skills could also be applied to child welfare, children's mental health or educational settings.

Four geographically and socio-economically diverse child care centers in Ontario were chosen as the pilot centers, ranging from a "lab school" for students enrolled in an associated Early Childhood Education Program serving children from two-parent middle income families to a municipally-run suburban/rural center serving children mostly designated as having special needs, from families experiencing financial and social stresses.

Participants

Twenty-seven Early Childhood Educators (ECEs) working in child care centers participated in the RIRO project. Teachers working with preschool and kindergarten children and centre directors were chosen for the training. Teachers piloted the resiliency skills in their work with approximately 225 children from ages 2-1/2 to 6 years.

Intervention

Adult skills training and integration activities

ECEs in the pilot centers were initially given 12 hours of skills training by PRP faculty. This group training was followed by regular consultation in the child care centers for one year by RIRO project staff.

The training consisted of didactic and activity-based presentation of seven resiliency skills including The ABC Model (Ellis, 1962), Thinking Styles/Thinking Traps, Challenging Beliefs, Detecting Icebergs, Generating Alternatives, Putting it into Perspective and Calming/ Focusing. The skills are designed to help people deal with daily stress as well as identify, analyze and challenge the accuracy of their thinking. The skills also help people gain perspective and generate alternative thinking for more flexible conflict resolution, problem solving and effective communication.

The in-center consultation visits by RIRO staff offered teachers support and focused on discussion of 26 structured reflective journaling activities. The journals were designed to support a two-fold function.

First, the journals were used to aid teachers' personal integration of the seven resiliency skills, through reflective practice, for both modeling purposes with the children, and to adequately prepare them to test the model for use with children.

The second function of the journals was to provide the teachers with a structure to try out the skills with the children, initially through skill-based observation of child behavior and emerging thinking styles, and later, through introduction of selected skills through activity templates.

Model testing with children

The templates for children's activities (e.g., stories, puppet plays, pictures, etc.) developed by RIRO staff were designed to help teachers introduce resiliency skills activities to children at their centers and to evaluate the impact of this work on children in various age groups. The goal was to determine if any of the skills were appropriate for direct introduction to young children and to ascertain how early these skills could be introduced successfully.

Teachers adapted the templates to meet the specific needs of children with whom they worked. Later as they developed more comfort in using the skills with the children, some teachers developed their own activities and evaluated the impact.

In order to promote a sense of community among participants and provide an opportunity to share their model-testing work with each other, several journals required that teachers meet with a colleague in their center to discuss the outcomes and to try new child activities together. At the half-way point, participating teachers at the four pilot centers met together in working groups and plenary sessions. The outcomes were disseminated through a Discussion Board on the project website. Teachers were also encouraged to post the results of their interventions and evaluations on the Discussion Board.

Other project activities

RIRO staff offered parent information sessions in the centers, periodically provided handouts containing information lists of children's books to promote resilience, and distributed newsletters about project research findings and upcoming activities to increase the dialogue between parents, teachers and the project.

Faculty at both university and college levels consulted with RIRO to create and pilot curriculum modules with students. These modules were designed to increase awareness about the impact of thinking processes on children's ability to handle of stress and their developing resilience. The modules can be offered by community colleges and universities as part of diploma/degree/ or continuing education for ECEs, other child and youth workers, and allied professionals.

Further details of these project activities, including results of the parent and student surveys, will not be discussed here as they are beyond the scope of this paper and are reported elsewhere (see Hall, Pearson & Dykstra, 2004).

Measures

For the impact evaluation, both quantitative and qualitative approaches were used to gather data about: (a) the impact of the resiliency training on the teachers, children, parents and students; and (b) the feasibility of adapting the PRP model for impact and appropriate developmental use with young children in child care centers. Data sources included structured questionnaires, structured interviews with teachers and directors, group sharing sessions and symposia, and teachers' reflective journals. (For details and results of the process evaluation, see Hall et al., 2004).

Three surveys were developed by RIRO investigators and staff to measure the impact of the training and skills integration on the teachers, the feasibility/impact of using the PRP model with young children, and the impact on center directors. This was necessitated by the fact that no structured tools previously existed to measure outcomes of the adult skills training,

The surveys contained both closed- and open-ended questions as well as items asking participants to rate impact on 5- and 7-item Likert-type scales (1= “little or no impact” to 7 = “a great deal of impact”). Issues of face validity were addressed by distributing draft surveys to experts in the field and incorporating their feedback. No formal reliability or validity data are available for these questionnaires.

The feasibility of adapting the PRP model and impact on the children was measured through teacher report on the surveys, structured interviews with teachers, and teacher responses to specific questions in the reflective journal activities. Teacher report was chosen, as opposed to psychological tests or independent observational measures, since no existing tools measured child behavior in the areas addressed in this study in children 2-1/2 to 6 years. And, the development of new measures in these areas was beyond the project’s resources and two-year timeframe.

The surveys were distributed to all participating teachers and directors. Eighteen teachers and four directors completed the surveys ($n = 22$).

Results

Impact of skills training and integration activities on adult participants

Impact of the resiliency training on teachers’ awareness and knowledge

Teachers rated (on a seven-point scale) their level of awareness of the importance of promoting resilience in children as significantly higher after their training ($M_{\text{before}} = 3.5$; $M_{\text{after}} = 5.7$; $M_{\text{difference}} = 2.2$, $t(21) = -7.51$, $p < .001$). They also rated their knowledge of the seven resiliency abilities as significantly higher after training ($M_{\text{before}} = 2.6$, $M_{\text{after}} = 6.0$; $M_{\text{difference}} = 3.4$, $t(21) = -13.68$, $p < .001$).

Impact of the resiliency training on teachers’ interactions

One hundred percent of the teachers reported an impact on their interactions with children at the center. Eighty-six percent of the teachers said it also affected interactions with adults in their families, other teachers (82%), as well as friends and acquaintances (62%).

Teachers rated the level of impact as “moderate” to “high” (a rating of 5,6, or 7) on interacting with children (94%), understanding child behavior (86%), understanding their own behavior (91%) and increasing teamwork in their rooms (82%).

Factors which could make a difference in the level of “global impact” of the training on the teachers were explored. “Global impact” was defined as the composite of four areas -- understanding their own behavior, changing their own behavior, understanding child behavior and changing child behavior.

The teachers’ rating of the global impact of the resiliency training was related to: (a) their rating of the importance of the reflective journaling activities (the greater value they placed on reflective journaling, the greater the reported impact) (Pearson $r = .460$, $p < .04$); (b) their rating of the usefulness of learning about the resiliency abilities (the more useful the information about the abilities was seen to be, the greater the impact) (Pearson $r = .506$, $p < .02$); and (c) number of years as an ECE (the greater the number of years as a ECE, the lower the rating of global impact) (Pearson $r = -.508$, $p = .05$).

The teachers' rating of the global impact of the training was not related at a statistically significant level to the center in which they worked, the age of children with whom they worked, the number of large group training sessions they attended, or their perception of the adequacy of the support they received from their center administration.

Importance and usefulness of the resiliency skills and abilities to teachers

Teachers reported the three most important resiliency skills (rated on a 7-point scale) for themselves professionally are learning to: (1) put adversities and challenges into perspective ($M = 6.1$); (2) calm and focus themselves ($M = 6.1$); and (3) use the "ABC Model" to understand how their own beliefs about the causes and consequences of adversity affect their response to it ($M = 6.0$).

"Learning to put things into perspective" was considered to be the most important skill. It was significantly correlated with teachers' ratings of the impact of the training on their interactions with children as well as specifically affecting their understanding of their own and children's behavior, and changing their own and children's behavior (Pearson r ranges from .470 to .662, $p < .05$ to $p = .001$).

Seventy-three percent of teachers reported using "calming/focusing" activities, 73% doing "B-C connections" and 71% "generating alternatives" at least once a day in their work setting.

Teachers rated the usefulness of their knowledge of the critical "resiliency abilities" to their professional work very highly ($M = 6.1$ on 7-point scale).

Being able to better "analyze the causes of problems" (64% reporting "yes") was the resiliency ability reported to be most affected by the teachers' personal use of the resiliency skills, and "regulating their own emotions" was second (36%).

Eighty-four percent of teachers recommended the "Seven Resiliency Abilities" and the "ABC Model" as the most important topics to introduce to other ECEs in the field and to parents to increase their awareness of resilience.

Based on interviews and responses to open-ended questions, teachers also said that the skills increased their ability to challenge their own and others' thinking, to plan strategies to change behavior, to model constructive behavior for the children and to aid children's socio-emotional development.

Feasibility of the PRP model and impact on young children

Importance of the skills areas to children as reported by their teachers

One hundred percent of teachers responded positively when asked whether they had observed changes in child behavior that they felt was attributable to their resiliency training ("yes" = 50%, "probably" = 50%). Changes were reported in both kindergarten and pre-school children. There were no statistically significant differences in reports of children's behavior change related to age group.

Sixty-five percent of teachers reported changes in the children's impulse control and 61% in emotional regulation that they believed was related to the teachers' resiliency training.

“Calming/ focusing” activities, which impact on resilience through emotional regulation, were viewed as the top resiliency skill area for preschool children to learn (100% teachers rated it as “very important”).

For kindergarten children, teachers rated learning to “put things into perspective” as the most important new skill after “calming/focusing” skills were in place (92% of teachers rated it as “very important”).

Learning to “generate alternatives” was seen as the second most important skill to introduce to preschoolers and kindergarten children alike (83% of teachers rated it as “very important” in kindergarten group and 63% in preschool group).

Between 75 and 100% of teachers reported that “calming and focusing” and “generating alternatives” could definitely be used for assessment and modeling in interaction with individual children in both preschool and kindergarten programs.

Teachers reported group-based activities on selected resiliency topics (e.g., challenging children’s “Always” statements and “generating alternatives”) were easiest to facilitate with children four years and older.

During structured interviews and in response to open-ended survey and reflective journal questions, teachers reported that they believed the teacher modeling of the resiliency skills helped the children increase their emotional regulation /impulse control by increasing their ability to follow rules, calm down after stress, follow-through on expected behavior, deal with everyday setbacks without emotional outbursts, and experience less upset about making mistakes.

Teachers said the children had greater interest and efficacy in problem solving as observed in more productive problem solving through generating alternatives, greater interest in problem solving and expressing thoughts and feelings, and increased sense of pride in coming to an agreement or solution.

Children were viewed by teachers as showing increased empathy for each other as demonstrated by better identification of others’ feelings, and greater verbalization about their own feelings and concerns for peers.

Finally, teachers reported that they observed kindergarten-age children model selected resiliency skills in their interactions with peers, particularly challenging beliefs and calming/focusing activities – two skills they had directly introduced to the children individually and through group activities.

Discussion

At the start of the Reaching IN...Reaching OUT project, two central questions were posed:

1. What is the impact of training adults working with young children in the adult skill set of the Penn Resilience Program school-age model?
2. Can the PRP model be adapted for use with young children?

In answer to the first question, teachers and directors reported that the adult skills from the PRP model are user-friendly as well as useful. They used the skills on a daily basis in their centers and in their personal lives during the first stage of the project and continue to do so two years later.

The skills have helped them deal more effectively with adult communication issues by increasing their ability to analyze the cause of the problem and to regulate their emotions to help with conflict resolution and problem solving with co-workers, management, parents, and other adults. Teachers also found that they needed to integrate the skills, on a personal level, before they could model them optimally with the children.

The second question, which deals with feasibility of adapting the PRP model for use with young children, was answered affirmatively by the teachers. In their model-testing work, teachers found the skills helped them assess, understand and change child behavior. They discovered that the skills could be modeled in daily interaction with children of any age and told us they believed this modeling should be started as early as possible, just as they would in introducing language to children.

They also found that selected resiliency skills could be adapted and introduced directly to children through group-based child activities. These activities worked best with children four years and older, although some highly verbal children as young as three were able to use the skills. They observed older children modeling some of these same skills in peer interactions.

Teachers generally agreed that they had observed changes in the children's behavior that they felt was a result of their own training – most notably in impulse control and emotional regulation – two fundamental abilities associated with resilience.

The PRP model also had implications for professional practice on a broader level. The training increased the teachers' awareness of their own thinking habits and the impact of their behavior on the children with whom they work. It also helped them understand children better through greater awareness of their own thinking styles and as a framework for reflective practice.

Teachers expressed some surprise at how much young children could tell them about their thinking if they were simply asked. They were excited to report that they had formulated age-appropriate questions to help children express their thought processes and beliefs, such as, "What are you saying to yourself?" and "What are you thinking in your head?" Teachers talked about the impact on their practice of asking about children's thoughts and beliefs, in addition to inquiring about their feelings, when adversities and stresses occurred. The PRP model added a whole new layer to their practice with children. This expanded focus has major implications for professionals' and paraprofessionals' observations, assessments, and interventions with young children.

There were some limitations in this project that could have an impact on the results. Most notably, the structured questionnaires used to measure the outcomes were developed by the investigators and project staff. There were no tools already available. As such there is no reliability and validity data on these tools. To partially ameliorate the impact of this limitation, data was gathered from an array of sources – questionnaires, observations, interviews and reflective journals. Ideally one would like to measure impact on the children directly rather than through teacher report, but without relevant existing tools or the resources to develop them, this was not possible. A case can be made, however, if the skills training has an impact on teachers by improving their practice, then it follows that there will be also be an effect on the children. In the future, the field needs tools that can measure young children's behavior in areas covered by the seven resiliency abilities in order to capture the full impact of this work on children.

These results support an existing body of research and lend credence to the suggestions offered by Seligman. The work from this project with young children, combined with pre-existing programs developed for school-age children, adolescents and adults by researchers at the University of Pennsylvania, encourages one to consider the relevance of these thinking skills and resources for use across the age spectrum from infancy to adulthood.

Although we chose to test the model in child care, child and youth workers, foster parents, therapists and others working with children could also use the model with children, individually or in small groups, targeted for trauma treatment, depression prevention and resilience promotion.

Based on these findings, further training of professionals in child-serving fields seems warranted. However, specialized resource materials aimed at assisting professionals working with young children is needed to maximize and speed up adult integration of the training. To address this issue, *Reaching IN...Reaching OUT* has been awarded stage-two funding to develop and evaluate training resource materials that can stand alone, including a website (www.reachinginreachingout.com), demonstration videotape and training manual that can be disseminated widely.

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Author Note

Darlene Kordich Hall and Jennifer Pearson, Reaching IN...Reaching OUT Project, Child Development Institute.

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Correspondence should be addressed to the first author at: Child Development Institute, 197 Euclid Avenue, Toronto, Ontario, Canada, M6J 2J8; or email to info@reachinginreachingout.com.

Footnote

¹ The Child and Family Partnership consists of the YMCA of Greater Toronto, The Child Development Institute (Toronto), The University of Guelph (Centre for Families, Work and Well-Being) and George Brown College (Early Childhood Education Program - Toronto).