

Systematic Review of Cognitive Style, Its Approaches and Cultural Research

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ABSTRACT

The present paper attempts to go through a systematic review on nature of cognitive styles and approaches. When it comes to studying psychological process cognitive style appear as most prominent concept linked with many other psychological processes like problem solving, decision-making, socialization and spatial ability etc. Cognitive style is generally known as way of processing and analyzing information from the environment. The term cognitive styles have been studied since 1960 it was assumed as part of psychological differentiation. But nowadays it is also known as perceptual styles. Often times these terms have been used interchangeably but there is slight difference between these concepts. In the present paper we will analyze the concept of cognitive style, approaches to study cognitive style, new emerging fields in cognitive styles and researches in cognitive styles in Indian perspective. Analysis of review showed that there is abundance of research in cognitive style and its relationship to ecological perspective, and teaching but there is still need for the research in using socio-cultural variable in Indian context.

Keywords: *Cognitive style, Field dependent, Field independent, Child rearing practices and Socialization*

It has been always a topic of interest to study the interaction between subject and object, so that we can predict the cause and effect relationship. Given subject and object could be anything an animal or living being but in psychology it is mostly taken in the context of human being. In order to understand this relationship between individuals and their thoughts. Field of cognition has become center of a resurgence of interest.

One manifestation of the trend toward increased interest in cognition is the attention paid to cognitive style in studies of Kogan (1972), Lanfield (1977), and Messick (1976). Following points have been noted in common characteristics of cognitive approaches to personality,

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social and environment: (a) Starting point of difference in individuals is not the result of motivation, emotion or biological process but an outcome of styles of thinking.(b)Styles are considered as more important than the content.(c) the assumption that cognitive style is related to personality characteristics and societal factors of individuals. (d) emphasis on the consistency of cognitive styles.

Nature and definition of Cognitive style

Cognitive style is a component of broader dimension psychological differentiation, which suggests that suggest that the 'typical progression in psychological development is from less differentiated to more differentiated' (Berry and Witkin 1975). Harvey (1963) view that cognitive style refers the way an individual filters and processes stimuli so that the environment takes on psychological meaning is representative of this use of the term. The definition given by Harvey was probably one of the first attempt to define cognitive style, as such it is cognitive representation, the relationship between stimuli and response of a person is very unique and different ,if we cut out this difference and uniqueness we will lose the string of relationship and start behaving in machinery manner. In later definitions the objective stimuli were changed into meaningful dimensions.

In later definition of cognitive style it is treated as behavior rather than only as a mediating process between object and stimuli, which is lacked somewhere in earlier definitions. Coop and Sigel (1971) used the term cognitive style "to denote consistencies in individual mode of functioning in a variety of behavioral situations." This definition tried to define in a broader term but somewhere forgot to talk about what are the dimensions which is important in cognitive style. The definition given by Witkin covers this flaw of Coop and Sigel. Witkin and More (1974) suggested that cognitive style in its broadest sense can be thought of as typical mode of processing information. After Witkin, Goldstein and Blackman (1978),have defined cognitive style as "hypothetical construct that has been developed to explain the process of mediation between stimuli and responses. The term cognitive style refers to the characteristic ways in which individuals conceptualize the environment. Their definition focused on the characteristics and basically on the process in which individual tries to make sense out of the environment. The definitions given so far has ignored that an individual is active manipulator of the environment, he can actively choose and interact with his surroundings. Riding and Rayner (1998), have focused on this approach and defined cognitive style, as an individuals preferred and habitual approach to organizing and representing information (Riding and Rayner1998).whereas the most recent definition of cognitive style has primarily focused on the cognitive aspect, Cassidy (2004) has defined cognitive style as an individual's typical or habitual mode of problem solving, thinking, perceiving and remembering.

These given definitions show a gradual shift of focus in defining cognitive styles. The variety of definitions given so far shows that every researcher has focused on a separate aspect of cognitive style, some definitions have focused on socio-cultural aspect while others emphasized on cognitive aspect. The variety of definition shows lack of consensus on

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describing the aspect of cognitive styles and modification in phenomenon over the time. Cognitive style is also known as perceptual styles, because one stream of influence is related to perceptual approach and most the tests used in study of cognitive styles include perceptual tasks. In current time there many, Common to all theory and researches on cognitive style is an emphasis on the structure rather than the content of thought (Suedfeld, 1971). Structure refers to how cognition is organized; content refers to what knowledge is available.

Approaches of Cognitive Styles

Over the decades, numerous approaches to study of cognitive style have been developed. In a review, Messick (1976) lists a total of nineteen approaches to the study of cognitive styles. The approaches were selected to explain a gradual shift from content orientation to stylistic orientation. Andorno, Frankel-Brunswik, Lenvins on and Sanford (1950) have introduced Authoritarianism as an approach for cognitive style, it is considered as most content weighed down approach.

It includes two classes of behavior that were used to consider as expression of the latent cognitive style. First one was related to anti-Semitism, ethnocentrism and few personality variables beneath these values and attitudes. Rigidity and intolerance for ambiguity became behavioral correlates.

Second approach is related to dogmatism it was introduced by Rokeach (1960), he was inclined towards development of measure which could be free from content of thought. Rokeach represented dogmatism as a mediating factor between stimulus and response, so if a person shows dogmatism in one area he will show dogmatism in other areas as well. His basic attempt was to replace content measure to structure measure. Another approach was developed by Kelly and Bieri et al (1966), in this approach he has described psychological dimensions that individuals use to construe their environment. Kelly mentions that man actively manipulates and organizes the world around them. Individuals make prognosis about future occurrence and modifies it based on the feedback from previous outcomes of his predictions, these ideas are called construct. Kelly states that man cannot only respond to their environment, they can represent the environment as well and this difference in representation leads to difference in behavior. Through this individual interpret their environment and even if they misinterpret the environment this misinterpretation will be real to them.

The next approach was given by Hunt, Harvey and Schroder (1961-67), according to this approach in attending sensory inputs individuals uses two activities, differentiation and integration. Differentiation is known a person's ability to locate stimuli along dimensions whereas integration involves an individual's ability to utilize complex rules or programs to combine these dimensions. They had also made a distinction between concrete and abstract individuals, concrete individuals are referred as lower in differentiation and integration abilities whereas abstract individuals are high on these abilities. People may be ordered along a continuum ranging from concrete to abstract abilities, they named this continuum as

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integrative or conceptual complexity. Harvey states that behavior is the result of person and environment and individuals differ on their levels of integrative complexity. Behavior is consisted to be result of this interaction.

Another approach is known as reflection-impulsivity by Kagan, Rosman, Day, Albert and Philips (1964), reflection-impulsivity approach has basically studied cognitive styles of children. In order to measure their reflection-impulsivity they have developed a test known as “The Matching Familiar Figures Test”. These styles were found consistent across situations. Children with reflective style were made very few errors in reading, recall and reasoning than did the impulsive children. The next approach related to style categorization was on cognitive-width worked by Pettigrew (1958), he has developed a paper pencil test to asses cognitive-width called C-Wscale. This approach is fundamentally related to intra-individual consistencies in the range individuals assume event likely to happen. There was observed consistency in judgment of category width and Pettigrew gave two explanations for that. One refers to the thought that broad categorizers are over inclusive and willing to take risks, and second explanation states that narrow categorizers made less differentiations. This approach was further advanced by Kagan, Moss and Sigel (1963).

Witkin and his colleagues (1954) gave most prominent approach to cognitive style known as field dependence/independence. Conceptually field independent/dependent style has emerged from the theory of psychological differentiation. The field dependent and independent style refers to the contrasting tendencies on the part of individuals to rely primarily on external or internal referents in dealing with environment (Geeta Sinha 1989). The next approach is based on Riding’s theory which includes two dimensions (Riding & Cheema, 1991). He named these dimension as “Who list-Analytic” dimension and the “Verbal-Imagery” dimension. In who list-analytic style dimension “an individual tends to organize information in wholes or parts” on other hand verbal-imagery style dimension is one where “an individual is inclined to represent information during thinking verbally or in mental pictures”(Riding, 2000a, p. 316). Riding (2002) analyzed a series of cognitive style theories as reflection contrast between who lists and analytics.

This discussion on various definition and approaches to cognitive style shows that though there are a number of common elements in different theories, definition and approaches, researchers still disagree on details of approaches to the study, and the use of particular measure for cognitive styles.

Culture as a predictor of Cognitive Styles

Cognitive styles have been studied by multidiscipline of researchers but most of the researches are related to the area of cross cultural psychology on eco and socio cultural factors. Berry (1966), have studied the influence of societies on cognitive styles. Berry and others studied Temne and Eskimo groups; they have showed cultural difference in cognitive styles. Cultures which have tight structure, where rules are clearly defined led to field independent than loose structure societies, who have less defined structure. Studies have

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compared various types of cultures and subgroups of same culture (Witkin and Good enough 1981) and they have supported the finding that field dependent/independent and restructuring ability are related to the extent of stress on social conformity in a society. There are some personality factors which are linked with cognitive styles .Nori R1, Mercuri N, Giusberti F, Bensi L and Gambetti E (2009), have found in influences of gender role socialization and anxiety on spatial cognitive style that state anxiety, spatial anxiety, sex, and masculine/feminine trait of personality are predictors of spatial cognitive style. More specifically, it seems that masculine/feminine trait mediates the relationship between sex and spatial cognitive style. Such findings confirm the importance of personality in determining differences in spatial representation.

These studies shows that cognitive style is clearly influenced by cultural context despite using different measures of cognitive styles the results yielded to be the same .Cognitive style have studied in various areas . Socialization and child rearing practices were also come out as a determining variable in context of cognitive styles. Millicent E. Poole (1977) had studied ninety-six adolescents, and drawn from contrasted social class and sex groups, were administered a battery of cognitive style tests. It was hypothesized, largely on the basis of socialization theory, that different patterns of intellectual functioning would be apparent. The results indicated that middle-class boys exhibited a cognitive style that was differentiating, analytic and flexible; middle-class girls one that was creative, inferential, high on psychological concepts but low on category estimation; working-class boys and girls displayed little differentiation, categorizing flexibility, or creativity but revealed a marked preference for inferential and physical concepts. Sabir A. Alvi, Sar B. Khan Sandra L. vegeris and Z.A. Ansari (1986) have conducted a study on Cross-Cultural Psychological differentiation in which they have taken Canadian and Pakistani high school students to examine the nature of psychological differentiation in relation to differences in age/grade, gender, and academic programs. The Group Embedded Figures Test was employed as a measure of the field-dependence-independence cognitive style. They have found that Canadian students tend to be field-independent, and Pakistani students were field-dependent. Several studies have given considerable evidence that individual differences in the extent of psychological differentiation (cognitive styles) are to large extent the end product of differences in socialization experiences (Dyk, 1969; Dyk and Witkin, 1965; Witkin et al., 1962/74).

Indian Studies on Cognitive Styles

Culture is the soul of India, studies done in Indian context majorly focused on cultural factors, Rangaiah. B, Mewa Singh and Gadheri A.R.(2009), have found in their study on cognitive styles among children and adults in tribal and urban contexts Tribal children found to be quicker than tribal adults in completing the test of story pictorial embedded figure test (SPEFT). Urban children were less differentiated psychologically compared to the adults in urban context. However, urban children scored higher on cognitive style compared to tribal children.

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A major focus have been on the study of eco - cultural and socio - demographic factors as determinants of field dependent and independent cognitive style, or of psychological differentiation (Sinha and Mishra , 1988). The role of rural – urban upbringing and social class has particularly been examined. Tharakan (1987) found that urban male students were more FI than urban female students with no evidence of sex difference in the cognitive style of the rural school samples. Chatterjee and Paul (1983, 1984) reported that urban students were more FI and had better achievement in science than rural students. Sharma and Huja (1982), Nah (1990), Verma (1992) and Sinha (1996) also reported more field independence in urban children in comparison to rural children. Asthana (2000) found that rural-urban residential background significantly influenced the cognitive functioning of children. But Kubes, (1998) found that cognitive style is independent of culture. Sangwan and Chhikara (2000) indicated no significant impact of locale on cognitive abilities (including three aspects of cognition perception, classification and spatial relations) of primary school children. Majeed and Ghosh (1983) examined the relationship of ethnicity, social-class and residential background on cognitive differentiation. Higher class subjects performed better than those of the lower class on the EFT, whereas ethnicity (high caste, SC and Muslim) and residential background appeared to operate jointly as influences on cognitive differentiation. Researches have also shown that cognitive style is related with teaching instructions, students 'performance, problem solving behavior and psychomotor skills as well (Durganand Sinha 1979, Benedetto Di Paola Filippo Spagnolo 2010, Sumanlata Saxena, Rajat Kumar Jain 2014, DePaolo, Concetta A.; Sherwood, Arthur Lloyd; Robinson, David F.2009).

CONCLUSION

This discussion provides a brief overview of different approaches as well as some of the factors that influence and related to development of cognitive styles. There are still some research gap exists in the area of cognitive styles and socio-cultural factors. The factors emerge as interrelated all of them together determine the type of cognitive styles. This can be concluded that cognitive styles and cultural factors are interrelated and possess the capacity to influence each other bilaterally. Researches show that cultural factors have played an important role in the development of cognitive styles, as a child steps on this world he starts getting molded in a particular framework by his parents or caregiver, this process determines that how that child interprets and deals with his surroundings which becomes pretty much the part of his differentiation field. This field of differentiation shapes the way in which child develops his cognitive style. Studies have already showed that cultural factors are central for the development of cognitive styles but there are other elements which sway on cognitive styles. For example biological determinants of a person which holds the key to deal with environment, though there are some researches which focus on biological factors, they states that genetic and hormonal factors impact on development of cognitive styles. When we perceive the expansion of cognitive styles in Indian backgrounds, we found a mix of researches in determining cognitive styles of a person. Socialization have been assumed as very important determinant for cognitive style , there are some demographic factors which are found to be linked with cognitive styles .This dialog gives a concise overview of various methodologies and also a portion of the elements that impact and identified with the

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advancement of cognitive styles. There is still some exploration crevice exists in the area of cognitive styles and socio-social variables. The elements develop as interrelated every one of them together decide the kind of cognitive styles. This can be reasoned that individual's cognitive styles and social variables are interrelated and have the ability to impact each other respectively.

Limitations of the review

This review was focused on cultural effect of cognitive style , we have left some areas untouched which can represent themselves as very prominent factors related with cognitive styles. Further literature can be reviewed by taking some neuronal factors which is new emerging field of psychology.

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