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ABSTRACT

To provide documentation for the argument that Mexican-American (or Chicano) children in the United States tend to have a cognitive style differing from that of their Anglo-American classmates, the relevant literature is selectively reviewed. The review is organized in three sections, focusing respectively on the definition of cognitive styles, the measurement of cognitive styles, and ethnic/cultural variations in cognitive styles. It is concluded that "cognitive style" is a general term referring to a conglomerate classification of many psychosocial behavioral domains in which two polar dimensions, differentiated and integrated styles, can be identified. It is further concluded that there is adequate research to support the notion that different ethnic groups have differing tendencies in cognitive style, but caution is suggested in applying these general findings in educational contexts. (RH)

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A Review of Literature:

COGNITIVE STYLES AND THE MEXICAN-AMERICAN CHILD

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Cognitive Styles and the Mexican-American Child

INTRODUCTION

The purpose of this paper is to review some of the literature which is the basis for the book Cultural Democracy, Bicultural Development and Education by Manuel Ramirez III and Alfredo Castaneda (1974). A major thesis presented in this important book for bilingual educators is that Mexican-American (or Chicano) children in the United States tend to have a different cognitive style than their Anglo-American classmates. Ramirez and Castaneda (1974) summarize that

Research has shown that Mexican-American and Anglo-American children perform differently on cognitive tasks as well as on tasks reflecting incentive-motivational and human-relational styles. These findings can be explained by the conceptual framework of field sensitivity/field independence. It was hypothesized that differences in cultural values are reflected in differences in cognitive style between Mexican-American and Anglo-American children are relatively more field sensitive and Anglo-American children more field independent in cognitive style. (p. 79)

Since this argument may be the basis for instructional and curricular practices in Spanish/English, bilingual programs in our country, it must be documented in an organized manner, which is not done in the book. In this review, I intend to discuss the above statement in light of some of the large amount of literature on the subject, including the definition of cognitive styles, measuring and labelling of cognitive styles, and ethnic/cultural variations in cognitive styles.

DEFINITION OF COGNITIVE STYLES

"Cognitive style", as defined by Ramirez and Castaneda, is the result of the value determined socialization processes of a given group of people. (p. 60)
The socialization process affects learning style, incentive-motivation style,

human relations style and communication style, which thereby combine into a general "cognitive style". Two styles on opposite ends of a continuum are named; field sensitivity and field independence. These labels are derived from the results of perceptual tests (discussed below).

Witkin, Dyk, Faterson, Goodenough and Karp (1962) label the ends of the cognitive continuum as global and articulated styles. Again, cognitive style is based on perceptual tests and type of nurturing by the mother. Later, Witkin and Berry (1975) refine their terms and call the two extremes integrated and differentiated cognitive styles.

Witkin et al. (1962, 1975) and Ramirez and Castaneda are all talking about the same thing, with different labels. Chart¹ is an attempt to categorize the terms presented in this review in an overall picture. The terms on opposite sides of the chart represent opposite poles of the continuum of cognitive styles. Hereafter in this paper, the supraordinates "Integrated" and "Differentiated" will represent the psycho-socio behaviors classified in the chart.

MEASURING COGNITIVE STYLE

Testing Instruments

The characteristics listed above are measured in numerous ways. Following is a brief description of some of the most common measurement techniques used in empirical and descriptive measurement of cognitive styles.

Tests of perceptual style were first developed by Witkin in the 1940's. Ramirez and Castaneda (1974) describe how the Body Adjustment (BA) test evolved from the testing of orientation of airborne pilots. The subject is seated in a chair that can be tilted within a small rotating room. The chair and room are

7

tilted and the subject is asked to readjust the chair to the normal position. The most widely used test, the Rod and Frame Test (RFT) is described in Witkin, Moore, Goodenough and Cox (1977). The subject is placed in a darkened room where a large square frame and a rod are visible. These are tilted by the experimenter, and the subject is asked to align the rod vertically. In both tests the subject is asked to align something vertically. Those whose answers tend towards true vertical orientation are labelled as field independent, and those who tend to align the rod or body with the surrounding field are labelled field dependent, (or field "sensitive", which is supposed to be less negative). Further tests of perception frequently used (Ramirez and Castaneda, 1974) are the Embedded Figure Test (EFT), the Children's Embedded Figures Test (CEFT), and the Block Design Test (BD). In these tests, cards showing geometric figures are shown to the subject, who is asked to locate a smaller figure that is embedded into the larger design. People with facility in locating the hidden features are labelled field independent, while those who are unable to distinguish the embedded figure are called field dependent.

Body concept is most often measured by the Goodenough-Draw-a-Person-Test (HFDT). (As in Witkin et al., 1962, Ramirez and Castaneda, 1974 and Witkin et al., 1977). The subject is asked to draw a human figure. Through an age-related scale, the degree of body articulation is measured. People who draw a figure with few details (like fingers, eyelashes, etc.) are called articulated. (Witkin et al., 1962)

Incentive-motivational patterns are measured in less structured manners. Kagan and Madsen (1971) gave children tests requiring cooperative and competitive behavior. Thus their motivation towards self and group satisfaction were measured. The school Situation Picture Stories Technique (SSPST) developed

by Ramirez and Castaneda (1974) involves a picture story about which a child tells a story. Responses (Ramirez and Price-Williams, 1976) are measured on the basis of imagery, instrumental activity, positive outcome of instrumental activity and theme. The children's responses determine if they are cooperative or competitive. A similar test, the Thematic Apperception Test (TAT) is used with adults.

Vocational preferences, as described in Witkin et al., (1977) are assessed by questionnaires and descriptive studies. Vocational references are grouped into two extremes, the helping/social professions (elementary teaching, psychiatric nursing) and the independent, specialized profession (group, scientist).

Very little literature on method of research to determine learning style per se is available. In an unpublished testing device, (Gonzales, 1977), the subject is asked to list ten words related to a stimulus word. Subjects may be termed relational if their answers are words related but not the same as the stimulus (ie. money--stash, green, bread). Subjects with a more analytical style will list more synonymous words (like dollars, pay, cash, etc.). Cohen (1969) sees standardized tests as reflecting certain learning styles. Therefore data from standardized achievement tests is sometimes used to distinguish learning styles.

Socialization practice is generally measured by a questionnaire administered in an interview. Witkin et al. (1962) sent interviewers into homes. The subject and/or the subject's parents (usually the mother) were asked questions about the subject/parent relationships, perceptions and social habits. Scores were categorized into ID (inhibits differentiation) and FD (fosters differentiation). Irwin, Engle, Kevin and Yarbrough (1976) measured traditiona-

lism with the Inkeles Score of Overall Modernity, which measures knowledge of the world affairs, books in the home, etc. General societal patterns are also classified anthropologically (e.g. Berry, 1966, Dawson, 1967, Ramirez and Castaneda, 1974, Rubel, 1966, McWilliams, 1948) into such poles as traditional/assimilated, traditional/modern, traditional/aculturated. Witkin et al., (1975) discuss "tight" and "loose" social organizations. In a "tight" social structure, roles are highly organized and structured into a hierarchy (agrarian). In the "loose" society, personal-independent behaviors are encouraged, and government is democratic or communal (hunter-gatherer).

Self consistency

A problem basic to the Ramirez and Castaneda hypothesis is that named "self consistency" by Witkin et al., (1975)

It is a basic postulate of differentiation theory that an individual will function at his characteristic level of differentiation in tasks assessing extent of differentiation, making for self-consistency in performance within and across domains. Many studies in Western settings have supported this expectation of self-consistency. (p. 20)

In other words, how well can a researcher predict overall cognitive style of a person or a cultural group on the basis of a few tests in a few psycho-socio domains? A wealth of correlational studies indicate that there generally is a significant self-consistency within groups and individuals.

Most research involving cognitive styles uses the tests of perception. (Witkin et al., 1977) These identify the field independent/field dependent variable, and are objective and simple to administer. Therefore, all tests of self-consistency discussed here will involve a correlation between any one of these test, BA, RFT, EFT, CEFT, and BD, (These tests are consistent among themselves, as discussed on pages 20-30 in Wilkin et al., 1975.) and other measures

of cognitive style listed in the chart above.

Witkin et al. (1975) conclude that body concept test results are highly correlated to perceptual tests. Cited is Mac Arthur, who found consistent correlations in African and Exkimo peoples' scores on EFD and BD with the HFDT. Holzman (1975), in a six year longitudinal study, found EFD and BD to be significantly correlated to the HFDT scores in 800 American and Mexican children.

Witkin, Price-Williams, Bertini, Christiansen, Oltman, Ramirez and Van Meel (1974) tested 600 children in Mexico, Italy and Holland, and again found significant correlations between CEFT, BD, and CEFT scores.

Correlations between perceptual and motivation tests also tend to be significant. Moreland and Ortiz (1975) found that field dependent children's test scores went down when an adult expressed disapproval of their behavior. On the other hand, approving praise motivated higher performance. Konstandt (1965) had similar results: field dependent children reacted positively to examiners who have positive and encouraging feedback to their subjects, and who emphasized group effort. Field dependent children looked into the examiner's face twice as often as field independent children did. Messnick and Demain (1964) found field dependent learning to be higher when socially relevant cues were given. Sanders, Scholz, and Kagan (1976) found that field independent children had significantly higher needs for achievement and power than their field dependent peers. No differences were found in the two groups' needs for affiliation. Ruble and Nakamura (1972) found field dependent children most successful in tasks involving social cues (like remembering faces).

Witkin et al. (1975) cite evidence that correlates perceptual style to vocational preference. Field dependent persons showed a preference for social/helping professions.

Little empirical research of learning style and perceptual correlations is available. Informal (and undocumented) assessment at the University of Washington has suggested that field dependent persons give relational answers to cues, whereas field independent subjects give analytic responses. Likewise, field dependent students ask for, and respond to structured learning materials more than field independent students. Ramirez and Castaneda develop this theme further, however their discussion is as yet not backed by empirical evidence. Field dependent curricula, teaching and learning styles are identified. Characteristics such as social, global, rule-governed, cooperative are listed as field dependent curricula. (p. 142) A field independent curriculum is abstract, impersonal, detail-focussed inductive and independent. Cohen (1969) has shown that achievement tests tend to favor field independent children. She has broken down test components to show that many tests favor the analytic approach to problem solving. Therefore, she has found a correlation between low standardized test scores in some minority children and field dependence.

Witkin et al. (1962) introduced the correlation between cognitive styles and nurturing processes. They found a correlation between cognitive style and relationship to the mother. Cognitive styles are passed from mother to child. Differentiated mother behaviors include approving attitude, self controlled discipline, reasoning with the child, autonomy, affection and self-controlled motivation. Undifferentiated mothers' behaviors include protectiveness, possessiveness, anxiety, indulgence, and coercive, severe and punishing discipline. Differentiated mothers were generally self-assured and had relationships and activities outside the home. Nondifferentiated mothers were home-bound, and often perceived themselves as deprived and neglected in social relationships.

With this type of correlation established, many researchers have replicated the relationship between cognitive style and mothering style. Dawson (1971) found correlations with West African tribes. Dreshowitz (1971) found Jewish boys in traditional homes to tend toward field dependence. Berry (1966) found the highly autonomous Eskimo children to score as field independent as children in the continental United States. (This challenges the idea that minority people are always field dependent). Ramirez and Castaneda (1974), Ramirez and Prince-Williams (1974) and Ramirez, Castaneda and Herold (1974) correlate perceptual test results with social characteristics of Mexican-Americans as listed in Rubel (1966). They note a correlation between field dependence and traditional Mexican-American culture. Only Irwin et al. (1976) have failed to replicate this type of correlation. Their study was done in a Guatemala on the home rather than a community level for identifying the "traditional modern" variable. The authors believe that the salient feature this study brings out is that field dependence may be more strongly related to family social organization than to degree of education and "worldliness" that were used to determine traditionalism. In other words, field dependent style may result more from family/social values than to overall cultural "modernity".

At this point, the following conclusions must be reviewed:

"Cognitive style" is a general term referring to a conglomerate classification of many psycho-socio domains of behavior. Two polar dimensions, differentiated and integrated, have been identified.

The varying dimensions of cognitive styles are tested by a number of empirical tests and identified by descriptive studies.

There appears to be a significantly high degree of correlation between the various tests that determine certain aspects of cognitive styles. Perceptual

tests correlate to tests of body concept, motivation, vocations, learning styles and socialization practices.

ETHNIC/CULTURAL VARIATIONS IN COGNITIVE STYLES

Assuming the tenets listed above, one may conclude that ethnic groups are likely to display a general tendency towards a differentiated or integrated cognitive style. (Witkin et al. 1975, p 4).

International Studies

Berry (1966) studied the Temme of Sierra Leone and the Eskimos of Baffin Bay. The Temme were found to be, as a group, more integrated than the highly differentiated Eskimos. Dawson (1976) worked with the same Temme people and a neighboring tribe, the Mende. The less traditional Mende were more differentiated than the Temme. Dershowitz (1971) found Jewish boys from traditional East Coast homes to be more integrated than their Anglo-Saxon peers. Mebane and Johnson (1970), Kagan (1974) and Witkin et al. (1974) found Mexican children to be more integrated than American children.

Studies Involving Mexican Americans

Ramirez and Castaneda base their book on the assumption that the Mexican American child is more integrated than the Anglo-American child. Three studies support this thesis. Ramirez and Prince-Williams (1974) found Mexican American and Black children in Houston to be more field dependent than Anglo children of the same age and SES. Kagan and Zahn (1974) and Sanders et al. (1976) found the Mexican American children they tested to be more field dependent than matched Anglo peers.

Other Dimensions of the Integrated/Differentiated Variable

Witkin (1967) and others note that there are other groups that repeatedly score towards ends of the integrated/differentiated continuum. Women and girls tend more towards integration than men and boys. As children reach adulthood, they tend to become more differentiated. Dawson (1976) found that nutrition is also a factor: males with malnutrition became more field dependent as their disease advanced. An in-depth discussion of these factors is not within the scope of this paper, however, within-culture variations are relevant to the general thesis being discussed.

Variations in degree of differentiation are found within subgroups of ethnic/cultural groups. A general hypothesis is that more traditional cultures have more integrated members. (Witkin et al., 1975) As acculturation or modernization occurs, group members become less integrated. (Ramirez et al., 1974, Dershowitz, 1971, Park and Gallimore, 1975) Some examples of this research include the following. Dershowitz (1971) added a third group of Jewish boys to his study; they came from less traditional homes, and as predicted, were less integrated than the traditional Jewish boys. Park and Gallimore (1975) found rural Korean children to be more integrated than urban Korean children. Ramirez et al. (1974) identify three subcultures of Mexican-American society; traditional and acculturated. As predicted, the traditional group tested more integrated and the acculturated group more differentiated. Buriel (1975) found third generation Mexican-Americans to be less field dependent than first and second generation Mexican-Americans. Similarly, Irwin et al. (1976) found traditionalism not to be a significant factor in cognitive style.

DISCUSSION AND CONCLUSIONS

It is difficult to refute the hypothesis of Ramirez and Castaneda that Mexican American children have a tendency towards field dependence. However, this generalization should have several conditions amended.

There is adequate research to support the notion that different ethnic groups have differing tendencies in cognitive style. However, it must be remembered that these are only generalizations. No research gives or interprets raw scores on the various cognitive style tests, so the results we read are only relative. Relative comparisons of groups can be made with caution. But when we work with a group of children, say in a bilingual classroom, they will represent all the positions on the cognitive style continuum, instead of being divided by ethnic boundaries. Therefore, the teacher must be careful to judge cognitive style by individual observation and testing, not on ethnic group generalizations. Since there is so much variation within groups, knowledge of cognitive styles is pertinent to teachers of all children.

Cognitive style labelling is based on empirical data or descriptive information. Research shows correlations between the various domains within cognitive styles. However, some educators (like Ramirez and Castaneda) have overgeneralized the terms field dependent/field independent. In calling a Mexican-American child field dependent, we are putting the label of one aspect of his/her cognitive style onto the whole. Therefore, Witkin's terminology, integrated and differentiated, makes more sense. It must also be remembered that these terms are not absolute, but are merely points along a continuum. Researchers today are investigating Ramirez and Castaneda's proposition that people can learn to be bicognitive, which further questions the use of arbitrary labelling.

Labelling of minority people such as Mexican-Americans could be used as justification for racism. While ethnicity appears to be a factor in determining cognitive style, so does degree of traditionalism and acculturation. More study should be done with "mainstream" children to find and verify that there are cognitive style differences within the dominant culture too.

While the identification and consideration of cognitive styles is a positive step towards providing for individual differences, labelling and educational practices must be done with care and caution, so that our goal of democratic education is really being attempted.

REFERENCES

- Berry, J. W. "Temme and Eskimo Perceptual Skills" International Journal of Psychology, 1966, 1, 207-229.
- Buriel, R. "Cognitive Styles Among Three Generations of Mexican-American Children" Journal of Cross Cultural Psychology, 1975, 6, 417-429.
- Cohen, R.A., "Conceptual Styles, Culture Conflict and Nonverbal Tests of Intelligence" American Anthropologist, 1969, 71, 828-856.
- Dawson, J.L.M., "Cultural and Physiological Influences upon Spatial-perceptual Processes in West Africa" International Journal of Psychology, 1967, 2, 115-125.
- Dershowitz, Z., "Jewish Subcultural Patterns and Psychological Differentiation" International Journal of Psychology, 1971, 6, 223-231.
- Gonzales, P., "Test for Cognitive Style" University of Washington, 1977, unpublished document.
- Holzman, W.H.R., Personality Development in Two Cultures, Austin: 1975.
- Irwin M., P. Engle, R. Klein, C. Yarbrough, "Traditionalism and Field Dependence-- A Failure to Replicate" Journal of Cross Cultural Psychology, 1976, 7, 463-472.
- Kagan, S., "Field Dependence and Conformity of Rural Mexican and Urban Children." Child Development, 1974, 45, 765-771.
- _____, and L. Zahn, "Field Dependence and School Achievement Gap Between Anglo American and Mexican American Children" Journal of Educational Psychology, 1974.
- Konstadt, M., and E. Forman, "Field Dependence and External Directedness" Journal of Personality and Social Psychology, 1965, 1, 490-493.
- McWilliams, C., North From Mexico, New York: Greenwood Press, 1948.
- Mebane, D., and D.L. Johnson, "A Comparison of the Performances of Mexican Boys and Girls on Witkin's Cognitive Tests" International Journal of Psychology, 1970, 4, 227-239.
- Messnick, S., and F. Damain, "Cognitive Style and Memory for Faces" Journal of Abnormal and Social Psychology, 1964, 69, 313-319.
- Moreland, S.J., and F.L. Ortiz, "Effects of Personal and Impersonal Rewards in the Learning Performances of Field Independent and Field Dependent Mexican American Children" Colorado Journal of Educational Research, 1975, 14, 27-32.
- Park, J.Y. , and R. Gallimore, "Cognitive Style in Urban and Rural Korea" Journal of Cross Cultural Psychology, 1975, 6, 227-237.
- Ramirez, M., and A. Castaneda, Cultural Democracy, Bicultural Development and Education, New York: Academic Press, 1974.

_____, _____, and Herald, "The Relationship of Acculturation to Cognitive Style Among Mexican Americans" Journal of Cross Cultural Psychology, 1974, 5, 424-432.

_____, and R. Price-Williams, "Cognitive Styles of Children of Three Ethnic Groups" Journal of Cross Cultural Psychology, 1974, 5, 212-219.

_____, _____, "Achievement Motivation in Children of Three Ethnic Groups in the United States" Journal of Cross Cultural Psychology, 1976, 7, 49-60.

Rubel, A.J. Across the Tracks: Mexican Americans in a Texas City, Austin: University of Texas Press, 1966.

Ruble, D.N., and C.Y. Nakamura, "Task Orientation versus Social Orientation in Young Children and their Attention to Relevant Social Cues" Child Development, 1972, 43, 471-480.

Sanders, M., and J.P. Scholz and S. Kagan, "Three Social Motives and Field Independence/Dependence in Anglo-American and Mexican-American Children" Journal of Cross Cultural Psychology, 1967, 2, 233-250.

_____, and J.W. Berry, "Psychological Differentiation in Cross Cultural Research" Journal of Cross Cultural Research, 1975, 6 3-87.

_____, R.B. Dyk, H.F. Faterson, D.R. Goodenough, S.A. Karp, Psychological Differentiation, New York: Wiley, 1962.

_____, C.R. Moore, D.R. Goodenough, P.W. Cox, "Field Dependent and Field Independent Cognitive Styles and Their Educational Implications" Review of Educational Research, 1977, 47, 1-64.

_____, D. Prince-Williams, M. Bernini, B. Christiansen, P.K. Oltman, M. Ramirez, and J. Van Meel, "Social Conformity and Psychological Differentiation", International Journal of Psychology, 1974, 9, 11-29.

Chart 1

COGNITIVE STYLES

PSYCHO-SOCIO BEHAVIOR	INTEGRATED STYLE	DIFFERENTIATED STYLE
Perceptual	Field sensitivity ² Field dependence ³	Field independence ²
Body Concept	Global ³	Articulated ³
Incentive/ Motivational	Cooperative ² Personal ² Dependent on Authority ³	Competitive ² Impersonal ² Independent ³
Human Relations	Cooperative ² Personal ²	Competitive ² Impersonal ³
Vocational Preference	Prefer helping/social professions ⁴	Prefer impersonal, spe- cialized professions, artistic ⁴
Learning Style	Modeled/deductive ² Relational ⁴ Poor on standardized tests 1	Independent/inductive ² Analytical ⁴ Favored by standardized tests 1
Socialization style	Dominant mother ³ Dependence ² Rule-regulated ³ Severe dicipline ³ Traditional ^{1,2}	Autonomous mother ³ Independence ² Self-direction ³ Self-dicipline ³ Modern, assimilated ²

1 Cohen

2 Ramirez and Castaneda, 1974

3 Witkin et al., 1962

4 Witkin et al., 1971