

Research Brief

LEUSD First 5 Special Needs Assistance Project (SNAP): 3-Year Program Effects

EXECUTIVE SUMMARY

The focus of the Lake Elsinore Unified School District's (LEUSD) Special Needs Assistance Project (SNAP) is to identify and reduce developmental concerns and risks and to increase children's school readiness by the time they enter school. The program began in the 2005-2006 school year. SNAP includes a constellation of parenting training programs focusing on both language/cognitive and behavioral problems (e.g., *Hanen*, *The Incredible Years*, & *Parent-Child Interaction Therapy*). The current study was conducted to evaluate the impact of SNAP on reducing child developmental risks and concerns, parenting stress, and enhancing parents' capabilities in facilitating child language development. Five research questions were investigated using standardized assessment data of child language and behavioral development and parenting stress, as well as parenting knowledge and abilities in facilitating child language development. The study included nearly 300 children who were screened at 2 or more time points (with six-month or one-year intervals in between) before entering school. Our analyses showed that SNAP has exceeded its goal of screening 500 children per year since the inception of the program. Children who were screened were primarily Hispanic. The next most prevalent group was White. Hispanic boys between the ages of 3 and 5 were the group most likely to be screened positive (i.e., having developmental risks or concerns). About a quarter of the children who screened positive and had received full treatment were enrolled in Special Education after school entry. The program tended to have a positive effect on reducing child developmental concerns/risks when comparing children who received SNAP and a matched group of children who also screened positive but did not receive SNAP services. It was also found that SNAP reduced parental stress levels. Moreover, a greater percentage of parents achieved higher levels of knowledge, confidence, and acquired more skills in facilitating child language development after attending the language enrichment program than before entering the program. A significant majority of children had reductions in their developmental risks or concerns after going through *The Incredible Years* (TIY) program. In addition, after receiving *Parent-Child Interaction Therapy* (PCIT), children's behavioral problems and parents' parenting stress levels were greatly reduced and parent-child interactions were also improved to a significant degree.



Research Brief

First 5 Special Needs Assistance Project (SNAP): 3-Year Program Effects

INTRODUCTION

The LEUSD SNAP (Special Needs Assistance Project) is aimed at identifying and reducing developmental concerns and risks to increase child school readiness by the time they reach school. This program has been in effect for the last three years. The program includes a constellation of parenting training programs focusing on both language/cognitive and behavioral problems (e.g., *Hanen*, The Incredible Years, & Parent-Child Interaction Therapy). *Hanen* – “It Takes Two To Talk” is a family-focused, early language intervention program taught by Speech-Language Pathologists. The Incredible Years (TIY) is a parenting curriculum that promotes emotional and social competence to prevent, reduce, and treat behavioral and emotional problems in young children. Therapists from the Riverside County Department of Mental Health provide PCIT to improve the quality of the parent-child relationship and teach parents the skills necessary to manage their children's challenging behaviors. Previous studies have supported the efficacy of each individual intervention (e.g., Wagner & Clayton, 1999). The present study assessed both the overall impact of a combination

of these interventions and the individual effects of each training program. The following research questions were examined:

QUESTION #1: Did the program have a positive effect on reducing children's developmental problems when comparing the children who were screened positive (i.e., having developmental risks or concerns) that received SNAP interventions to their matched peers who also had a positive screen, but didn't receive SNAP services?

QUESTION #2: Did the program have a positive effect on reducing parents' parenting stress levels?

QUESTION #3: Did parents' knowledge, confidence, and abilities in facilitating child language development increase after receiving the *Hanen* intervention?

QUESTION #4: Did a majority of children attending TIY have reductions in developmental concerns or risks?

QUESTION #5: Did children's problem behaviors and parents' stress decrease after PCIT (Parent-Child Interaction Therapy)?

SAMPLE

A total of 295 children who had been screened at 2 or more time points were included in the study. Children were placed in one of three groups: children who screened positive and received SNAP treatment ($N= 93$), children who screened positive but did not receive SNAP treatment ($N= 202$), and children who screened negative (i.e., no developmental risk or concern) and did not receive treatment ($N= 90$).

METHODOLOGY

A Matched Control Sample method was used to answer Q#1. The control group was made up of children who screened *positive* but did *not* receive SNAP treatment, and were similar to the treatment group (i.e., the children who were screened *positive* and *received* treatment) on demographic characteristics (ethnicity & gender) and special needs.

Regression Discontinuity Design was employed to answer Q#2. A PSI (Parenting Stress Index) cut-off point was applied to assign the children into



the treatment (i.e., pre-treatment parenting stress levels were *above* the PSI cut-off point and received SNAP services) and control groups (i.e., pre-treatment parenting stress levels were *below* the PSI cut-off and were *not* receiving SNAP services). Parents' parenting stress levels after treatment were then compared between the groups at the cut-off point.

A Within Group Pre- and Post-Comparison design was used to answer Q#3, 4, &5.

ANALYSES

Comparisons between the treatment and control groups were made in terms of the percent of children whose developmental problems reduced, maintained, or increased (Q#1).

Multiple Regression analyses were conducted to assess the differences in post-treatment parenting stress between treatment and control groups at the pre-treatment PSI cut-off point (Q#2). Two regression lines were defined for each group separately with the pre-treatment scores included as predictors and the post-treatment scores as outcomes. The differences in the intercepts of the two lines indicate the differences in the post-treatment scores at the PSI cut-off point.

A Paired-Sample *t*-test was conducted to assess the pre- and post-treatment

differences within the treatment groups receiving *Hanan* or PCIT (Q#3&5).

Percentages were calculated for different types of pre- and post-treatment changes (i.e., developmental problems reduced, maintained, or increased) within the treatment group receiving TIY (Q#4).

RESULTS

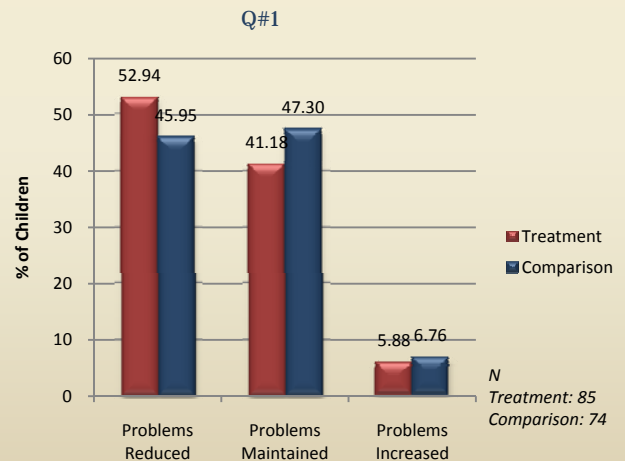
Descriptive Statistics of Screenings and Special Education Enrollment

Screenings. In the past 3 years, SNAP has screened over 520 children each year, which exceeds its goal of 500 screenings per year. The majority of the participants screened were Hispanic children (71%), followed by White (24%), and Multiracial children (5%). The largest group screened positive were Hispanic boys between the ages of three and five.

Special Education Enrollment. Among the children who were screened positive and received *full* treatment (i.e., attending a minimum number of hours of the treatment the child was referred to), 27% (18 out of 67) ended up enrolled in Special Education after school entry. A treatment vs. control comparison was not conducted to examine SNAP effects on reducing Spec. Ed enrollment, due to possible selection bias. We hope to address this issue in future research.

Q#1

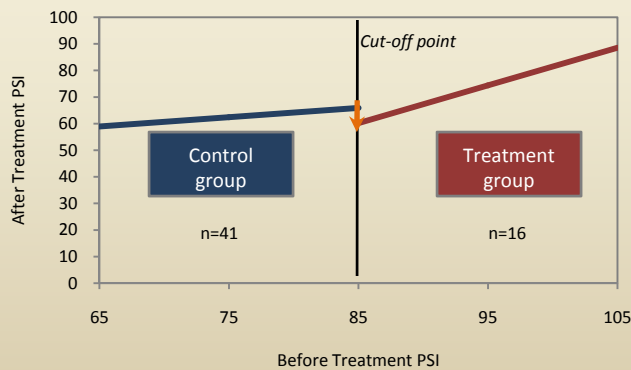
In order to look at the overall effect of SNAP on reducing child developmental problems, a control sample of children was selected to match the demographic characteristics and special needs of the treatment group. The control group did not receive SNAP treatment primarily due to parental choice. It was found that the treatment group who received SNAP services had a greater reduction in developmental problems or risks and fewer problems maintained or increased after the treatment, as compared to the control group (52.94% vs. 45.95%, 41.18% vs. 47.30%, & 5.88% vs. 6.76%, respectively). However, these differences were not statistically significant.



Q#2

Regression Discontinuity analysis was used to examine the overall effect of reducing parenting stress. A PSI cut-off point of 85 was used to assign children to a treatment (PSI ≥ 85) or a control group (PSI < 85). Separate regression lines were defined and tested for each group with their pre-treatment PSI scores as predictors and the post-treatment PSI scores as outcomes. It was found that post-treatment PSI scores at the pre-treatment cut-off point were significantly lower for the treatment group, compared to those for the control group [$t(1, 55) = -2.04, p < .05$]. However, the sample size of the treatment group was small due to strict selection criteria (i.e., 85+ PSI score, two time points PSI scores, & receiving full treatment of PCIT).

Q#2



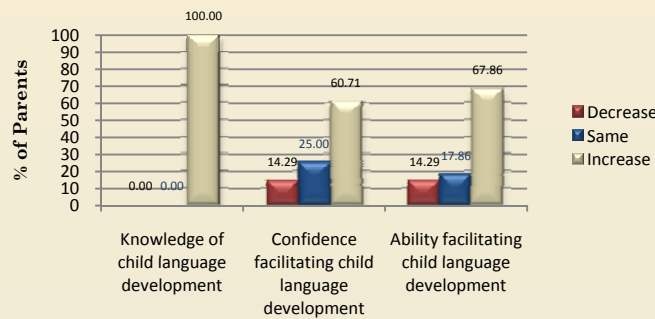
Further studies with larger treatment samples need to be conducted to draw firm conclusions.

Q#3

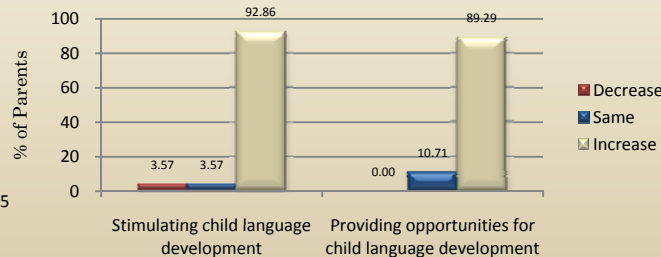
The *Hanen* program focuses on treating child language delays through parent training. Thus, changes in parents' knowledge, confidence, and skills facilitating child language development were examined by comparing pre- and post-treatment scores through paired sample *t*-tests. It was found that,

Q#3

Changes in Parental Knowledge, Confidence, and Abilities Facilitating Language Development Among Families Enrolled in Hanen



Changes in Parental Skills Facilitating Child Language Development Among Families Enrolled in Hanen



after attending the *Hanen* program, 100% of the parents had increased levels of their knowledge of child language development, 61% increased in confidence, and 68% parents increased in their ability to facilitate their children's language development [$t(1, 27) = 5.61, p < 0.01$; $t(1, 27) = 3.72, p < 0.01$; $t(1, 27) = 3.82, p < 0.01$; respectively]. Moreover, after attending *Hanen*, 93% of the parents mastered skills such as stimulating child language development and 89% of parents provided more opportunities for their children to talk at home [$t(1, 27) = 8.93, p < 0.01$; $t(1, 27) = 7.44, p < 0.01$; respectively].

Q#4

The impact of The Incredible Years (TIY) was also examined. Changes in overall developmental concerns or risks were examined among children who attended TIY. A great majority of these children (77%) had reductions in developmental concerns or risks after attending TIY. Only 23% showed that their problems had maintained and none of them had increased developmental problems.

Q#5

The impact of PCIT was examined by comparing pre- and post-treatment scores on ECBI (Eyberg Child Behavior Inventory) and PSI among children who received PCIT and had valid scores on both the pre- and post-test. It was found



that, the intensity of 86% of the children's behavioral problems was greatly reduced and 77% of the children's behavioral problems also diminished after attending the program [$t(1, 21) = 7.30, p < 0.01$; $t(1, 21) = 7.89, p < 0.01$; respectively]. Moreover, after PCIT, 77% of parents had lower levels of parenting distress and reported fewer parent-child dysfunctional interactions respectively, and 82% of the parents were less likely to rate their children as a difficult child [$t(1, 21) = 4.26, p < 0.01$; $t(1, 21) = 4.23, p < 0.01$; $t(1, 21) = 5.79, p < 0.01$; respectively].

SUMMARY & CONCLUSIONS

SNAP has exceeded its goal of screening 500 children per year each year, since the inception of the program. The majority of those screened came from Hispanic families followed by White families. The largest group screened positive were Hispanic boys between the ages of three and five. About a quarter of the children who were screened positive and had received full treatment were enrolled in Special Education after entry into school.



Impact of Specific Programs:

- *Hanen*: large percentages of parents gained knowledge, confidence, and skills in facilitating child language development after attending *Hanen*.

- *TIY*: a great majority of the children had reductions in developmental concerns or risks after TIY participation.

- *PCIT*: children's behavioral problems and parents' parenting stress were greatly reduced after receiving PCIT therapies; parent-child interactions were also improved significantly.

For comments or questions, please contact Dr. Chunxia Wu (chunxia@keydatasys.com) or Dr. Lorie Sousa (lorie@keydatasys.com).

Overall Program Impact:

- SNAP tended to reduce child developmental concerns/risks in a comparison analysis between children who had developmental risks or concerns and received SNAP treatments and their matched peers who also screened positive but did not receive SNAP services. Specifically, the children screened positive who received SNAP services tended to have greater reductions in developmental problems after their participation in the program.

- SNAP also significantly reduced parenting stress levels. These results were found using a Regression Discontinuity analysis that compared scores of parents whose parenting stress levels were above a stress cut-off point whose children received SNAP services and those below the cut-off whose children did not receive such services.

