

# **PEARL: Lessons Learned from Collaboratively Delivering Mental Health Services in Early Childhood Settings**

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## **Introduction**

Modeled after the type of interventions that Knitzer (2001) identified as best-practice in a system to support the healthy emotional development of young children, PEARL is an early childhood program delivering mental health services in early learning environments throughout the city of Denver, Colorado and the surrounding county. Our Mission is to increase support to children and their caregivers by: (1) facilitating early identification of children's mental health needs, (2) promoting positive developmental growth, and (3) reducing multi-system involvement.

PEARL work is accomplished by partnering with parents and care providers to model and promote emotional well-being and the development of healthy interpersonal relationships. PEARL goals are: (a) to promote the social and emotional development of children in child care; (b) to build upon and support the competencies of parents and child care providers; (c) to foster positive relationships between child care providers, families and children; and (d) to improve the overall quality of child care.

*The PEARL approach.* PEARL clinicians are trained in a vast number of promotion, prevention and early intervention techniques including: support and educational opportunities for parents and care providers, consultation and technical assistance for care providers and, assessment and treatment of children and their families. From this menu of techniques, PEARL clinicians deliver services that are truly tailored to the specific needs of children, families and providers. PEARL clinicians are trained to ensure that four key elements identified by Knitzer (2001) drive the service delivery:

- Grounded on developmental knowledge and encourage the development of supports designed to foster healthy relationships among children and those who care for them (i.e., caregivers and childcare providers).
- Help to strengthen the family's ability to meet the child's emotional needs.
- Provided in settings that are more comfortable to children and the people they trust, like Head Start centers, childcare or preschool programs.
- Responsive to the ethnic and cultural strengths and customs of the community where children live.

## **Method**

The data presented includes children tracked for the last three years of service ( $N = 202$ ). However, due to the mobility of our population, some of the analyses have lower numbers ( $n = 168$ ; analyses were also run for children with complete data only, and the direction and significance of the results did not change). Table 1 presents basic demographics for the population. For the Regression Discontinuity analysis, we also collected data from 158 children that served as control group (see below). The time frame for the pre-measure was the first month in the school year (i.e., September-October) and the time frame for the post-measure was always the end of the academic year (i.e., May). Measures used included: (a) the Colorado Client Assessment Record (CCAR; Ellis, Wackwitz, & Foster, 1991); (b) a modified version of the Family Empowerment Scale (Koren, DeChillo, & Friesen, 1992); and (c) the Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999).

**Table 1**  
**Demographics for the**  
**Children Receiving PEARL Services**

Age range	%
Between 1 and 3 years	16.129
Between 3 and 5 years	67.097
Between 5 and 6 years	9.032
Between 6 and 8 years	5.161
8 and older	1.935
Gender	%
Male	60.645
Female	39.355
Race/Ethnicity	%
American Indian	0.645
White non-Hispanic	20.645
African American	29.032
Hispanic	39.355
Multi-racial	10.323
Family income	%
\$0 - \$4,999.99	51.613
\$5,000.00 - \$9,999.00	2.581
\$10,000.00 - \$14,999.00	9.032
\$15,000.00 - \$19,999.00	5.806
\$20,000.00 - \$24,999.00	9.677
More than \$25,000.00	21.290

## Results

**Risk Factors.** As families experience an increase in risk factors, the possibility of their children experiencing psychiatric disorders and other negative outcomes also increases (Rutter, 1979). It has been shown that children with 3+ risk factors are at high risk for negative adolescent/adult outcomes, as well as having more learning difficulties. Through its risk factors interview, PEARL found that about 37.6 % of the PEARL families report 3+ risk factors. Furthermore, using the CCAR and an algorithm developed by Colorado Mental Health Services to identify serious emotional disturbance (SED) in children, over 9% of the PEARL children warranted the SED designation before they received a clinical diagnosis.

**Family Empowerment.** During the initial evaluation, one of the major objectives reported by center staff and parents was to “help parents know what resources are available and know how to access them” (MHCD, 1999, p. 15). Based on a modified version of the Family Empowerment Scale, families served by PEARL showed significant increases in their pre-post intervention sense of empowerment in several domains (Acting Upon Children’s needs,  $t(170) = -2.761, p < 0.05$ ; Efficacy as Parent,  $t(170) = -1.797, p = 0.07$ ; Overall Empowerment,  $t(170) = -2.32, p < 0.05$ ).

**Social-emotional behavior.** Major changes in social-emotional behavior have been demonstrated using converging sources of evidence. Using the CCAR, a comparison against a matched sample drawn from the mental health centers in Colorado showed that children receiving PEARL services have better outcomes after one year than children receiving services at mental health centers across the state (Center for Human Investment Policy, 2003). Additionally, using the DECA, it was shown that both parents and teachers see a significant improvement in the children’s Total Protective Factors (TPF; Teachers:  $t(173) = -2.32, p < 0.05$ ; Parents:  $t(167) = -2.93, p < 0.01$ ) and Behavioral Concerns (BC; Teachers:  $t(173) = 3.51, p < 0.01$ ; Parents:  $t(64) = 2.88, p < 0.01$ ). Also, using DECA scores, it was hypothesized that all things being equal, children with higher BC (i.e., more behavioral concerns) are more protected if they also have high a TPF score than if they do not. Therefore, a system that combines BC and TPF was developed. In a comparison from pre- to post-intervention, it was found that for parents, 81.55% of the children improved or stayed the same. For teachers, 85.05% of the children improved or stayed the same (see Table 2).

**Table 2**  
**Level of Improvement from PRE to POST Intervention by Rater**

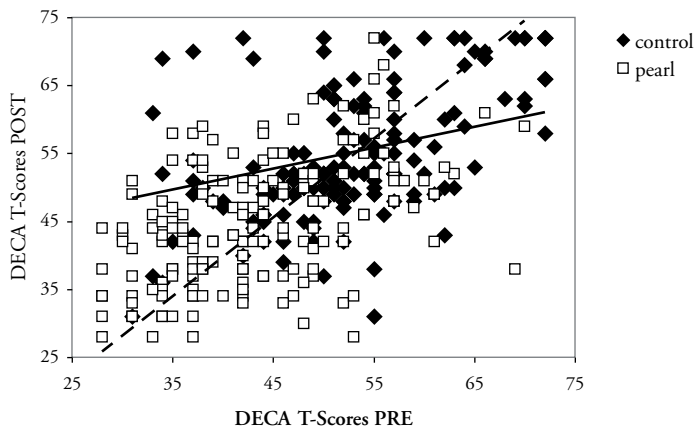
Rater	Improvement	No Change	Worsen
Parents	41.67%	39.88%	18.45%
Teachers	34.48%	50.57%	14.94%

Although research designs where clients can be randomly assigned to control and treatment are considered gold standard in research, from an ethical point of view this approach may prevent clients in from receiving a needed treatment that could be even life saving. Due to these concerns, we used a Regression Discontinuity (RD) design (Campbell & Stanley, 1966; Trochim, 1990) with the

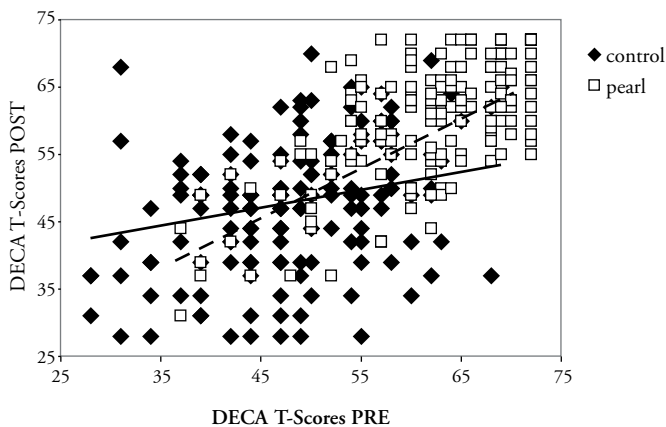
teacher's DECA scores rather than random assignment. In an RD design, the severity of the children's social-emotional behavior is measured before and after treatment. Based on severity scores at pre-test, children are assigned to control (low) or treatment (high) groups to ascertain whether a change has occurred in the treatment group in comparison to the control.

Using DECA scores, we assigned children to control ( $n = 158$ ) and treatment ( $n = 174$ ) groups. As shown in Figure 1, for TPF, the regression model was significant,  $F(3,328) = 219.172, p < 0.01, R^2 = 0.67$ . The group effect was significant,  $t(328) = -17.011, p < 0.01$ , with the PEARL scores being higher (broken line) than the control (continuous line). Similarly, the Group X Pretest interaction was significant,  $t(328) = 15.722, p < 0.01$ , with the PEARL children making higher gains in TPF than the control. For BC, the regression model was significant,  $F(3,328) = 204.042, p < 0.01, R^2 = 65\%$  (see Figure 2). The group effect was significant,  $t(328) = -11.559, p < 0.01$ , with the PEARL scores being higher (broken line) than the control (continuous line). The Group X Pretest interaction was also significant,  $t(328) = 13.283, p < 0.01$ , with the PEARL children showing a decrease in concerns though still being slightly higher than the control.

**Figure 1**  
**Regression Discontinuity Design**  
**Total Protective Factors**



**Figure 2**  
**Regression Discontinuity Design**  
**Behavioral Concerns**



***Impact on Teachers.*** Based on in-depth interviews and focus groups with teachers and administrators, we found that interaction with PEARL helped providers feel more competent addressing a range of children's social and emotional needs; they also feel less stressed-out, thus reducing burnout and turnover.

***Cost-effective services.*** PEARL has demonstrated that it provides efficient services. A Cost of Failure study conducted in 2001 (Center for Human Investment Policy, 2001) showed that the money spent for one year of PEARL services will pay for itself if: (a) four children avoid the average two-month psychiatric hospitalization, or (b) 11 children avoid one year in special education and 10 children avoid the average six months in foster care, or (c) two children avoid the average two years in detention for delinquency and one family avoids TANF for the average two years.

## **Discussion/Conclusion**

In her seminal paper, Knitzer (2001) concludes that to “improve the social and emotional well-being of children and families by strengthening relationships with caregivers and promoting age-appropriate social and emotional skills (p .9),” the following strategies have to be achieved:

***Enhance emotional and behavioral well-being of infants, toddlers and preschoolers to promote early childhood success.*** According to the CCAR analysis, PEARL's children showed greater improvement compared to children receiving mental health services in other settings. Furthermore, according to parents and teachers using the DECA, children improved in TPF and BC. Finally, compared to an RD-control group, PEARL children showed higher gains in TPF, and a deceleration in BC.

***Help parents be more effective nurturers.*** After PEARL's intervention, parents reported an increased sense of empowerment. This finding may mean that parents had: (a) received better knowledge regarding appropriate developmental expectations for their children, (b) become better able to deal with behavior problems at home, and (c) acquired a greater range of discipline options.

***Expand the competencies of non-familial caregivers (like Head-start and Early-Head-Start staff) to prevent and address problems.*** Care providers reported that PEARL has positively influenced and supported them by providing individually tailored services to address a range of children's social and emotional needs, and by relieving some of the teachers' stress in order to reduce burnout and turnover.

***Ensure that the more seriously troubled young children get appropriate help.*** PEARL has demonstrated its ability to identify (37% with 3+ risk factors) and intervene early with the children more at-risk. Using the algorithm developed by the Colorado Mental Health Services, about 10% of these children were identified as having a serious emotional disturbance before referral.

## **Lessons Learned**

Through our work with PEARL sites, their children and families, we have learned several important lessons: (a) early intervention services delivered on site at childcare and Head-Start centers can foster social, emotional and behavioral improvement for many children; (b) staff and parent child development training and consultation leads to an increase in behavior management knowledge and skills, and increased feelings of empowerment; (c) PEARL services have proven to be most effective at supporting children who are most at-risk; and (d) when early intervention and prevention services are delivered in collaboration with early childhood education and childcare centers, families have easier access and are more likely to respond to treatment resources. In addition, at-risk behaviors are more likely to be identified early when the child is in his or her natural environment.

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