 Stud. Tribes Tribals, 2(1): 9-13 (2004)

Training Disadvantaged Rural Children for Interpersonal Cognitive Problem-Solving Skills

Darshna Punia, Shanti Balda and Shakuntla Punia

Department of Human Development and Family Studies, CCS Haryana Agricultural University, Hisar 125 004, Haryana, India

KEYWORDS Interpersonal cognitive problem solving; intervention; disadvantaged; preschool children

ABSTRACT The present study was conducted with low income group disadvantaged rural preschool children in Hisar. Sixty children from two villages participated in the research. Children from Village 1 constituted the sample for Control Group; children from Village 2 constituted the sample for Experimental Group. These children were matched on the basis of their pre-testing scores. Pre-post, control-experimental research design was used. Intervention training was provided to Experimental Group children for a period of three months to promote their Interpersonal Cognitive Problem-Solving skills. Results of the present study indicate that, at post-testing, after intervention training, performance of experimental group children improved significantly, whereas, there was no improvement in control group children who did not receive any intervention.

INTRODUCTION

Children from an early age face a range of interpersonal dilemmas in their interactions with peers and adults. Children use different strategies to solve these interpersonal problems. For instance, in order to obtain access to an object children may use a number of strategies including waiting, using physical force, or requesting a turn.

Interpersonal Cognitive Problem-Solving (ICPS) is the ability to achieve personal goals in social interaction while simultaneously maintaining positive relationships with others over time and across situations. In Interpersonal Cognitive Problem-Solving it is more important "how" children think, that is, the "process" of thinking or problem solving.

Interpersonal Cognitive Problem-Solving skills have important implications for socio-emotional adjustment and interpersonal competence. Interpersonal Cognitive Problem-Solving approach has potential to reduce, even prevent more severe behavioural dysfunction (Spivack and Shure, 1989).

There are lots of ways to enhance social problem solving skills of children. We can suggest or recommend strategies of action. We can reward what we consider to be positive behaviours and punish negative behaviours. We can reason, model, and offer choices. While using all these methods we are doing the thinking for the child. There is also a different approach to enhance social problem-solving skills of children. Children from an early age can, or learn to, think for themselves and solve every day problems. Those who can do this are likely to be adjusted in their later life than those who cannot.

Studies on intervention programme to improve ICPS skills of disadvantaged children have been carried out by Shure and Spivack (Shure and Spivack, 1981, 1982) in Western culture. In India, research in this area is severely limited. Therefore, the present study was conducted with the main objective to train rural disadvantaged children for interpersonal cognitive problem-solving skills. The pre-post and control-experimental research design was used.

METHODOLOGY

Subjects

Sixty children (30 girls and 30 boys) from lower income group, between 4-6 years of age from Rural Hisar, participated in the present study. These children were selected from Anganwadis of two villages (30 children, 15 boys and 15 girls, from each village). The mean age of target children was 61 months (*SD* = 3.4 months). The children from Village 1 constituted the sample for Control Group, and the children from Village 2 constituted the sample for Experimental Group. These children were matched on the basis of their pre-testing performance on Interpersonal Cognitive Problem-Solving tasks.

Measures and Procedure

Children's interpersonal cognitive problem-

solving skills were assessed using following measures:

Social Problem-Solving Test (SPST): Five Peer Problem stories from the Social Problem-Solving Test-Revised developed by Rubin (1988) were used to assess children's interpersonal social problem-solving skills in hypothetical situations with their peers. These five stories were concerned with Object Acquisition. The characters in the stories wish to gain access to a toy or material in another child's possession. The stories aim to assess children's cognitive repertoire of strategies for obtaining access to an object. Picture cards were used to depict the stories. Two responses were obtained for each story.

Preschool Interpersonal Problem-Solving (PIPS): Test. Children's social problem solving skills in hypothetical situations with their mothers were examined using The Preschool Interpersonal Problem-Solving Test developed by Shure and Spivack (1974a). The five stories aim to assess children's cognitive repertoire of strategies for averting maternal anger after some damage to property. Pictorial cards were used to depict each story.

What Happens Next Game (WHNG): This test was developed by Shure and Spivack (1974b). This measure was used to assess children's consequential thinking abilities. This measure has five situations involving a child grabbing a toy from another child, and five in which a child has taken something from an adult without asking permission. The child being tested was asked to tell what might happen next. Using stick figures and pictures of toys, the procedure is similar to that of PIPS test, in that each new elicited consequence is followed by variations of the same interpersonal acts.

Scoring for Children's Interpersonal Cognitive Problem-Solving Skills: The children's responses obtained from Social Problem-Solving Test and Preschool Inter-personal Problem-Solving Test were scored for quantitative features. The total number of strategies and total number of different categories found in all SPST and PIPS stories were computed. Responses were also scored for the number of relevant strategies suggested per story and were computed to get a Peer Problem relevancy score, Mother Problem relevancy score, and a total relevancy score for all the ten stories. An index of response flexibility was also computed. Flexibility involved a comparison of the categories found in response 2 with those found in response 1 for any given story. The categories found within the two responses were compared. The flexibility scores were computed for Peer Problem and Mother Problem tasks. The flexibility scores across the ten stories were combined to get a total flexibility score.

The child's consequences scores consisted of the total number of different and relevant consequences offered for the Peer Problem WHNG, Mother Problem WHNG, as well as, the total number of different and relevant consequences offered for all the ten games.

Intervention Programme: Intervention programme was prepared to promote interpersonal cognitive problem-solving skills. Emphasis was laid on alternative thinking and consequential thinking while dealing with interpersonal problems. The intervention programme was developed following the guidelines of Shure and Spivack (1978). The programme consisted of series of lessons in the form of games. Intervention was provided to Control Group children for about three months.

After a gap of one month, children were post-tested for interpersonal cognitive problem-solving skills to examine the impact of intervention. Programme was evaluated on the basis of children's performance before and after imparting intervention programme.

RESULTS AND DISCUSSION

Comparison of Pre-Testing Scores of Control and Experimental Group Children

A series of one-way ANOVAs were computed to examine differences in performance of control and experimental groups. First, ANOVA was computed using quantitative scores (number of strategies, number of different strategies, relevancy score, flexibility score, and number of consequences suggested) of Peer Problem tasks as dependent variables and group (control, experimental) as independent variable. Second, ANOVA was run for quantitative scores of Mother Problem tasks. Finally, ANOVA was run for the total quantitative scores. For Peer Problem, Mother Problem, and Total Tasks the main effect of group was not significant. Means and standard deviations for Control and Experimental groups are presented in Table 1.

Paired-t Comparison of Pre- and Post-Testing Scores of Control and Experimental Group Children

Pre- and Post-testing performance of control and experimental group children were compared using paired-t test. Separate analyses were run for control and experimental group children.

Control Group: Pre and post-testing performance of control group children was compared by paired-t test. Pre and post- testing mean scores and paired-t values are presented in Table 2. As presented in table, for Peer Problem tasks, Mother Problem tasks, and total tasks there were no significant differences in pre-testing and post-testing scores for number of strategies, number of different strategies, relevancy score, flexibility score, and number of different consequences suggested.

Experimental Group: Pre and post-testing mean scores and paired-t values are presented in Table 3. Table clearly indicates that there were

Table 1: Pre-Testing means and standard devsations of Interpersonal problem solving scores of low income control and experimental group children

Measured variables	*Control group (n = 30)*	*Experimental group (n = 30)*	*F-Values*
Peer Problem Tasks			
Number of strategies	5.26 ± 0.91	5.28 ± 0.70	0.006
Number of different strategies	3.03 ± 0.67	3.03 ± 0.50	0.00
Relevancy score	3.64 ± 0.69	3.64 ± 0.51	0.001
With-in-story flexibility score	2.76 ± 0.86	2.76 ± 0.51	0.00
Number of consequences	3.07 ± 0.39	3.09 ± 0.31	0.90
Adult Problem Tasks			
Number of strategies	4.20 ± 0.96	4.27 ± 0.66	0.10
Number of different strategies	2.45 ± 0.68	2.45 ± 0.38	0.00
Repeat relevant strategies	1.75 ± 0.57	1.82 ± 0.54	0.24
With-in-story flexibility score	2.21 ± 0.87	2.17 ± 0.53	0.04
Number of consequences	2.32 ± 0.59	2.38 ± 0.49	0.21
Total Tasks			
Total number of strategies	9.46 ± 1.82	9.54 ± 1.18	0.05
Total number of different strategies	5.48 ± 1.23	5.48 ± 0.69	0.00
Total relevancy score	7.02 ± 1.26	7.03 ± 0.78	0.003
Total with-in-story flexibility score	4.97 ± 1.61	4.93 ± 0.83	0.01
Total number of consequences	5.39 ± 0.66	5.48 ± 0.65	0.28

Table 2: Pre and post-testing comparison of interpersonal problem solving scores of low income control group children

Measured variables	*Pre-intervention*	*Post-intervention*	*Mean Difference*	*Paired-t Values*
Peer Problem Tasks				
Number of strategies	5.25	5.27	0.02	0.06
Number of different strategies	3.03	3.10	0.07	0.52
Relevancy score	3.64	3.68	0.04	0.24
With-in-story flexibility score	2.76	2.79	0.03	0.13
Number of consequences	3.07	3.10	0.03	0.28
Adult Problem Tasks				
Number of strategies	4.20	4.24	0.04	0.35
Number of different strategies	2.45	2.49	0.04	0.31
Relevancy score	3.37	3.38	0.01	0.09
With-in-story flexibility score	2.21	2.25	0.04	0.34
Number of consequences	2.32	2.35	0.03	0.29
Total Tasks				
Total number of strategies	9.45	9.51	0.06	0.22
Total number of different strategies	5.48	5.60	0.12	0.78
Total relevancy score	7.02	7.07	0.05	0.30
Total with-in-story flexibility score	4.97	5.04	0.07	0.35
Total number of consequences	5.39	5.45	0.06	0.46

Table 3: Pre and post-testing comparison of interpersonal problem solving scores of low income experimental group children

Measured variables	*Pre-intervention*	*Post-intervention*	*Mean Difference*	*Paired-t Values*
Peer Problem Tasks				
Number of strategies	5.28	6.50	1.22	6.56***
Number of different strategies	3.03	5.62	2.59	16.93***
Relevancy score	3.64	6.15	2.51	16.80***
With-in-story flexibility score	2.76	9.37	6.61	42.75***
Number of consequences	3.09	6.05	2.96	24.36***
Adult Problem Tasks				
Number of strategies	4.27	5.58	1.31	9.32***
Number of different strategies	2.45	5.06	2.61	25.01***
Relevancy score	3.39	6.05	2.66	26.81***
With-in-story flexibility score	2.17	5.90	3.73	21.80***
Number of consequences	2.38	5.12	2.74	22.93***
Total Tasks				
Total number of strategies	9.54	12.08	2.54	9.50***
Total number of different strategies	5.48	10.68	5.20	27.91***
Total relevancy score	7.03	12.20	5.17	26.20***
Total with-in-story flexibility score	4.93	15.27	10.34	40.37***
Total number of consequences	5.48	11.16	5.68	34.90***

Note: Significant at *** $p < .001$.

significant differences in pre and post intervention performance of experimental group children. For Peer Problem tasks, post intervention mean scores of total number of strategies (M = 6.50) and total number of different strategies (M = 5.62) were significantly greater than pre-intervention mean scores (Ms = 5.28 and 3.03, respectively). Also, after intervention children suggested greater number of relevant (M = 6.15) and flexible strategies (M = 9.37) than before intervention (Ms = 3.64 and 2.76 respectively). Children suggested greater number of different consequences after intervention (M = 6.05) than before intervention (M = 3.09).

Similarly for Mother Problem tasks, post intervention mean scores of total number of strategies and total number of different strategies (Ms = 5.58 and 5.06, respectively) were significantly greater than pre-intervention mean scores (Ms = 4.27 and 2.45, respectively). After intervention children suggested greater number of relevant (M = 6.05) and flexible strategies (M = 5.90) than before intervention (Ms = 3.39 and 2.17, respectively). After intervention children suggested greater number of different consequences (M = 5.12) as compared to before intervention (M = 2.38).

For total task areas, post intervention mean scores of total number of strategies (M = 12.08) and total number of different strategies (M = 10.68) were significantly greater than pre-intervention mean scores (Ms = 9.54 and 5.48, respectively). Also, after intervention children suggested greater number of relevant (M = 12.20) and flexible strategies (M = 15.27) than before intervention (Ms = 7.03 and 4.93, respectively). After intervention children suggested greater number of different consequences (M = 11.16) than before intervention (M = 5.48).

Results of the present study indicate that, at pre-testing there were no significant differences between performance of control and experimental group children. At post-testing, after intervention, performance of experimental group children improved significantly, whereas, there was no improvement in control group children who did not receive any intervention.

The present study adds further documentation to Shure and Spivack's findings. Shure and Spivack (Shure and Spivack, 1978, 1979, 1981, 1982) have done a pioneer work on intervention programme to help disadvantaged children to improve their ICPS skills. These authors report that, problem solving skills of trained preschool children increased from pre- to post-testing significantly more than for control. This indicates that the trained children were better able to problem solve after training than were those who did not receive training.

In another study, Rickel, Eshelman and Loigman (1981) imparted social problem-solving training to children and reported that children performed better on measures of "alternative and consequential thinking" after intervention.

Thus, it can be concluded that ICPS skills can be enhanced in a deprived community setting with least investment of professional time. ICPS training improved problem solving abilities of low income rural preschool children.

REFERENCES

Rickel, A. U., A. K. Eshelman and G. A. Loigman. 1981. "A Follow-up Evaluation of Social Problem-Solving Training: Cognitive and Behavioural Effects." *Paper presented at the Annual Meeting of the American Psychological Association*., Los Angeles, CA. (ERIC Document Reproduction Service No. ED 208 948).

Rubin, K. H. 1988. *Social Problem-Solving Test*. Unpublished manuscript, University of Waterloo, Department of Psychology, Ontario, Canada.

Shure, M. B. 1982. "Interpersonal Problem-Solving: A Cog in the Wheel of Social Cognition.", pp. 133-166. in: F. C. Serafica (ed.), *Social-Cognitive Development in Context*. New York: The Guilford Press.

Shure, M. B. and G. Spivack. 1974a. *Preschool Interpersonal Problem Solving Test*. Unpublished manuscript, Department of Mental Health Sciences, Hahnemann Medical College and Hospital, Philadelphia.

Shure, M. B. and G. Spivack. 1974b. *The What Happens Next Game (WHNG): Test and Scoring Instructions*. Department of Mental Health Sciences, Hahnemann Medical College and Hospital, Philadelphia.

Shure, M. B. and G. Spivack. 1978. *Problem-Solving Techniques in Childrearing*. London : Jossey-Bass Publishers.

Shure, M. B. and G. Spivack. 1979. "Interpersonal Cognitive Problem-Solving and Primary Prevention: Programming for Preschool and Kindergarten Children". *Journal of Applied Developmehtal Psychology*,1: 29-44.

Shure, M. B. and G. Spivack. 1981. "The Problem-Solving Approach to Adjustment: A Competency-Building Model of Primary Prevention". *Prevention in Human Services*, 1(1/2): 87-103.

Shure, M. B. and G. Spivack. 1982. "Interpersonal Problem-Solving in Young Children: A Cognitive Approach to Prevention". *American Journal of Community Psychology*, 10: 341-356.

Spivack, G. and M. B. Shure. 1989. "Interpersonal Cognitive Problem Solving (ICPS): A Competence-Building Primary Prevention Program". *Prevention in Human Services*, 6(2): 151-78.