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# COGNITIVE STYLE AND SOCIAL PROBLEM SOLVING SKILL AMONG ADOLESCENT GIRLS

Physiology

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## ABSTRACT

Social problem solving skill is the cognitive behavioral process by which individuals identified or discovered effective strategies of coping with problematic situations in daily living, this Social problem solving skill is influenced by the way people experience, organize, and process information. The current study aims to examine the influence of Cognitive style on Social problem solving skill among adolescent girls. Data were gathered from a convenient sample (N=60) who are in the age group of 13 to 19 years and analyzed to verify the hypothesis. The findings showed that Cognitive style significantly influences on Social problem solving skill among Adolescent girls, that is girls who are field independent in their cognitive style exhibited better Social Problem Skill compared to the girls who are field dependent. These findings have implications for research, for design of Problem solving interventional programs and academics.

## KEYWORDS

Cognitive style, Social Problem Solving Skill and Adolescent girls.

## 1. INTRODUCTION

Social problem solving entails the instrumental, cognitive—behavioral attitudes and skills necessary for adjustment in everyday life and for coping effectively with events encountered in living (D'Zurilla & Nezu, 1982). Because most problems are encountered within a social and interpersonal context, the emphasis on social problem solving distinguishes these skills from the more purely cognitive abilities studied in controlled laboratory situations (D'Zurilla & Maydeu-Olivares, 1995). Contemporary models stipulate that social problem-solving attitudes and skills are implicated in the prevention, development, and maintenance of adjustment difficulties experienced by people in general ( D'Zurilla & Nezu, 1990 ; Nezu & D'Zurilla, 1989).

D'Zurilla and colleagues conceptualized two components of social problem solving labeled *problem orientation* and *problem-solving skills* (e.g., D'Zurilla & Nezu, 1990). The problem orientation component is delineated into positive and negative elements. A positive orientation entails beliefs, expectancies, and abilities that motivate a person through problem solving and promote positive emotions that facilitate effective problem solving. In contrast, a negative orientation is characterized by pessimistic appraisals of the self and negative expectancies for future behavior and events. Individuals who possess a negative orientation toward problem solving often experience difficulties regulating their mood, and they are often pessimistic about their abilities to solve both routine and complex problems of everyday life. Consequently, these individuals have a lowered sense of competence when facing problems and may lack the necessary motivation for adaptive and effective problem solving. They then encounter difficulties in solving the problems that they face, in turn reinforcing their negative problem orientation ( Nezu, 1987).

There is evidence that the problem orientation component possesses mood-regulatory properties that predict the development and maintenance of depressive behavior (Elliott, Shewchuk, Richeson, Pickelman, & Franklin, 1996). Prior research has shown that a negative problem orientation is significantly associated with trait negative affectivity ( Elliott, Herrick, MacNair, & Harkins, 1994), worry (Dugas, Letarte, Rheaume, Freeston, & Ladouceur, 1995), health complaints ( Elliott & Marmarosh, 1994), depressive behavior (Elliott, Godshall, Herrick, Witty, & Spruell, 1991), and the rate of cognitive errors committed in an objectively defined problem-solvingtask ( Shewchuk, Johnson, & Elliott, in press).

The second component of the social problem-solving model encompasses the cognitive—behavioral skills used in actual problem solving. These include abilities to define a problem; generate alternatives; evaluate, implement, and monitor solutions; and make rational decisions ( Nezu & D'Zurilla, 1989 ). The presumed properties of this component have also received empirical scrutiny. Tendencies to avoid problem solving are associated with greater sedentary leisure activity and increased alcohol consumption ( Godshall & Elliott, 1997 ) and with irrational decision-making styles among college students (Chartrand, Rose, Elliott, Marmarosh, & Caldwell, 1993 ). Moreover, tendencies to avoid problem solving are associated with the occurrence of secondary complications among persons with severe physical disabilities, indicating that problem-solving skills may be associated with health outcomes that are mediated by behavioral mechanisms ( Herrick, Elliott, & Crow, 1994 ). In the Herrick et al. study, greater avoidance of problem solving was associated with increased likelihood of pressure sore occurrence 1 year after the initial assessment of problem-solving abilities.

Several issues remain unresolved in research on social problem-solving abilities. For example, there is some concern that the relation of the problem orientation component to emotional adjustment may be mediated by prior levels of distress or negative affect (see Elliott, Sherwin, Harkins, & Marmarosh, 1995 , Study 4). Thus, cross-sectional evidence linking problem solving with self-reported adjustment may be confounded by ongoing levels of distress that contaminate both the measurement of problem-solving abilities and adjustment at the time of assessment. The need also exists to replicate the results of the Herrick et al. (1994) study, which involved a rather small sample of participants who varied considerably in chronicity.

The cognitive styles describe how the individual acquires knowledge (cognition) and how an individual processes information (conceptualization). The cognitive styles are related to mental behaviors, habitually applied by an individual to problem solving, and generally to the way that information is obtained, sorted and utilized. Cognitive style a usually described as a personality dimension which influences attitudes, values and social interaction.

Cognitive style, a psychological term, was originally used by Allport in 1937 to indicate how distinctive personality types influenced the quality of living and adapting. As Messick(1976) noted, cognitive style involved " information processing habits representing the learner's typical mode of perceiving, thinking, problem solving and remembering". Advocates of the concepts have been keen to distinguish cognitive style from ability and show there are individual differences in performance in cognitive tasks that cannot simply be reduced to differences in intelligence .They argue that different styles are of equal value or can be equally effective in task performance.

Among the several classifications of cognitive style, the field independence-dependence dimension has been the most extensively studied and has the greatest potential for application to educational problems.

Field independence-dependence, a cognitive variable, is defined as "the extent to which a person perceives part of a field as discrete from the surrounding field as a whole, rather than embedded, or…the extent to which a person perceives analytically". The phrases "field independent" and "field dependent" originated from psychological research on perception and were first described by Witkin et al. These researchers differentiated field independent persons from field dependent persons by whether they " reflect preferred modes of relating to, classifying, assimilating and organizing the environment".

Witkin et al.'s(2002) bipolar construct of field independence and field dependence measured the degree to which learners relied upon internal and external referents as they process information and interact with the surrounding field.In other words, field independent individuals could easily ignore disassociated parts, while field dependent individuals were easily affected by irrelevant details.

Dutt(1993) studied problem solving ability in science of high school students in relation to anxiety level , cognitive style and intelligence with the objective to view the relationship between cognitive style of learner and problem solving ability by taking a sample of 300 students of class Xth with an age range of 14-15 years and found that cognitive style affect the problem solving ability irrespective of training strategies; the group having field independent cognitive style scored higher mean than the field dependent group on problem solving ability test.

Jacoby(1985) studied relationship between field independence, problem solving ability, science achievement and intelligence using an analogy based problem solving method and found that field independent subjects scored significantly higher on the problem solving task than the field dependent; field independent subject using an analogy; cognitive style of subject may influenced successful use of analogy based problem solving strategies in the solution of new paradigm problems.

Kardesh et al. (1988) studied effect of cognitive style and immediate testing on learning from lecture with the objective to investigate the relationship between cognitive style and problem solving ability of 400 eighth grade males and females and found that problem solving was positively correlated to cognitive style and concluded that field independent subjects were more proficient problem solvers than field dependent subjects; performance after immediate testing was in favor of male field independent students.

Kirk(2000) investigated the relationship of attitudes towards science, cognitive style and self concept to achievement in chemistry at the secondary school level. Results indicated that field independence was significantly correlated with problem solving , academic and laboratory achievement; better attitude towards the social benefit and problems accompany scientific progress which was significantly correlated with higher achievement on all the academic measures of chemistry.

### 1.1 Current study

Though many studies have been conducted on problem solving, after a careful review of number of studies researcher felt that there are no studies citing the influence of cognitive styles on social problem solving skill and mainly related studies have been carried out in the western cultures where culture, tradition, and life style is different than Indian culture hence the researcher decided to conduct a study to understand how cognitive style influences on social problem solving skill considering Interpersonal sensitivity, problem analysis and action and specificity of planning among adolescent girls,

### HYPOTHESIS:

Field independent adolescent girls will exhibit better social problem solving skills compared to the field dependent adolescent girls

### Method

This study employed a descriptive survey design; with cognitive style and social problem solving skill operationalzed Group Embedded figures test (GEFT) and social problem solving skill inventory by the participants' responses to respectively.

The study evaluated the influence of cognitive style on social problem solving skill among adolescent girls. The Independent variable was cognitive style the way they perceive and process information from the external world. The dependent variable was social problem solving skill.

### 2.1 Data collection

Purposive sampling was employed in recruiting 120 participants aged between 16 t0 21. The choice of purposive sampling technique ensures that only elements relevant to the research are included and guarantees that extra care is taken to select those elements that satisfy the requirements of the study. Informed consent was obtained and participants were assured confidentiality of responses.

It was a goal of this study to accurately represent two types of cognitive styles i.e field dependent and field independent in adolescent girls. Therefore, to be eligible for this study, an age limit of 16 to 21 was set by the researcher. However, to address field independent and field dependent GEFT test was used and then data is obtained on social problem solving skill.

### 2.2 Measures

**Group Embedded figures test** (GEFT): This test was developed by Witkin et al. (1971,2002). The GEFT contains three sections: the first section, which contains 7 simple items and is primarily for practice, and the second and third sections, each of which contains 9 more difficult items.

**Group Social problem solving skills assessment inventory (1989).** Developed by Mourice J Ellias and John F Clabby . the questionnaire provides a rough screening of children's knowledge of the social decision making steps. The GSPSA has in several field tests reliably identified students with deficits in any one of the 3 main social problem solving areas viz: a) Interpersonal sensitivity sensitivity b) problem analysis and action and c) Specificity of Planning.

### 3. Results and analysis

In the current study the researcher intended to examine the potential influences of cognitive style on social problem solving skill among adolescent girls, the data is obtained by using Group embedded figures test and social problem solving skill inventory and analysed as follows to test the hypothesis,

**Table 1: Shows the Mean, SD and t ratio on Social problem solving skill of two groups' i.e that had field independent and dependent cognitive styles.**

| Variable | Field independent | | Field dependent | |
|---|---|---|---|---|
| Social problem solving skill | Mean | SD | Mean | SD |
| | 32.14 | 4.36 | 27.41 | 3.87 |

Table shows the mean, SD and t ratio on the of two groups i.e had field independent and dependent cognitive styles. The sample group which had field independent cognitive style obtained a mean score of 32.14 on over all social problem solving skills with its SD of 4.36 and the sample group which had field dependent cognitive style have obtained a mean of 27.41 with its SD of 3.87. It clearly indicates that the sample group who were having field dependent cognitive style have obtained the lesser mean score on over all social problem solving skills compared to the sample group who were field independent.

### 3.1 Hypothesis Testing

In the present study it is hypothesized that adolescent girls who were field independent in their cognitive style would exhibit over all better social problem solving skills compared to field dependent. Table 1 show The Mean, SD and the t ratio on social problem solving skills score of two groups, in which clearly indicates that the sample who were field independent in their cognitive style got greater mean score on over all social problem solving skills compared to the sample who were field dependent in their cognitive style, In order to find out the level of significant mean difference, an independent sample t test was calculated and the obtained t ratio is 4.49, which is significant (P value >0.01). Hence the findings clearly show that the samples who were field independent in their cognitive style exhibited over all a better social problem solving skill compared to the sample that were field dependent. This finding is supported to the hypothesis of this study that Field independent adolescent girls will exhibit better social problem solving skills compared to the field dependent adolescent girls

### 3.2 Conclusion:

The findings of the study are as follows

- Field independent adolescent girls have exhibited better social problem solving skills compared to the field dependent adolescent girls

### 3.3 Limitations and suggestions

- The present study consists a small sample size, hence the generalization of the findings are restricted.
- The present study includes only adolescent girls.

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