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CATION DIFFERENCES BETWEEN ACCEPTED
AND REJECTED CHILDREN AT ONE CRITICAL
STAGE OF EGO DEVELOPMENT.**

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IDENTIFICATION DIFFERENCES BETWEEN ACCEPTED AND REJECTED
CHILDREN AT ONE CRITICAL STAGE OF EGO DEVELOPMENT

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1960

IDENTIFICATION DIFFERENCES BETWEEN ACCEPTED AND REJECTED
CHILDREN AT ONE CRITICAL STAGE OF EGO DEVELOPMENT

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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENT	111
LIST OF TABLES	vi
LIST OF APPENDICES	vii
Chapter	
I. INTRODUCTION	1
Theories of Ego Development Ausubel's Research Related Research	
II. PROBLEM	22
III. METHOD	27
Characterization of Population Description of the Sample Experimental Procedure and Materials	
IV. RESULTS	41
Rorschach Data CHEF Data	
V. DISCUSSION	48
VI. SUMMARY	59
REFERENCES	63
APPENDICES	68

LIST OF TABLES

Table	Page
1. Distribution of Satellizer and Non-satellizer Groups over Rorschach Signs: <u>P</u> , <u>M</u> , <u>W</u> , (<u>WX</u> / <u>DW</u>), <u>WX</u> , <u>DW</u> , <u>H</u> , (<u>H</u>), (<u>C</u> / <u>CF</u>) - <u>FC</u> , <u>CF</u> , <u>FC</u> , <u>C</u> , (<u>Y</u> / <u>YF</u>), <u>Y</u> , <u>FY</u>	42
2. Distribution of Satellizers and Non-satellizers over Disturbed--Non-disturbed Judgments	46
3. Distribution of Satellizers and Non-satellizers over CHEF Dependency Appeals . . .	47
4. Distribution of Satellizers and Non-satellizers over Parental Reference in Rorschach Records	51
5. Distribution of Satellizers and Non-satellizers over Correct Identification of Complex Figures	56
6. Distribution of Satellizers and Non-satellizers over Good Form Per Cent	57

LIST OF APPENDICES

Appendix	Page
A. Indices of Rejection of Institutional Children Arranged per Subject by Ausubel's Criteria	69
B. Parent Attitude Rating Scale (Modified). . .	70
C. Instructions for Administration of the Children's Hidden Embedded Figures Test	73
D. Children's Hidden Embedded Figures Materials	78
1. Small Simple Figures	
2. Complex Figure Containing Hidden Simple Figure	
3. Example of House and Kite Learning Set	
E. Rorschach Data: First Response Sign Scores, Pathological Sign, and Judges' Global Rating of Emotional Disturbance Arranged by Satellizer Groups	81
F. Rorschach Data: First Response Sign Scores, Pathological Sign, and Judges' Global Rating of Emotional Disturbance Arranged by Non-satellizer Groups	82
G. Children's Hidden Embedded Figures Test Data: Time Scores, Accuracy Scores, and Dependency Appeals Arranged by Satellizer Groups	83
H. Children's Hidden Embedded Figures Test Data: Time Scores, Accuracy Scores, and Dependency Appeals Arranged by Non-satellizer Groups	84
I. Subject at Easel with House Complex Figure .	85

IDENTIFICATION DIFFERENCES BETWEEN ACCEPTED AND REJECTED
CHILDREN AT ONE CRITICAL STAGE OF EGO DEVELOPMENT

CHAPTER I

INTRODUCTION

The purpose of this study is to test that portion of Ausubel's theory (1952a; 1957) which is concerned with those identification processes which occur at one critical stage of ego development. A secondary purpose is that of attempting to relate Ausubel's conceptualization to those of other theorists. This attempt will be made by using techniques which have been developed in theoretical contexts other than Ausubel's to test Ausubel's ideas.

The study of identification processes and of ego development have an importance which transcends the testing of any single contemporary theory of personality (Allport, 1946; Brofenbrenner, 1951; Chein, 1944; A. Freud, 1952; S. Freud, 1943; Hartman, 1946, 1952; Hoffer, 1952; Lindzey, 1954; Munroe, 1955; L. B. Murphy, 1957a, b; Murray, 1938; Rosenzweig, 1944; Scott, 1952; Sherif, 1957). In most systematic approaches to ego development, identification processes are included as a central concept. Despite the importance of this concept, disagreement and confusion

about the meaning of identification exist (Ausubel, 1952a; Grinker, 1957; Sanford, 1955). Each of these writers recognizes the need for further research and for the testing of current theoretical contentions ". . . concerning the many aspects of identifications that remain unclear" (Grinker, 1957, p. 390). Pointing out that the subject of identification is almost coextensive with the entire field of psychological theory and research, Grinker goes on to characterize the state of this "key" concept as a contemporary problem,

. . . many disciplines can contribute to the understanding of identification: biology, psychology, psychoanalysis, and sociology. Whether a unified theory will ever develop cannot be foretold (Grinker, 1957, p. 390).

Theories of Ego Development

A brief outline of differing theoretical approaches will serve to sharpen the similarities and differences that the identification process holds in each.

For instance, in psychoanalytic theory, five stages of psychosexual development are given. The phallic stage is the last critical period of ego development the child undergoes. At this point, the child identifies with his like sex parent, giving up notions of direct attainment of gratification from his primary love object--the opposite sex parent. Freud points out that this identification process (in which the superego and ego ideal are formed) represents a "resolution" of the Oedipus conflict. To identify,

the child introjects (incorporates) the object choice which has to be given up to resolve the Oedipal situation. (For a detailed description of Freud's thinking on identification, see Abraham [1949], Fenichel [1945], and A. Freud [1946].) While the identification process is recognized primarily as a defense mechanism in psychoanalytic theory (A. Freud, 1946), it should be noted that the child's formation of social attitudes, mores, and standards occurs during this important stage of development.

Neo-Freudian theorists (Fromm, Sullivan, Horney, Adler), on the other hand, place a different emphasis on parent-child relationships (Munroe, 1955). Enlarging the scope of psychoanalytic theory to allow for social determinants of personality, only Sullivan's theory admits to a well-defined "critical stage" model of ego (or self) development (Hall and Lindzey, 1957).

Despite their emphasis on sociocultural factors, neither Sullivan nor Horney uses the concept of identification per se to explain the socialization of the child. Sullivan's position does imply an identification process in the relationship between parent and child: "Personifications" of interpersonal relations or events come close to the identification process of psychoanalytic theory. Sullivan's thinking here differs from Freud's in that the interaction process, not the person, is of basic importance (Munroe, 1955). The parent's attitudes toward the child (as

well as the child's feelings and needs for the parent) constitute the interpersonal relations from which personifications are developed. For Sullivan, then, personifications are the conceptions the child forms from interaction with significant persons.

Further, Horney introduces the term "externalization" to describe one of the mechanisms used in the development of the idealized image. Munroe (1955) comments that this defense mechanism is similar to the identification process of Freudian theory.

Both of these theoretical approaches demonstrate a divergence from the identification process that was outlined earlier in the psychoanalytic theory; nonetheless, similarities do appear to be present.

Differing from the psychoanalytic and neo-Freudian approach, the cognitive theory presents yet another systematic viewpoint of ego (or self) development and identification. Of the cognitive theorists, Sarbin (1952, 1954) is perhaps the leading exponent. Differentiating self (phenomenal experience of identity) from ego (inferences made by others about characteristics of a person), Sarbin then distinguishes ego and self from the concept role. A role is defined as a sequence of learned actions or deeds performed in an interaction situation.

Sarbin looks upon self as a cognitive structure consisting of the ideas that a person has about aspects of his

being. Cognitive sub-structures (empirical selves) are developed in a regular sequence of five stages, progressing from birth to two years of age. These empirical selves are acquired through the child's interaction with stimuli (events, objects, persons) during early maturation and socializing periods of growth.

In Sarbin's system, identification occurs at about one year of age. At this time, the introjecting-extrojecting self emerges. Because of the maturing processes, the child at this age is able to differentiate the actions of self-nonsel. Sarbin characterizes as introjection or identification the process whereby the child forms a concept of associating his own acts (roles) into a grouping known as "similar to others."

This process of identification is seen as cognitive, since it requires the facility of imagination--the ability to engage in an as if acquisition of roles. It follows that the identification process is dependent upon the number and kinds of persons available with which the child can interact. As the child becomes capable of distinguishing between acts of others and of cognizing his own acts, the final empirical self (social self) develops.

Thus, identification is afforded an important position in Sarbin's theoretical system of ego development. The similarity between Sarbin's thinking on identification and Sullivan's "personifications" becomes manifest.

Among differing approaches to ego development, Sherif's systematic position is representative of the field of social psychology (G. Murphy, 1951; Sherif, 1956; Sherif and Cantril, 1947).

In Sherif's thinking, the ego develops out of the socialization process. Of prime importance in his system is the concept "attitude," an "affective fixation" of the individual. Ego formation is essentially the child's formation of attitudes about himself and others, about groups and social values. The ego or self consequently is defined by Sherif as a "developmental formation" of interrelated attitudes (Sherif and Cantril, 1947).

Ego attitudes, in this context, originally are social attitudes derived from "outside" the person. While developmental stages are not sharply defined in Sherif's conceptual scheme, there are recognizable phases in the formation of the ego. These phases are essentially determined by socio-cultural factors.

From infancy to five years of age, the child undergoes a continuing process of ego formation based upon the acquisition of attitudes which relate the child to himself and to definite persons or groups; i.e., family, school, church, neighborhood, etc. However, modifications in ego formation continue from infancy through adolescence as the child increases his contacts in various social settings. Internalization of values and norms which are inherent in

group structure constitutes the identification process for Sherif. The process of identification, consequently, is one of identification with groups. It is an "ongoing" process which continues beyond the "childhood" ego development phase.

The identification process in Sherif's system is therefore quite different from that presented in psychoanalytic theory.

Ausubel's conceptual position (1952a; 1957; 1958) is based on the premise that an interactional approach to personality organization and development must include both biological and sociological factors. Unacceptable to him, then, is the "reductionism" associated with "instinct" theory, and the cultural relativism associated with "situational" determinism.

As in the preceding theories, however, the focal point of Ausubel's system is ego development. For Ausubel (1954b), the ego and the self are conceptually differentiated, the self occupying a central position in ego structure. The ego is conceived as an organization of attitudes, values, and aspirations centering around the self. (The similarity of this thinking to both Sherif's and Sarbin's is clear.) Three general classes of variables are acting in Ausubel's developmental scheme: external (social), internal (genetic), and perceptual. The interdependency of these variables characterizes the interactional field.

The total personality of the child is developed through a series of maturational "crises." These crises involve the maturation of the motor, perceptual, cognitive, and social abilities of the child in relation to changing parental attitudes at "critical" periods.

Again similarly to some of the other theorists, Ausubel sees ego development occurring in stages which follow a regular chronological order. An idealized sequence of three stages is given: omnipotent stage, satellization stage, and desatellization stage. The satellization stage begins between the ages of two and three, and ends between the ages of twelve and fourteen. The height of the satellization stage is reached at age eight.

Briefly, the omnipotent stage of ego development characterizes the infant who autistically and unrealistically regards himself as volitionally superior to his parents. His biosocial status is actually one of complete dependency on others for all his needs. However, the infant interprets parental solicitude as an act of obedience to his "irresistibly omnipotent will," and misperceives himself as controlling his interpersonal environment. Because of the infant's immaturity of perception and cognition, early parental attitudes are not of striking importance to the ego development of the child. (This position differs from most other approaches, particularly the psychoanalytic theory.) Ausubel utilizes the concepts of executive and volitional de-

pendence or independence. "Executive dependence" refers to the child's inability to provide for his own bodily care, nourishment, protection, etc. "Volitional independence," on the other hand, refers to the omnipotent volitional will of the infant who perceives himself as powerful and controlling. Ausubel sees the child as executively dependent and volitionally independent during the omnipotent stage.

The second stage of ego development is termed satellization. Ausubel states that most children, upon leaving the period of infancy, establish a satellizing relationship with their parents. This relationship is one of dependent identification, and it is only through this process that sound ego maturation occurs (Ausubel, 1952a, pp. 146, 164-165). At age two or three, the child's perception of himself and others about him sharpens and increases to the extent that he recognizes he is not volitionally independent. The child then gives up omnipotent feelings for a more realistic appraisal of his relationship with his parents. A devaluing process occurs and the ego structure of the child undergoes a reorganization wherein he interprets himself as both volitionally and executively dependent upon his parents for approval, status, and ego gratification.

The third stage of ego development, desatellization, occurs at puberty. At this point, the child begins to assume more direct personal responsibility for himself. Personality maturation is considered to have occurred because

there is a resurgence of independence of will (volitional independence) and of increased adaptive abilities (executive independence). In short, the child begins to resist the dependence brought about by the earlier identification process. Ausubel states that the primary factors which bring about desatellization are resentment over exclusion from adult relationships, sexual maturation, peer associations, extra-family social contacts, etc. Desatellization thus represents another reorganization in the ego development of the child. A primary biosocial status, as opposed to the preceding derived status, is sought in preparation for adulthood.

For the child to satellize, two crucial conditions must be satisfied: (a) emotional acceptance of the child by the parents, and (b) being valued for himself by the parents. The issue specifically involved here is the process of identification. If both parental acceptance and intrinsic valuation are present, the devaluation of the child's infantile omnipotent ego occurs, and the child enters into a loyally dependent, deferential, and subservient relationship with his parents who dominate him benevolently.

On the other hand, if the child is rejected or is accepted only on a qualified or conditional basis (extrinsically valued), a non-satellizing type of identification occurs. Two forms of rejection are postulated--active (ag-

gressive hostility and manipulation) and passive (prolonged neglect and disinterest). Four major variables of rejection are listed by Ausubel (1952a): neglect, physical separation, disavowal of responsibility for care, and denial of legitimate needs of the child.

In this alternative pattern of ego development, the child seeks a precocious primary biosocial status (as opposed to a derived one) on the basis of his own immature executive abilities. He is motivated to strive for unrealistic volitional independence and for personal recognition. In his own regard, as a person, the child attempts to resist authority limits; however, he will assume a subordinate role of dependency and conformity as a temporary matter of expediency.

The non-satellizer wishes to "incorporate" the prerogatives, capacities, and abilities of his parents while remaining independent of them. The child strives to ". . . incorporate the values of another on the basis of their objective capacity to enhance ego-status--without forming any (dependent) emotional tie to that individual" (Ausubel, 1952a, p. 144). Missing here is that factor of "personal subservience" which characterizes the accepted and intrinsically valued satellizer.

While the personality structure of the non-satellizer is seen as less healthy than that of the satellizer, the non-satellizer is seen as being more mature with regard to ego functions; i.e., he perceives and thinks more analytically

than does the satellizer.

The process of ego maturation for the non-satellizing child is seen as being easier than for his counterpart. Because of the non-satellizer's ego needs for extrinsic status (manifest in a high level of "ego aspirations" due to the lack of intrinsic security), the emphasis of executive and volitional independence serves as constant motivation for him.

Contrary to the implications of other approaches, the satellizer is seen as having more adjustment difficulty during this period of personality development. This is so because satellization demands a temporary setback of ego status, aspirations, and self-competence. On the other hand, in the dependent identification the child invests his own feelings of worth, esteem, and aspirations in the parents in order to gain security, value, and acceptance.

Since primary status, volitional independence, and extrinsic seeking of values and status are never "surrendered" to the omnipotent parents, the non-satellizing child's ego development is more advanced than that of the satellizer. However, the manifestation of the desatellization goals, ". . . acquisition of greater volitional independence, elevation of the level of ego aspiration, and acceptance of the need to strive primarily for extrinsic status. . .," while present in the non-satellizer's repertoire, do not rest on a sound base (Ausubel, 1952a, p. 237). Without the basic in-

trinsic valuation and emotional acceptance which exists for the satellizer through the dependent identification process, the non-satellizer is essentially predisposed to behavior disorders and personality defects:

Since greater total change in personality structure must result from ego maturation in satellizers, and since they are less motivated by the need for extrinsic status to effect this change, it is quite understandable that they will be more subject to maturational failure than non-satellizers. But in terms of resulting strain to personality structure, the reverse is true. The conflicts and insecurities experienced by the satellizer are for the most part situational and transitional in origin. It is true that his needs for primary status are not adequately met, thereby depressing his extrinsic self-esteem. But neurotic anxiety . . . can only arise under these circumstances if intrinsic self-esteem is also lacking. It is only the non-satellizer who possesses no intrinsic store of adequacy who, therefore, becomes a candidate for anxiety during adolescence . . . (Ausubel, 1952a, pp. 244-245).

In his system of ego development, then, Ausubel has characterized two major outcomes of the child's first critical period of personality maturation: non-satellization or satellization.

To summarize Ausubel's contentions: Certain conditions must be present for satellization to occur. The child must be emotionally accepted and intrinsically valued by his parents. If rejected or extrinsically valued, non-satellization will occur. During this period when satellization should occur, non-satellizers differ from satellizers by having a less healthy personality structure, and by being more independent and analytic in perceptual and cognitive activities.

Ausubel's Research

Experimental verification of some aspects of Ausubel's thinking is reported in several studies (Ausubel, 1951; Ausubel, Schiff and Gasser, 1952b; Ausubel, 1953a; Ausubel, 1953b; Ausubel, Schiff and Goldman, 1953c; Ausubel, Schiff and Zeleny, 1953d; Ausubel, Balthazar, Rosenthal, Blackman, Schpoont and Welkowitz, 1954d; and in summary form--Ausubel, 1957; 1958).

A large part of Ausubel's past research has centered around level-of-aspiration studies. Level-of-aspiration is important for Ausubel because it is related to his concept of "ego aspirations" and because level-of-aspiration techniques permit the use of quantitative variables. In addition, the majority of Ausubel's studies (1953a; 1953d; 1954a) have been concerned with adolescents. However, children eight to seven years of age were subjects for a study of socioempathy (Ausubel et al., 1952b), in which developmental differences in perception of own and others' sociometric status were investigated.

Of particular relevance to the current discussion is one study of ten-year-olds (Ausubel et al., 1954b), which attempts to discover differences between the satellizers and non-satellizers. The study was designed specifically to determine whether children's perceptions of acceptance-rejection and intrinsic-extrinsic valuation were related to various measures of ego "attributes" (notions of omnipotence,

level of ego aspirations, goal frustration tolerance, ideational independence, and personality maturity).

The subjects of this study were forty ten-year-olds of white, lower-middle and working class neighborhoods. Children who were considered to be educationally retarded, who had fathers in military service, or who came from "broken homes" were not included in the sample.

Three different measures were used to define satel-lizers and non-satellizers. They were (1) Thematic Materials Test (consisting of 16 pictures selected from the CAT, TAT, Blacky Pictures, Jackson Projection Test, and Symonds Fantasy Test), (2) Story Completion Test (consisting of 16 brief stories illustrative of parental acceptance-rejection or intrinsic-extrinsic valuation), and (3) Parent Attitude Rating Scale (consisting of 36 parent attitude and behavior items reflecting acceptance-rejection or intrinsic-extrinsic valuation).

A set of independent measures of ego functions was used. Notions of omnipotence were measured by a scale of perceived ability to perform varying from impossible to probable. Level of ego aspiration was measured by goal discrepancy scores on five different mental and mechanical performance tasks. Goal-frustration tolerance was derived from the same data collected from the level-of-aspiration responses. Ideational independence and personality maturity were measured by judges' ratings of behavior in a class and

by questionnaire and opinion scales. Of the measures used to define satellizers and non-satellizers, only the PARS significantly correlated with any of the variables of ego functioning.

The PARS uses two sub-scales of 18 items each. These sub-scales, measuring acceptance-rejection and intrinsic-extrinsic valuation respectively, were found to correlate at an r equal to .91. However, only the sub-scale which measures intrinsic-extrinsic valuation was related significantly to the ego structure variables. Perceived rejection by parents was not related significantly to any of the ego structure variables except one; i.e., disagreement with perceived parent opinions. On the other hand, perceived extrinsic valuation was related to the majority of the ego variables in the predicted direction. The degree of relationship, however, was only low to moderate. Thus, children who perceived themselves as extrinsically valued tended to manifest more stylus maze goal tenacity, more notions of omnipotence, and to be rated as more executively independent. They also tended to disagree less with perceived parent opinions, and to be less able to postpone hedonistic gratification. The range of r values was from .36 to -.53.

No significant differences were found between self-perceived intrinsically and extrinsically valued children with respect to level of ego aspiration, composite goal tenacity scores, and non-satellizing moral responsibility.

The magnitude of the r 's for these relationships ranged from .17 to -.04 (Ausubel et al., 1954b, pp. 180-181).

Discussing the lack of expected clear-cut differences, Ausubel points out that his modification of the projective materials tests (TAT, CAT, etc.) diminished their reliability. He also inferred that the tests became so transparent that invalid responses were given by subjects. Further, he argues that ten-year-olds are near the normative peak of satellization and that they enjoy an overt dependent biosocial status. As a consequence of this sociocultural trend, individual differences in ego devaluation, acceptance of volitional dependence, of ego aspirations, etc., will not be detected unless sensitive measurement devices are used.

Partly as a result of this study, Ausubel was led to define satellizers by the use of the child's perception of parental acceptance and intrinsic valuation; hence, the PARS becomes an important device in differentiating satellizers from non-satellizers.

Related Research

Despite the fact that the research conducted by Ausubel only partly supported his position, his ideas seem worthy of further test. In the first place--as he has indicated--methodological problems in this area are severe. Secondly, indirect supportive evidence exists in the findings of other investigators (Behrens, 1954; Radke, Trager &

Davis, 1949; Scott, Fredericson & Fuller, 1951; Sears, Whiting, Nowlis & Sears, 1953; Shoben, 1949; Stendler, 1952; Stendler, 1954). The findings of Witkin, Lewis, Heitzman, Machover, Meissner & Wapner, (1954), are perhaps the most important. As part of a large-scale investigation of personality-perception relationships, Witkin conducted several developmental studies. In these studies, Witkin was concerned with relating coping, analytic behavior with personality structure. One of the measures of coping behavior was the success which an individual had in isolating a perceptual figure from its context. Witkin's expectation was that the probability of success would increase monotonically with age to maturity. The groups of subjects studied consisted of young normal adults, hospitalized psychiatric patients, and a group of 8-, 10-, and 13-year-olds. The totally unexpected findings were that 13- to 15-year-olds and some adults with personality disorder were more proficient at isolating the embedded figure than were healthy adults and younger children. Those children tested at different age levels also showed a development from dependent to analytic performance.

Witkin (working within a neo-Freudian and Gestalt framework) was unable to account for these findings. If, however, one regards the period from 13 to 15 years as a period of intensive desatellizing (with a consequent intensive attempt to achieve independence), then Witkin's findings are consistent with Ausubel's statements about the

satellization process.

There is an aspect of Witkin's research other than his findings that is of interest here; i.e., Witkin's interest in coping, analytic behavior. The behavior discussed by Witkin seems nearly identical with the behavior termed "independent" by Ausubel. To the degree that these behavior patterns are similar, Witkin's embedded-figure test would be a good technique for the testing of Ausubel's statements. Although the original test was not suitable for young children, Witkin and his associates have developed the Children's Embedded Figure Test to be used with children as young as six years of age. (Lois B. Murphy [1957] has been using this test in a study of the development of perceptual and personality patterns. Unfortunately, her results are still in preliminary form and their immediate relevance here cannot yet be evaluated.)

Thus, it appears to be possible to test Ausubel's statement that non-satellizers are more independent and analytic than are satellizers. Ausubel has also claimed that non-satellizers have personality organizations that are less healthy than are those of satellizers. It should be possible to test this statement by using a clinical device that is usually employed to evaluate states of ego functioning. One such device is the Rorschach Test. Although there have been very many studies which used the Rorschach to investigate ego functions in general and iden-

tification in particular (Ames, Learned, Metraux & Walker, 1952; Buhler, Smitter, Richardson & Bradshaw, 1960; Frenkel-Brunswick, 1951; Goldfarb, 1949; Henry, 1956; Klein, 1951; Phillips and Smith, 1953), the work of Halpern (1953) is most directly pertinent to a test of Ausubel's statement.

Halpern (1953) used the Rorschach as a technique for investigating personality organization and ego functioning in childhood developmental stages. Her findings, based on global interpretations of Rorschach tests, can be interpreted as supporting Ausubel's thinking of satellization. Basing her analysis of the Rorschach upon psychoanalytical concepts, she was able to use this test to differentiate disturbed and non-disturbed children within the age range of 4 to 10 years. Goldfarb (1949) also has employed the Rorschach to detect personality differences between institutionally reared, foster home, and schizophrenic children. He used a sign-approach technique to distinguish among his three groups. Of 14 signs used, 8 differentiated between all three groups.

In summary, it may be said that Ausubel has developed a detailed conceptual system which deals with personality development. In this system, Ausubel uses a set of concepts which are different from those used by other theorists. It is important to come to some understanding of the similarities and differences which exist between Ausubel and others.

Two of Ausubel's statements about non-satellizers

(as compared with satellizers) have been selected for consideration. These statements are: (1) Non-satellizers differ from satellizers by having a less healthy personality structure. (2) Non-satellizers differ from satellizers by being more analytic and independent in perceptual and cognitive activities.

If these statements are tested by techniques developed in other theoretical contexts, a comparison between Ausubel and other theorists becomes possible. If his statements are confirmed, not only is Ausubel correct, but there is a correspondence between the behavior he describes and the concepts used by others. If his statements are refuted, then Ausubel is wrong or the concepts used by him and by others demand further clarification.

The research described below is designed to test Ausubel's statements by the use of techniques developed in theoretical contexts other than his.

CHAPTER II

PROBLEM

Statement of Problem

Ausubel has provided a rich, atypical theory of personality development which contains a number of immediately testable statements. In his theory, ego development is seen as being dependent upon what happens during a series of critical stages. Of central importance to Ausubel's theory are his interpretations about that stage of development which concerns itself with the satellizing process.

Immediately, two questions are posed by Ausubel's interpretation: (1) Are the statements he has to make about the satellization process correct? (2) How (if at all) can Ausubel's views be related to the views of other theorists? The major purpose of this study is to test Ausubel's statements about the satellizing process. A secondary purpose is to conduct these tests by means of techniques which will permit interpretations from the viewpoints of Ausubel and of other theorists.

Concretely, Ausubel sets up the following preconditions for satellization:

1. Emotional acceptance of the child by his parents.
2. Intrinsic valuation of the child by his parents.

Further, he states that satellizers differ from non-satellizers in the following fashion:

1. The satellizer is considered as more dependent, more passive, and more subservient than the non-satellizer.
2. Differences in relationships to authority figures follow from the above characteristics. The satellizer seeks approval and approbation from parents and feels more secure and accepted (than the non-satellizer) in his relationships with parents and surrogates. The non-satellizer, being rejected or extrinsically valued, is resentful of authority figures and seeks direct self-approval through others. Insecurity in relationships with authority figures is supposed to characterize the non-satellizer.
3. Because of the differences in types of ego structure posited, differences in perception between satellizers and non-satellizers should exist; i.e., because the non-satellizer is more independent, less passive, and less deferent than the satellizer, and because ego structure and perception are related, the non-satellizer is more analytic in his perception of the environment.

The following predictions are implied by Ausubel's statements:

Prediction I. Differences in ego structure and identification between satellizers and non-satellizers can

be detected by the use of the Rorschach. Since Rorschach responses can be analyzed in different ways, two modes of analysis will be used, the sign approach and global interpretation.

A. Sign-approach.

1. More non-satellizers will give P responses than will satellizers, because of the non-satellizer's need to gain primary status and to experience extra-family acceptance.

2. Fewer non-satellizers will give M responses than will satellizers, because the non-satellizer's basic lack of emotional acceptance and intrinsic valuation does not facilitate introspectional behavior.

3. More non-satellizers will give W responses than will satellizers because of the non-satellizer's precocious need to organize and structure his external environment.

4. More non-satellizers will give WX and DW responses than will satellizers because the non-satellizer lacks internal controls of his impulsivity and because of his feelings of insecurity.

5. Fewer non-satellizers will give H responses than will satellizers, because the non-satellizer has not experienced the kind of parent-child relationship which encourages spontaneous associations to human forms and figures.

6. More non-satellizers will give (H) responses than will satellizers, because the non-satellizer has neither

been accepted by nor intrinsically valued by parents, and he regards parental authority with greater feelings of threat, fear, anxiety, and mistrust than does the satellizer.

7. More non-satellizers will give C and CF responses (as compared with FC) than will satellizers, because the non-satellizer lacks the affective controls which depend upon a devaluation identification. As a consequence, he is less emotionally mature, more self-centered than is the satellizer.

8. More non-satellizers will give Y and YF (achromatic color) responses than will satellizers, because the non-satellizer's conflicts with authority figures are more intense and anxiety producing than are the satellizer's.

B. Global interpretation.

Rorschach records of non-satellizers will be interpreted as reflecting emotional disturbance more frequently than will the Rorschach records of satellizers.

Prediction II. Non-satellizers are more efficient in perceptually isolating an embedded figure. As a consequence of the fact that three different measures of efficiency will be used, three specific predictions emerge:

A. Non-satellizers will take less time to isolate embedded figures than will satellizers.

B. Non-satellizers will be more accurate in isolating embedded figures than will satellizers.

C. Non-satellizers will exhibit less dependency (fewer appeals for aid, assistance, and approval) upon the experimenter in isolating embedded figures than will satellizers.

CHAPTER III

METHOD

Characterization of Population

Since the characteristics of the population from which the sample was drawn are critical for this study, it would do well to describe them in some detail.

Because of the importance Ausubel's system places upon developmental stages, chronological age was of primary importance. According to this system, age eight is the point at which the intensity of the satellizing process is expected to reach a maximum; therefore it was most likely that differences between satellizers and non-satellizers would be detectable at this age. Since enough eight-year-olds were not available for study, subjects were used who fell in the range seven to nine years of age.

The second characteristic of importance concerns Ausubel's definition of "satellizers." Ausubel uses two different criteria for the determination of satellizers and non-satellizers. The relationship between these criteria is not clear, nor does Ausubel offer any evidence for the relationship between the two. One set of criteria may be characterized as sociological, and the other set as

psychological.

The non-satellizer is a child who is either emotionally unaccepted or extrinsically valued by the parents. Necessarily, the following conditions lead to lack of acceptance and of intrinsic valuation: (1) physical separation; (2) neglect; (3) disavowal of responsibility for care; and (4) denial of legitimate needs of the child.

Therefore, children who have been taken from the home (generally by court order) and placed in an institution for "dependent" children must be non-satellizers according to the criteria of rejection Ausubel uses to define this category. Satellizers will come from the group of children for whom these conditions do not exist. Because of the second set of criteria Ausubel uses, however, one cannot assume that all children who have not been rejected in the sociological sense are satellizers.

For Ausubel, a critical factor for determining whether the child is emotionally accepted and intrinsically valued is the child's perception of the parental attitudes. Ausubel uses the Parent Attitude Rating Scale to determine the child's perception. In the research which has appeared to date, the child's score on this scale defines the degree of acceptance and of intrinsic valuation. Those children who have not been rejected sociologically and who (as indicated by a high score on the Parent Attitude Rating Scale) perceive themselves as being emotionally accepted and in-

trinsically valued must be satellizers.

A problem arises when one has to consider the possible contradiction between Ausubel's criteria. There may exist children who have been rejected according to sociological criteria but who perceive themselves as being accepted by their parents. Similarly, there may be children who have not been rejected sociologically but who perceive themselves as being rejected by their parents. Neither of these kinds of children were used in the study; i.e., only those children who were rejected sociologically and who perceived themselves as being rejected, and those children who were not rejected sociologically and who perceived themselves as accepted were selected as subjects.

There is some indication that socio-economic status is related to satellization (Ausubel, 1958). Accordingly, two groups of subjects were obtained in the following manner:

One group of subjects was obtained from institutions for dependent children, the second group obtained from a public school which was attended by children of comparable socio-economic level. A total PARS score (sum of acceptance and intrinsic valuation scores) was obtained for all subjects. From the public school group, only subjects whose cumulative PARS score was equal to or greater than the highest scoring subject in the institutional group were selected. Thus, the PARS scores for the institutional group

ranged from 14 to 28. The non-institutional group's PARS scores ranged from 28 to 32.

Further, only subjects from the public school group were selected who scored high on both sub-scales of the PARS. This insured that subjects selected from the public school perceived themselves as both accepted and intrinsically valued.

There were now two distinct groups formed by the interaction of sociological and psychological criteria: institutional and non-institutional. Subjects in the non-institutional group (satellizers) were clearly differentiated from subjects in the institutional group (non-satellizers) on the basis of both sociological and psychological criteria.

Description of the Sample

The sample population for this study consisted of white, male, grade school children within the age range of seven through nine years, divided into two main groups. Each child's age was computed as to year and month, according to Wechsler's method (WISC Manual, 1949). The mean age of the total sample was 105.31 months. The non-institutional group's mean age was 108.2 months. The institutional subjects' mean age was 102.8 months. A test of differences in mean ages yielded a $t = 1.79$; $df = 40$; $.10 > P > .05$; not significant.

Insofar as possible and practical, homogeneity of religious, racial, and socio-economic backgrounds was main-

tained. All children included in the sample were drawn from families of Protestant faith, limited to at least third generation nationality, and from comparable lower socio-economic status. These factors were determined by official records, reports, and case history materials.

Each child was considered of average intelligence on the basis of his performance on the California Short Form Test of Mental Maturities (1957). The mean I. Q. for both groups was 103.36. An I. Q. range of 88 to 114 was obtained on the total sample population. The mean I. Q. for the non-institutional group was 103.8. The institutional group's mean I. Q. was 102.6. A test of significant differences in means yielded a $t = 0.54$, $df = 40$; $.30 > P > .25$; not significant. Educational retardation did not serve for a criterion of intelligence.

No child with a physical handicap was included in the sample.

Non-satellizers. The first group of subjects was selected from a state child-care institution, and from a private, denominational institution for dependent children. These subjects had been placed in the institutions on the basis of parental rejection. The condition of rejection was verified by court reports and/or case records.

The social background and parental history of each child selected for this group is maintained in a confidential social case summary kept by the institution. Each child's

case was reviewed, and those characteristics of rejection listed by Ausubel (physical separation, neglect, disavowal of responsibility for care, denial of legitimate needs of the child) were recorded. From this information, a classification of incidence and type of rejection was developed (see Appendix A).

In order to control for the possible influence of group living, particularly in regard to the first or omnipotent stage of ego development, it was decided that each subject's residence was not to have exceeded two years prior to his fifth birthdate. Further, only subjects were selected who had spent no more than a total of two years in the institution. The mean residence for all subjects in the institutional group was 11.5 months; months in residence ranged from one to twenty-four.

No subject, then, was included in this sample population who spent his formative, omnipotent stage of ego development in an institutional setting, and the influence of group-living factors was minimized by this residence limit.

Satellizers. The second group of subjects was drawn from an elementary public school population. According to school records, both parents of these subjects were present and residing in the home. Thus, one major variable of Ausubel's definition of rejection (physical separation) was immediately taken into account.

In order to control for the possible influence of

socio-economic background, the second group of subjects was drawn from a school located in a lower-working class neighborhood. This socio-economic status was similar to the background from which the institutional subjects came.

Number of subjects. Forty-two subjects were used in this study. Twenty-one subjects were non-satellizers (selected from institutions), and twenty-one subjects were satellizers (selected from an elementary school population).

In the non-satellizer group, fourteen subjects were selected from the state institution; seven from the private child-care institution. All subjects in the non-satellizer group had been placed in the institutional setting by court order.

Experimental Procedure and Materials

Each child serving as a subject was seen alone in a room designated by the institution or school authorities. The Children's Hidden Embedded Figures Test, the Rorschach, and the Parent Attitude Rating Scale were administered. The PARS was administered and scored first, and subjects were assigned to groups partly on the basis of this score. The Rorschach and CHEF were then administered to each subject in one sitting. Each subject was thus seen on two occasions.

The Parent Attitude Rating Scale

The Parent Attitude Rating Scale¹ (Ausubel et al., 1954b) consists of 36 items, grouped into two separate scales. The first 18 items make up the Acceptance-Rejection Scale; the second group of 18 items make up the Intrinsic-Extrinsic Valuation Scale. The correlation of the two sub-scales is .91 (Ausubel et al., 1954b).

Procedure. For this study, a modified form of the PARS was used (see Appendix B). Instead of being asked to read and then rate each item on a five-point scale, each subject was asked to answer "yes" or "no" to each of the 18 items on the two sub-scales. In addition, the examiner read each item to each subject, and marked the response. This procedure circumvented the variation in reading abilities expected in the subjects.

Scoring. Each item of the modified PARS was scored / or -, according to the subject's response. A positive or correct response to an item indicates that the subject perceived himself as accepted or intrinsically valued by his parents. Each subject's score for the PARS was the sum of the correct responses to the Acceptance and to the Intrinsic Valuation sub-scale items. Maximum score obtainable was 36.

¹The PARS was obtained for use in this study by personal communication with Dr. David P. Ausubel.

Children's Hidden Embedded Figures Task

The Children's Hidden Embedded Figures test² was used to test for differences in perceptual mode between satellizers and non-satellizers. The subject's task was to isolate a "simple" figure from a "complex" figure in which it was embedded. (For complete instructions and administration details, see Appendix C.)

Materials. There are three "simple" figures: Square, house, and kite (see Appendix D₁). Each of these figures is made of 1/4" pressboard. The square is 5" x 5" in size, the house is 6" x 3", and the kite is 5-1/2" x 3-1/2". There are 20 "complex" figures, each of which is made of 1/4" pressboard and is 2' x 2' in size. Each complex figure is broken into a number of irregular subforms by using a combination of colors and indented black lines. In each complex figure, a simple figure (the appearance of which is camouflaged by the irregular subforms) is embedded (Appendix D₂). The "test" consists of 18 complex figures, two complex figures being used for examples prior to the test itself. Each of the 18 complex figures is representative of a human or humanlike form (man, robot) or of a familiar object (airplane, chair, car, barn, etc.). There are four complex figures in which the square simple figure

²The Children's Hidden Embedded Figures test materials, and administration and scoring procedures were obtained for this study through the cooperation of Dr. H. A. Witkin.

is embedded, eight complex figures containing the house simple figure, and six complex figures containing the embedded kite simple figure.

Two, three, or four colored knobs are placed in each complex figure. One of these is attached to the "hidden" embedded simple figure, the others to various subforms. No two knobs have the same color; each knob is colored red, blue, yellow, or silver.

The subject can identify the embedded figure by naming the color of the knob attached to it, or by releasing the simple figure from the complex figure by pulling the knob. Only the correct simple figure can be pulled out of the complex figures. All other parts of the complex figures are fixed; therefore, pulling the knob attached to any area other than the embedded figure will not result in the release of the subform area.

In addition to the simple and complex figures, there is a set of "learning" figures for each simple figure. The learning sets consist of a total of 25 figures made of 1/4" pressboard, 1" x 1" in size. These learning figures differ from the appropriate or "correct" simple figure in size or shape; however, each one is more similar to the appropriate simple figure than it is to any other simple figure (Appendix D₃). The simple figures of each learning set are all of uniform color (brown), with indented black line borders, and they are presented on a white background. Each has a colored

knob attached to the center; however, only the "correct" simple figure is releasable.

The function of these learning figures is to help make certain that each subject knows the characteristics of the simple figure for which he is looking.

The learning sets and complex figures were presented on an easel, the back-board of which is 2' x 2' in size. The complex figures and learning sets were secured to the board by clothespin clamps.

Procedure. The subject was seated approximately seven feet from the easel. The test began (after a brief description of the "puzzle" games was given to the subject) by telling the subject about the square simple figure and by presenting the learning series for that simple figure. The correct square was presented on the easel with three "incorrect" figures. Each subject made his choice from his chair, then came to the easel to "pull out" his choice of the simple figure. The subject used the color of the knob to identify the simple figure he had chosen; no two knobs were the same color in either a learning set or in a complex-figure presentation.

After the learning of the correct square simple figure in three learning series, the two "sample" complex figures (square) were presented. These were followed by the four "test" complex square figures.

This procedure was duplicated for the eight house

and the six kite complex figure "test" presentations. No sample complex figure was presented prior to the "test" complex figures for either the house or kite series, and only two learning series were run for the orientation of the house and kite simple figures. Thus, each subject responded to a total of 25 learning figures, 2 sample (square) figures, and 18 "test" complex figures.

Scoring. Each subject's responses were scored for both time and correctness. The "correct" score for each trial was a / or -. A / was given if the subject chose the correct knob-color from his chair; a minus was given if he made an incorrect choice. If the subject had named the wrong knob color and changed to the correct one at the board, he was still considered to have missed the item. This scoring was necessary because the visual cues that can be picked up close to the board invalidate the subject's choice. The total correct score for each subject was the number of plus scores from all of the 18 test complex figures. Maximum score obtainable was 18.

The time score for each trial was the time in seconds that elapsed between the subject's identification of the total figure (see instructions in Appendix C) and the subject's choice of knob color. The total time score for each subject was the sum of the 18 separate time scores (one for each complex test figure).

Rorschach

Procedure. The Rorschach was administered to each subject. The instructions for individual administration and inquiry procedures were the same as those utilized and presented by Halpern (1953). For purposes of rapport and control, each subject was seated facing the examiner. Aside from this, and the exercise of clinical judgment to meet the demands of the situation, the test procedures adhered as closely to the standard form of administration as possible.

Each subject's protocol was scored independently by two judges. Of a total of 851 responses in the Rorschach protocols, the judges disagreed on 138, or 16 per cent. However, 85 of these disagreements (65 per cent) were differences in content scoring. That is, a disagreement was counted if one judge scored a response as C1, the other wrote "clouds." Another example of disagreements in scoring content: one judge scored content as Art, the second judge scored "design." Excepting disagreement in content scoring, then, only 7 per cent disagreement in sign scoring was encountered. Therefore, Rorschach scoring was considered as quite reliable for the purposes of this study. In addition, any differences in scoring that existed were resolved by mutual agreement between the two judges. These scores were used for sign analysis and the global interpretation.

Two different analyses of the Rorschach were used to evaluate differences in ego structure and identification

between satellizers and non-satellizers.

Sign-approach analysis. For this analysis, only the first response on each card was scored for the following signs: W, DW, WX, Y, YF, C, CF, FC, P, M, H (Beck, 1944); and (H) (Phillips and Smith, 1953). The subject's score for each sign was the number of times that sign appeared as a first response. The maximum score for each sign was, therefore, 10.

Global interpretation. A complete summary of the scoring for each subject and a typed copy of the free association and inquiry responses were given to three clinical judges. No other identifying material was presented. Using Halpern's standards (1953, Ch. 4), each judge, working independently, placed each child into one of two groups: adjusted or non-adjusted. A subject's final placement in a group was based upon a majority decision among the judges.

CHAPTER IV

RESULTS

All statistical tests are evaluated against a significance level of 0.05. Because the predictions made are of specific concern, all tests are one-tailed. Since the customary use of Chi^2 to test independence entails a one-tailed region of rejection that conceals a two-tailed region of rejection, some awkwardness in reporting results appears. All results reported below as "significant" are to be understood as being one-tailed significant; however, all Chi^2 values fall into the usual .05 region of rejection. All significant Chi^2 values had Yate's correction applied.

Rorschach Data

Table 1 presents the distribution of satellizers and non-satellizers over the Rorschach signs. The evaluations of the predictions under Prediction I-A follow:

1. More non-satellizers will give P responses than will satellizers. A test of independence (Table 1 a) yielded $\underline{\chi^2} = 1.56$, $\underline{df} = 1$; not significant.
2. Fewer non-satellizers will give M responses than will satellizers. A test of independence (Table 1 b) yielded $\underline{\chi^2} = 1.03$, $\underline{df} = 1$; not significant.

Table 1

Distribution of Satelliizer and Non-satelliizer Groups
 over Rorschach Signs: P, M, W, (WX / DW), WX,
DW, H, (H), (C / CF) - FC, CF, FC, C,
(Y / YF), Y, FY and Pathological Sign

a.		b.		c.				
<u>P</u>		<u>M</u>		<u>W</u>				
Above Med.	Below Med.	Yes	No	Above Med.	Below Med.			
Sat.	7	14	Sat.	10	11	Sat.	9	12
Non-sat.	11	10	Non-sat.	7	14	Non-sat.	13	8
$\frac{\chi^2}{P} = 1.56$ $P > .05$		$\frac{\chi^2}{P} = 1.03$ $P > .05$		$\frac{\chi^2}{P} = 1.53$ $P > .05$				
d.		e.		f.				
<u>(WX / DW)</u>		<u>WX</u>		<u>DW</u>				
Yes	No	Yes	No	Yes	No			
Sat.	6	15	Sat.	6	15	Sat.	0	21
Non-sat.	15	6	Non-sat.	9	12	Non-sat.	6	15
$\frac{\chi^2}{P} = 6.10$ $P < .05$		$\frac{\chi^2}{P} = .93$ $P > .05$		$\frac{\chi^2}{P} = 5.70$ $P < .05$				
g.		h.		j.				
<u>H</u>		<u>(H)</u>		<u>FC</u>				
Yes	No	Yes	No	Yes	No			
Sat.	9	12	Sat.	6	15	Sat.	11	10
Non-sat.	13	8	Non-sat.	13	8	Non-sat.	6	15
$\frac{\chi^2}{P} = 1.53$ $P > .05$		Fisher's Exact Test $P < .05$		$\frac{\chi^2}{P} = 2.47$ $P > .05$				

Table 1 (continued)

k.	$\frac{CF}{\text{Yes}} \quad \text{No}$		m.	$\frac{C}{\text{Yes}} \quad \text{No}$		n.	$(\frac{Y}{\text{Yes}} / \frac{YF}{\text{Yes}}) \quad \text{No}$	
Sat.	10	11	Sat.	1	20	Sat.	2	19
Non-sat.	10	11	Non-sat.	6	15	Non-sat.	16	5
$\frac{\chi^2}{P} = 0 > .05$			Fischer's Exact Test $P < .05$			$\frac{\chi^2}{P} = 21.48 < .05$		
o.	$\frac{Y}{\text{Yes}} \quad \text{No}$		p.	$\frac{YF}{\text{Yes}} \quad \text{No}$		q.	Pathology sign $\text{Yes} \quad \text{No}$	
Sat.	1	20	Sat.	1	20	Sat.	7	14
Non-sat.	8	13	Non-sat.	8	13	Non-sat.	17	4
$\frac{\chi^2}{P} = 5.09 < .05$			$\frac{\chi^2}{P} = 5.09 < .05$			$\frac{\chi^2}{P} = 7.88 < .05$		

3. More non-satellizers will give W responses than will satellizers. A test of independence (Table 1 c) yielded $\chi^2 = 1.53$, $df = 1$; not significant.

4. More non-satellizers will give WX and DW responses than will satellizers. A test of independence (Table 1 d) yielded $\chi^2 = 6.10$, $df = 1$; significant.

a. A supplementary test of independence involving WX only (Table 1 e) yielded a $\chi^2 = .93$, $df = 1$; not significant.

b. A supplementary test of independence involving DW only (Table 1 f) yielded a $\chi^2 = 5.70$, $df = 1$;

significant.

5. Fewer non-satellizers will give H responses than will satellizers. A test of independence (Table 1 g) yielded $\chi^2 = 1.53$, df = 1; not significant.

6. More non-satellizers will give (H) responses than will satellizers. Fisher's exact test of independence (Table 1 h) yielded one-tailed P < .05; significant.

7. More non-satellizers will give C and CF responses (as compared with FC) than will satellizers. The Mann-Whitney U test yielded z = 2.53, one-tailed P < .05; significant.

a. A supplementary test of independence involving FC only (Table 1 j) yielded $\chi^2 = 2.47$, df = 1; not significant.

b. A supplementary test of independence involving CF only (Table 1 k) yielded $\chi^2 = 0$, df = 1; not significant.

c. Fisher's exact test for independence involving C only (Table 1 m) yielded one-tailed P < .05; significant.

8. More non-satellizers will give Y and YF responses than will satellizers. A test of independence (Table 1 n) yielded a $\chi^2 = 21.48$; df = 1; significant.

a. A supplementary test of independence involving Y only (Table 1 o) yielded $\chi^2 = 5.10$, df = 1; significant.

- b. A supplementary test of independence involving YF only (Table 1 p) yielded $\underline{\chi^2} = 5.10$; df = 1; significant.

In an attempt to supplement and summarize the sign approach, two additional analyses were conducted.

The first analysis dealt with the number of the above signs which appeared in each subject's record. It is clear that non-satellizers' records should contain more of these signs than do the records of satellizers. The Mann-Whitney U test yielded $\underline{z} = 1.81$, one-tailed $\underline{P} < .05$; significant.

The same conclusion is reached if the two groups are compared only with respect to the number of those signs for which a greater frequency of appearance for the non-satellizers was predicted (W, WX, DW, (H), C, CF, Y, YF, P). The Mann-Whitney U test yielded $\underline{z} = 4.55$, $\underline{P} < .05$; significant.

The second analysis dealt with the use of signs of pathology (Beck, 1944; Phillips and Smith, 1953). Pathology indicators were: fabulation, confabulation, contamination, "clob" (shading shock), and Hdx or Adx. Depending upon whether his record contained at least one such sign, each subject was placed into one of two classes: Those subjects whose records did contain such a sign were placed in the "Yes" group; others were placed in the "No" group. A test of independence (Table 1 q) between presence of pathological sign and satellizer category yielded $\underline{\chi^2} = 7.88$, df = 1; significant.

Prediction I-B states: Rorschach records of non-satellizers will be interpreted as reflecting emotional disturbance more frequently than will the Rorschach records of satellizers. A test (Table 2) between disturbed--non-disturbed and satellizer--non-satellizer yielded $\chi^2 = 18.67$; $df = 1$; significant.

Table 2

Distribution of Satellizers and Non-satellizers
over Disturbed--Non-disturbed Judgments

	Disturbed	Non-disturbed
Satellizers	3	18
Non-satellizers	18	3
$\chi^2 = 18.67$ $P < .05$		

CHEF Data

Prediction II, involving data from the Children's Embedded Figures test, contained these specific predictions:

II-A. Non-satellizers will take less time to isolate embedded figures than will satellizers. The mean for non-satellizers is 408.0; the mean for satellizers is 256.0. A test for the difference between means yielded $t = 4.17$, $df = 40$; significant.

II-B. Non-satellizers will be more accurate in isolating embedded figures than will satellizers. A Mann-Whitney U test yielded $z = 1.60$; not significant.

II-C. Non-satellizers will exhibit less dependency (fewer appeals for aid, assistance, and approval) upon the experimenter in isolating embedded figures than will satellizers. A test for independence (Table 3) yielded $\chi^2 = 17.67$, $df = 1$; significant.

Table 3

Distribution of Satellizers and Non-satellizers
over CHEF Dependency Appeals

	Yes	No
Satellizers	20	1
Non-satellizers	6	15
$\chi^2 = 17.06$ $\underline{P} < .05$		

CHAPTER V

DISCUSSION

The results reported in the previous chapter make it possible to evaluate the predictions derived from Ausubel's position:

Non-satellizers have a personality structure that is less healthy than that of satellizers. This prediction was tested by analyses of Rorschach records. It was predicted that non-satellizers would exhibit the following Rorschach signs more frequently than would satellizers: WX / DW, (H), Y / YF, (C / CF) - FC, W, and P. The first four of these predictions were supported by the data. Supplementary analyses indicated that more non-satellizers gave DW (but not WX) responses than did satellizers, that more non-satellizers gave Y and YF responses (individually) than did satellizers, and that more non-satellizers gave C (but not CF or FC) responses than did satellizers. The last two predictions were not supported by the data.

It also was predicted that non-satellizers would exhibit the following Rorschach signs less frequently than would satellizers: M and H. These predictions were not supported by the data.

The non-supported predictions are a cause of some concern. Unfortunately, they all involve signs that have somewhat ambiguous meaning. Apparently, W is nondiscriminating because its frequency of occurrence for this age group is too high (Halpern, 1953). All but one of the subjects gave at least one W response; therefore this measure could not differentiate between the two groups (see Appendix E). (Again, it should be noted that WX / DW and DW did differentiate between satellizers and non-satellizers.) P has been interpreted as indicating conformity to peers (Phillips and Smith, 1953) and as indicating the stereotyped patterning of behavior according to adult standards (Halpern, 1953). In this study, P may have reflected the former meaning for the non-satellizers and the latter meaning for the satellizers. The consequence of this dual meaning of P may have been the elimination of differences between the two groups. M, too, did not differentiate the groups; therefore these groups do not differ with respect to the amount of introspectional behavior. However, the quality of the M responses, as reflected in the global analysis, the analysis of pathological signs, and the association of M with (H), did differ between the groups. It seems fair to conclude that the fantasy life of the non-satellizers is as rich as that of the satellizers, but it is not as "healthy."

The prediction that satellizers would give more H responses than would non-satellizers was based on the ex-

pectation that the rejected children would have difficulty relating to other people. Implicit in this prediction is the interpretation of H as a measure of readiness to relate to others. However, H may also be interpreted as indicating sensitivity to people (Phillips and Smith, 1953). In the psychological world of the non-satellizers, it is obvious that this sensitivity is necessary for adjustment; i.e., in order to manipulate others one must know what others are like. Given this interpretation of H, one might expect non-satellizers to give H more frequently than do satellizers. In fact, non-satellizers did give more H responses than did satellizers, but this difference was not significant. In view of the lack of significance and of the post hoc reasoning, nothing more will be made of this trend. The difference between the two groups with respect to H is further indicated by the fact that not a single non-satellizer made reference to a parent, grandparent, or parent surrogate on the Rorschach, (Table 4). The difference in number of satellizers and non-satellizers who gave such a response is reliable; $\chi^2 = 6.1$, $P < .05$; significant.

Thus the four predictions discussed immediately above may not have been verified because the measures used were not refined enough. Further support for the overall prediction is obtained from the supplementary analysis of presence of any of the Rorschach signs.

Table 4

Distribution of Satellizers and Non-satellizers
over Parental Reference in Rorschach Records

	Yes	No
Satellizers	7	14
Non-satellizers	0	21
$\frac{\chi^2}{P} = 6.10$ $P < .05$		

If the subjects are classified by presence of any of the Rorschach signs (i.e., if the individual nature of the signs is ignored, and one records only whether the subject had any of these signs in his record), then it is clear that non-satellizers' records are more prone to contain such signs than are the records of satellizers.

In addition, one more prediction had been made: On the basis of a global evaluation, experienced clinicians would place more non-satellizers into a "disturbed" category than they would satellizers. This prediction was supported by the data. Additional support was provided by the supplementary analysis of pathological signs. More non-satellizers gave pathological responses (confabulation, contamination, "clob," fabulation, and Hdx or Adx) than did satellizers.

On the basis of a consideration of all the pertinent data, it is clear that Ausubel's prediction is verified.

Non-satellizers are more analytic and independent

in perceptual and cognitive activities than are satellizers.

This prediction was tested by the use of the Children's Embedded Figures test. The specific predictions were that non-satellizers would isolate the embedded figures more rapidly, with fewer errors, and with fewer appeals for help than would satellizers. The first and last predictions were supported by the data; the second prediction was not. Again, lack of support of a prediction may be attributed to measurement difficulties. Since unlimited time was allowed each subject, number of errors cannot be expected to be a very discriminating measure. If time permitted to find a solution had been uniform and short, it is likely that the number of errors would have differentiated between the two groups. As it is, the satellizers did make more errors than did the non-satellizers; however, the difference is not significant.

Once more, the data support Ausubel's prediction.

The following characteristics seem to describe the children who served as subjects:

Children who perceived themselves as accepted and intrinsically valued exhibited test behavior interpreted as more secure, less anxious, more emotionally mature, and less threatened by adults than did children who were rejected and extrinsically valued. In short, children considered as satellizers evinced greater ego strength, and were regarded as possessing a more healthy personality structure than did non-satellizers. However, these children were not considered

analytic or independent in perceptual-cognitive abilities, apparently not feeling compelled or forced to achieve and to evaluate their environment in a critical, sensitive manner.

On the other hand, the rejected and extrinsically valued children exhibited what is essentially interpreted as a primary disturbance of personality organization and functioning. These children can be described as anxiety-ridden, lacking affect control, exhibiting impulsive and aggressive behaviors, less emotionally mature, more autistic and experiencing greater conflicts with authority figures than do accepted and intrinsically valued children. In effect, these children demonstrated a more primitively developed ego structure. However, they performed more efficiently and effectively in a perceptual-cognitive task. They appear to "cope" better as the result of being rejected and extrinsically valued. Because of a less well organized ego structure, the rejected, anxious, and disturbed group of children seemed to be compelled to perform more independently and analytically, to be extra sensitive to the needs and wishes of others, and to attempt to manipulate their environment in a more aggressive, direct, self-enhancing, and prestige-seeking manner.

A problem of interest is that of relating Ausubel's thinking to the thinking of other theorists. It was noted in the Introduction that Ausubel introduces apparently new concepts and a new terminology. He has tested his ideas by

using a set of techniques which is not typical for the study of the kinds of processes he considers. In the current study, Ausubel's statements have been tested by the use of techniques which were developed in other conceptual frameworks. The analysis of the Rorschach, for instance, leans heavily upon a psychoanalytic interpretation. It is of more than idle interest, therefore, to see how strongly the data support Ausubel's statements. At the very least, one is now able to say that Ausubel's evaluation of the ego status of children is not markedly different from (or may be translated into) the evaluations made by essentially psychoanalytically oriented clinicians. Also, it now is apparent that the satellizing process is very close to "identification as a defense" used by psychoanalytically oriented writers (A. Freud, 1952; Hartmann, 1952; L. B. Murphy, 1957b). Although the discussions of several of these writers may be interpreted as being similar in intent to Ausubel's discussion of the satellizing process (1952a; 1957), Ausubel has served the very useful function of increasing the emphasis upon the autonomous functioning of the child and upon the effects on cognitive and perceptual functioning of identification processes. Further, his statement that satellization is maximal at about age eight raises some very important questions about the time of onset of various critical stages of development. The importance of longitudinal studies of the timing of these stages comes into focus.

The results of the current study, in conjunction with Ausubel's viewpoint, offer a possible explanation for some of Witkin's (1954) findings. Witkin (see p. 18) found that 13- to 15-year-olds and some adults with personality disorder performed more proficiently on the embedded figures test than did either young children or normal adults. Accepting the commonly held, but only implicitly stated assumption that most cognitive-perceptual functions increase in proficiency with age and with mental stability, Witkin was unable to account for his results. If one assumes that the 13- to 15-year-olds are undergoing a desatellization process (Ausubel, 1952a), and if one further assumes that desatellization vs. satellization has the same effect as non-satellization vs. satellization, then Witkin's results are understandable. In the throes of establishing a state of independence, adolescents must be highly analytic and critical for essentially the same reasons that such behavior characterizes the non-satellizer (who does not enter into a dependent identification process with parents). Longitudinal studies should reveal that proficiency in isolating embedded figures is related to the identification process in the sense that proficiency should increase at those times when the child is trying to establish himself as a relatively autonomous individual.

It may be of interest to present another post hoc finding of the current study. A number of writers, notably

Klein (1951), regard the Rorschach as a perceptual task. From this point of view, the person has to organize a complex of ambiguous stimuli. If the Embedded Figures test is compared with the Rorschach, it is seen to be a more structured perceptual task. How do the satellizers and non-satellizers compare with each other on each of these tasks with respect to accuracy of perception?

Table 5 contains the distribution of satellizers and non-satellizers over correct identifications of complex figures in which the simple figures are embedded. Before the subject isolated the simple figure, he was asked to identify the complex figure. Each subject was placed into one of two groups: one group contained subjects who identified all complex figures correctly; the other group contained subjects who made at least one incorrect identification. Only one satellizer had no incorrect identifica-

Table 5

Distribution of Satellizers and Non-satellizers
over Correct Identification of Complex Figures

	Yes	No
Satellizers	1	20
Non-satellizers	9	12
$\chi^2 = 6.43$ $\underline{P} < .05$		

tions, but nine non-satellizers had no incorrect identifications. A test of independence between satellizer--non-satellizer and correct-incorrect yielded $\chi^2 = 6.43$, $df = 1$, $P < .05$; significant. Thus, non-satellizers are more accurate perceivers in a relatively structured situation.

On the Rorschach, this direction is reversed. If those children who had an $F/\%$ of 80 or more are placed in one group, and all other subjects are placed in another group, then satellizers and non-satellizers distribute themselves over these two groups as in Table 6. Five non-satellizers had $F/\% \geq 80$, but 12 satellizers had such an $F/\%$. Fisher's exact test for independence between satellizer--non-satellizer and $F/\%$ yielded $P < .05$; significant. Thus, in the unstructured situation, the clarity of perception by satellizers was better than by non-satellizers.

Table 6

Distribution of Satellizers and Non-satellizers
over Good Form Per Cent

	Above 80%	Below 80%
Satellizers	12	9
Non-satellizers	5	16
Fisher's Exact Test		
$P < .05$		

If these results are corroborated by future research, then it would appear that the non-satellizers can function

adequately only in structured situations. By implication, when the situation is unstructured they do not have the inner resources to cope effectively with events. Under these circumstances, the analytic and manipulative techniques at their disposal are inadequate.

CHAPTER VI

SUMMARY

A limited aspect of Ausubel's theory of ego development was used as the basis for several predictions of differences between satellizers and non-satellizers with respect to ego structure, identification processes, and perceptual-cognitive abilities. Ausubel characterizes satellizers as being emotionally accepted and intrinsically valued children who dependently identify with their parents. Non-satellizers are seen as being rejected or extrinsically valued children who remain precociously independent, self-willed, and non-subservient in their relationships with parents.

Two main predictions were derived from Ausubel's conception of the satellizing process:

1. Non-satellizers have less healthy personality structure than do satellizers.
2. Non-satellizers exhibit more analytic and independent behavior in perceptual tasks than do satellizers.

These statements were tested by techniques derived from theoretical contexts other than Ausubel's; namely, by the Rorschach and the Children's Hidden Embedded Figures test.

Forty-two male children, seven to nine years of age, were used as subjects. Half of them were satellizers; the other half were non-satellizers. The non-satellizers were residents of two institutions for "dependent and neglected" children; in addition, they perceived themselves as rejected or extrinsically valued by their parents (as indicated by scores on the modified Parent Attitude Rating Scale). In order to minimize the effects of institutionalization, no non-satellizer had been in an institution for more than two years.

The satellizers were children who were matched with the non-satellizers with respect to age, socio-economic status, religious and ethnic characteristics, physical health, and intelligence. They came from homes in which both parents were present and residing. In addition, they perceived themselves as being accepted and intrinsically valued by their parents.

There was virtually no overlap of scores on the Parent Attitude Rating Scale for the two groups of selected subjects; i.e., the two low scores for the satellizers were equal to the high score for the non-satellizers. Thus, two distinct groups were formed for the research.

A series of specific predictions was derived. Essentially, those related to personality structure were tested by using the Rorschach; those related to perceptual efficiency were tested by the Children's Hidden Embedded Figures test.

Rorschach responses were analyzed by means of a sign approach based on first responses and by means of a global evaluation based on the total record. The following signs differentiated in the predicted direction between satellizers and non-satellizers: (WX / DW), DW, (H), (C / CF) - FC, C, (Y / YF), Y, YF, F%. The following signs did not differentiate between the two groups: P, H, M, W, CF, FC. In accordance with the prediction, experienced clinicians who made global evaluations with regard to "disturbed--non-disturbed" placed a significantly larger number of non-satellizers in the disturbed group.

Two of the three predictions about behavior on the Children's Hidden Embedded Figures test were supported: Non-satellizers isolated embedded figures more rapidly and with fewer bids for help than did satellizers. They did not, however, make fewer errors.

Thus, Ausubel's statements about satellizers and non-satellizers are supported by the data.

In an attempt to relate Ausubel's thinking to the thinking of others, techniques developed in conceptual frameworks other than Ausubel's were used in this study. A description of non-satellizers and satellizers in non-Ausubelian terms was offered: Non-satellizers, in many respects, showed what is essentially interpreted as a primary disturbance of personality organization and functioning. The analysis indicated the non-satellizer to be

anxiety-ridden, to have less affect control, to be more autistic, impulsive, and aggressive, less emotionally mature, and to experience greater conflicts with authority figures than do satellizers. A more primitively developed ego structure thus characterized the non-satellizer. Satellizers, who perceived themselves as accepted and intrinsically valued, presented behaviors indicating greater ego strength than did non-satellizers. Less anxious, more secure, more emotionally mature, less impulsive, more controlled in affect, and less threatened by adults, the personality organization of the satellizers was distinctly superior to that of the non-satellizers.

Some implications for future research were indicated.

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APPENDICES

Appendix A

Indices of Rejection of Institutional Children
Arranged per Subject by Ausubel's Criteria

Non-satellizers	Incidence of Rejection						
	Neglect		Denial of Responsibilities		Denial of Needs		
1.		1		1	1		
2.	1	1					1
3.					1	1	1
4.		1		1		1	
5.					1		1
6.		1		1			
7.		1	1	1			
8.	1			1			1
9.	1				1		1
10.	1				1		1
11.				1	1		1
12.		1		1			
13.		1			1		1
14.			1		1		1
15.		1		1			
16.		1	1	1	1	1	1
17.	1			1	1	1	1
18.	1				1	1	1
19.	1	1		1		1	
20.			1		1	1	1
21.	1			1	1	1	1

Note--Placement of rejection indices under Ausubel's categories was arbitrary in some cases. All children were, of course, physically separated from parents; only three criteria thus appear in table.

Appendix B

Parent Attitude Rating Scale

(Modified)

Group _____

Date _____

Grade _____

Birthday _____

Yes No

- ___ ___ 1. No matter what happens, I know that I can always turn to my parents for help.
- ___ ___ 2. My parents are nice to me most of the time, even when I do wrong.
- ___ ___ 3. Sometimes if I make a mistake my parents say that can happen to anyone.
- ___ ___ 4. My parents often tell the neighbors when I've done something wrong.
- ___ ___ 5. I know my parents love me.
- ___ ___ 6. My parents always tell me that something bad will happen to me if I don't behave.
- ___ ___ 7. My parents just don't care about what happens to me.
- ___ ___ 8. My parents punish me even if I didn't do something wrong.
- ___ ___ 9. Every time I make a mistake my parents get angry and yell at me.
- ___ ___ 10. I'm always scolded when I don't pick up my toys.
- ___ ___ 11. I can't tell my parents anything.

- ___ ___ 12. My parents act as if I were in the way.
- ___ ___ 13. When I have something to say, my parents listen.
- ___ ___ 14. My parents are interested in me.
- ___ ___ 15. My parents never punish me for something I
didn't do.
- ___ ___ 16. When I'm sick my parents are very worried and
try their best to make me well.
- ___ ___ 17. Sometimes my parents punish me more than I de-
serve to be.
- ___ ___ 18. I can tell my parents about things I do and
they seem to understand.
- ___ ___ 19. I'm afraid my parents will stop loving me if
I get bad marks.
- ___ ___ 20. My parents want me to be whatever I want to be.
- ___ ___ 21. No matter how I do things, I know my parents
like me.
- ___ ___ 22. My parents want me to be somebody important
when I grow up.
- ___ ___ 23. Sometimes I feel like doing something bad just
to see if my parents will still love me.
- ___ ___ 24. My parents don't push me into things.
- ___ ___ 25. My parents have already decided what I'm go-
ing to be.
- ___ ___ 26. As long as I do my best my parents are satisfied
even if other children can do things lots better.

- ___ ___ 27. My parents give me special treats to get me to do things better.
- ___ ___ 28. Somehow I know that no matter what happens, my parents will always love me.
- ___ ___ 29. As long as I do my best my parents are satisfied.
- ___ ___ 30. My parents always nag me to do things better.
- ___ ___ 31. My parents are nicest to me when I am good in school.
- ___ ___ 32. My parents feel that I am important, not what I do.
- ___ ___ 33. My parents often talk about what I am going to be when I grow up.
- ___ ___ 34. My parents like to have me show off in front of company.
- ___ ___ 35. My parents always listen to what I have to say.
- ___ ___ 36. My parents like me as I am.

Appendix C

Instructions for Administration of the Children's
Hidden Embedded-Figures Test

The examiner explains to the child, while taking him to the testing room, or while preparing the test that this is a "puzzle game." By discussing the child's interest in puzzles, his experience with them, and how this is "different from ordinary puzzles," E can usually create interest and curiosity about this "game."

After explaining the test as a "puzzle" to the child and while seating the child in his chair, the following instructions are given:

"This is your chair. You'll sit here and I'll put the pictures up on that easel, and show you how this is done." E places the square on the easel.

"All right--now look at this. What do we call this?" E outlines the square with his finger. If S responds "a frame," E indicates that the whole shape is what is being questioned. "Do you see this knob right here?" E points it out. "What color is it?" "All right, fine. Now that knob is here so that you can come up and pull this square right out of the board. Do you want to come up and pull it out so that you can see how it works?" After the child has pulled the square out, have him stand at the easel during the next instruction period.

"Next I'll show you a board with four shapes on it and I want you to find this very same square--exactly this very same size, exactly this very same shape. When you see it, tell me the color of the knob so that I'll know and then you can come pull it out. Now the knob can be different colors. See, I can take this knob off and put another one on--so it could be any of these colors. What color is this knob, and this, and this, and this? You see the color of the knob doesn't make any difference. The important thing is for you to find this very same square, the very same size, the very same shape. Do you want to ask any questions? All right, now go back to your chair and turn around and close your eyes until I get everything ready. This will take a little time, but I'll tell you as soon as it's ready." After the first learning set is prepared, say:

"All right, turn around and open your eyes. Now tell me, do you see the very same square we just saw? What color is the knob?" If S names the wrong knob, ask him to take his time and be sure to find the very same square, etc.

"All right, now come up and pull it out. Fine. Now you see we can't pull any of these other ones out."

If the child makes an incorrect choice, and comes up and tries to pull it out, he is told, "I guess that isn't it, is it? Now try and find our square." He is kept at the easel to do this. It is then important to include his wrong choice in the next learning set, to be sure he will not make

the same error again, even though he has presumably explained to E why it was a wrong choice.

Let S try by himself. "Only the right one, our square, can be pulled out. Now tell me what is wrong with this one." E indicates one of the other forms. "Why doesn't it look like our square?" After S has finished, "Now we'll do this again, just to be sure you know exactly what our square looks like." The next learning set is presented and the same procedure is followed. At the end of this set, the subject should remain at the easel for the following instructions.

"Now take a good look at this square because the next time I'm going to show you one of the big pictures." E indicates the boxes. "When you turn around in your chair and see the picture, tell me, first, what it is a picture of and then, in the picture, I want you to look for this very same square, the very same size, the very same shape. But this time the square might have different colors on it and it might have lines going through it." E should dramatize this by drawing imaginary lines on the square, etc. "But that doesn't make any difference if you can find this very same shape, this very same size. When you see it, tell me the color of the knob. All right?" S returns to his chair, faces away from the display easel, and E displays the first example figure.

"All right, ready, Turn around, open your eyes. Now

what would you call this?" If S has difficulty, E can say, "You can make it anything. What does it remind you of? Make up something." If S breaks it up and describes a square, a triangle, etc., E should encourage a whole percent, "Yes, but what does the whole thing look like?" Now look for the very same square and tell me the color of the knob when you see our square. All right, now come pull it out. Fine. You see it's the very same square--it doesn't make any difference that there are different colors, or that this line is here, because it's the very same shape and the very same size as our square. All right, now we'll do the next one." The same procedure is followed for the second example figure. After the last example, E presents the first test figure.

"Here's the next one. Tell me what it is and tell me the color of the knob that will pull out our square when you see it." At this point, E begins to structure the sequence of the test for the child. The more automatically the child can follow the sequence, the shorter the total testing time will be. The sequence is as follows:

1. "Turn around, open your eyes."
2. "Tell me, what is this a picture of?"
3. "Tell me when you have found our square."
4. "All right--come pull it out."
5. "Fine. Now you go back to your chair and turn around until I'm ready."

The child is always allowed to find the correct figure so that there is no failure. If he has made the wrong choice from his chair, but is certain and comes to pull it out, he is encouraged to find the correct one, and helped if necessary.

After the squares have been completed, the child is told:

"Now we're going to look for something different. We're not going to look for the square any more but now we will look for this." E shows S the house. "Shall we call this a house? See, here's the roof and here's the rest of the house. Now, just like the square, you can pull this out (have S do it), and now we're going to look for it--and you remember how it has to be exactly the same shape, the same size and in the same position--it couldn't be upside down, could it?" E then proceeds in the same way through two correct learning tests and then to the test items. The same procedure is followed with the "kites."

The child is always allowed to find the correct figure so that there is no failure. If he has made the wrong choice from his chair, but is certain and comes to pull it out, he is encouraged to find the correct one, and helped if necessary.

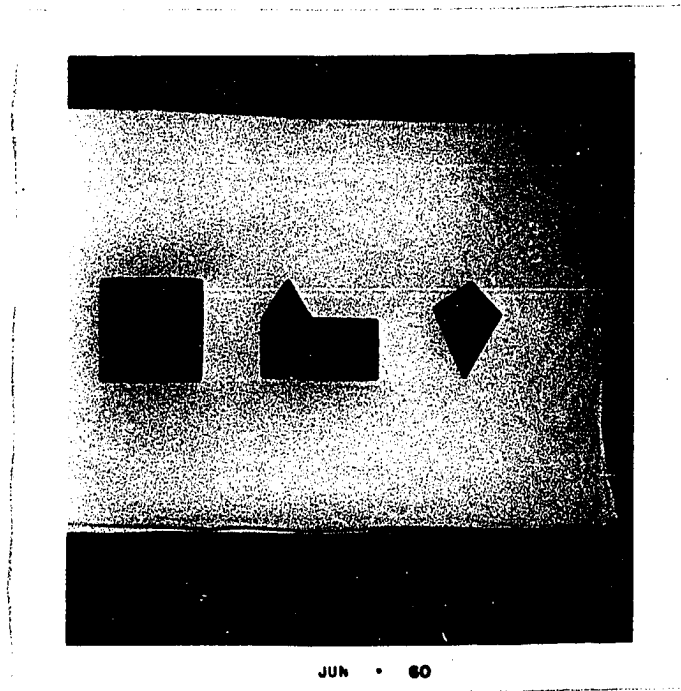
After the squares have been completed, the child is told:

"Now we're going to look for something different. We're not going to look for the square any more but now we will look for this." E shows S the house. "Shall we call this a house? See, here's the roof and here's the rest of the house. Now, just like the square, you can pull this out (have S do it), and now we're going to look for it--and you remember how it has to be exactly the same shape, the same size and in the same position--it couldn't be upside down, could it?" E then proceeds in the same way through two correct learning tests and then to the test items. The same procedure is followed with the "kites."

Appendix D

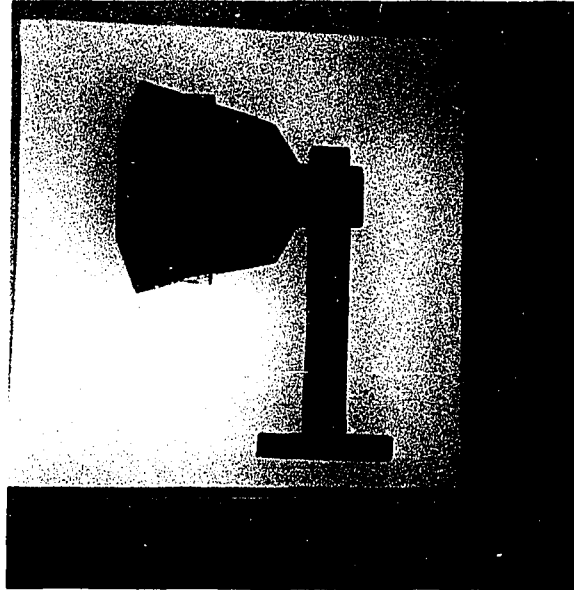
Children's Hidden Embedded Figures Materials

1. Small Simple Figures

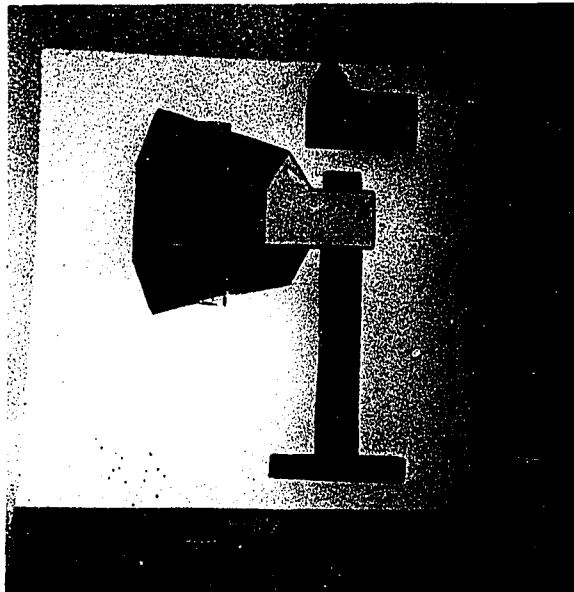


Children's Hidden Embedded Figures Materials

2. Complex Figure Containing Hidden Simple Figure



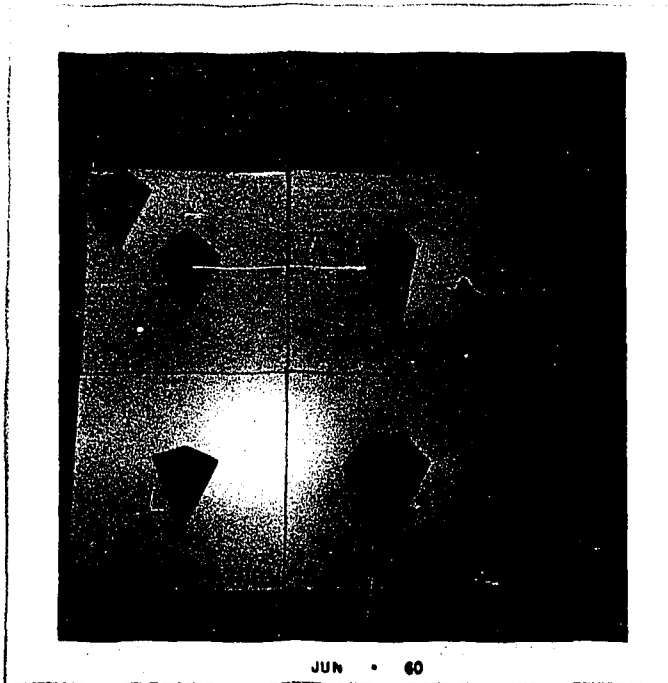
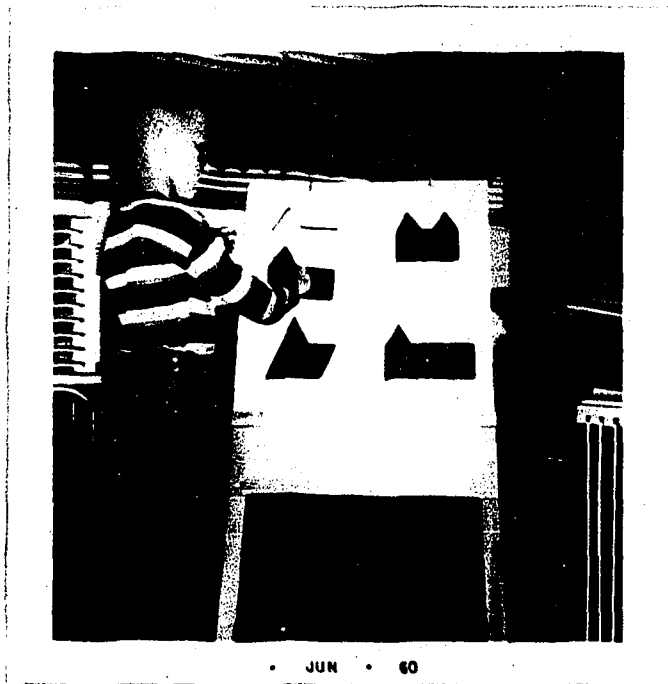
JUN • 60



JUL • 60

Children's Hidden Embedded Figures Materials

3. Example of House and Kite Learning Set



Appendix E

Rorschach Data: First Response Sign Scores,
 Pathological Sign, and Judges' Global
 Rating of Emotional Disturbance
 Arranged by Satellizer Group

Group	Rorschach Data													
	First Response Signs											Patho- logical Sign	Judges' Rating	
	P	M	W	WX	DW	H	(H)	FC	CF	C	Y		YF	Disturbed
1.	2		4	1				1						1
2.	7	3	5		4	1	1							1
3.	2		2					3						1
4.	2	1			2		1	1				1		1
5.	3	1	3		1		1					1		1
6.	2		4	3		1								1
7.	3		4									1	1	
8.	2	1	2	1	2	1	1					1		1
9.	4		4				1	1					1	
10.	1		3											1
11.	1	1	7		2		2	1				1		1
12.	7	1	6		4	1	1					1		1
13.	3		9					2						1
14.	2		3	1			2							1
15.	1		5	2		1		1						1
16.	2	1	8		2		1							1
17.	2		9					1					1	
18.	1	1	7			1		1		1		1		1
19.	4	2	4		3		1		1					1
20.	1		1				1							1
21.	2	2	6	2	2			1						1

Appendix F

Rorschach Data: First Response Sign Scores,
 Pathological Sign, and Judges' Global
 Rating of Emotional Disturbance
 Arranged by Non-satellizer
 Group

Group	Rorschach Data														
	First Response Signs											Patho- logical Sign	Judges' Rating Disturbed	N-D	
	P	M	W	WX	DW	H	(H)	FC	CF	C	Y	YF			
1.	2		2			2	1					1	1	1	1
2.	2	3	9			4	3	1	2					1	
3.	3		2					1					1	1	
4.	2		6	1						1	2		1	1	
5.	3		4	1	1	2	1					1	1	1	
6.	3		5		1	3	1	1				1	1	1	
7.	2	3	3		1	4	3	1	1			1	1	1	
8.	2	2	3	1		2	1	1					1	1	
9.	3		5	1					2		1	1	1	1	
10.	2	1	5			1		1			1		1	1	
11.	1		3	2		2	1		3	1	1		1	1	
12.	4		3			1							1	1	
13.	5		10				1	1	2			1		1	
14.	1		6	2										1	
15.	3		4	2			1		1	1	1		1	1	
16.	4	2	7	2	1	3	1	1	2		1	1	1	1	
17.	4		4	1	2								1	1	
18.	1		6			1			1	1			1	1	
19.	3	1	3			3	1			1			1		1
20.	3		5	1			2	1			1	1			1
21.	1	1	7			2	2	3		1			1	1	

Appendix G

Children's Hidden Embedded Figures Test Data:
 Time Scores, Accuracy Scores, and
 Dependency Appeals Arranged by
 Satellizer Groups

Group:	CHEF Data		
	Time Scores	Accuracy Scores	Dependency Appeals
	Total Seconds	Correct Responses	Total Number
1.	517	12	4
2.	239	16	7
3.	306	16	6
4.	328	7	4
5.	350	14	8
6.	582	15	12
7.	518	8	10
8.	269	15	8
9.	185	11	
10.	428	13	8
11.	425	5	2
12.	264	10	5
13.	251	12	1
14.	370	9	1
15.	365	14	4
16.	579	12	4
17.	313	11	6
18.	571	15	12
19.	503	11	8
20.	605	11	10
21	600	13	2

Appendix H

Children's Hidden Embedded Figures Test Data:
 Time Scores, Accuracy Scores, and
 Dependency Appeals Arranged by
 Non-satellizer Group

Group	CHEF Data		
	Time Scores	Accuracy Scores	Dependency Appeals
	Total Seconds	Correct Responses	Total Number
1.	360	11	
2.	230	16	1
3.	153	15	
4.	231	12	
5.	305	13	1
6.	480	16	1
7.	477	14	2
8.	243	13	
9.	223	8	
10.	211	10	
11.	185	6	
12.	211	11	1
13.	170	16	
14.	314	15	2
15.	167	14	
16.	177	14	
17.	320	12	
18.	211	11	
19.	310	16	
20.	271	16	
21.	119	16	

Appendix I

Subject at Easel with House Complex Figure

