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A MULTI-METHOD STUDY OF DEVELOPMENTAL DIFFERENCES IN
ADOLESCENTS WITH FUNCTIONAL AND ORGANIC COMPLAINTS

DISSERTATION
Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
Steven James Ruma, B.S., M.A.

* * * * * * *

The Ohio State University
1966

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CHAPTER I

INTRODUCTION

Charles Cofer (25) stated recently, "dependency, shown in behavior that elicits aid, assistance, and comfort from others, is a term commonly employed in clinical discussions of the motivation of both children and adult patients, especially in reports based on projective materials. So far as we are aware, however, it has received relatively little direct study of a systematic kind with adolescents and adults."

Recent reviews of the literature on dependency (115), most notably that by Hartup (58), reveals this statement to be true. This finding is all the more interesting in that of the several areas of conflict during development that are frequently cited by theoreticians as having universal applicability, one of the most important concerns dependence/independence.

Among the problems encountered by the adolescent . . . is his relation to adults, particularly his parents, and his gradual emancipation from adult controls in order to gain status and independence.

Thus, a desire for and often overt striving for independence are natural and common aspects of the adolescent period. The process of becoming independent in favor of self-dependence and self-support is known as psychological weaning and may be thought of as both an attribute and problem of the adolescent period. (64)

During adolescence the presence of unresolved "dependency conflicts" or long-standing unmet "dependency needs" will affect the overall adaptation to and successful coping with the developmental tasks of this period.
The child must accept a new role, one in which he is required to evolve his own goals, make his own plans and decisions, and assume responsibility for his own destiny. Thus, emancipation from home, parents, and the attitude of dependency is the major developmental task of adolescence. (5)

A successful coping with these tasks leads ultimately to the establishment of a "separate identity." Thus, in the "normal" developmental sequence we see emerging during the adolescent period the non-dependent, highly differentiated, "autonomous" ego which represents a successful psychological weaning and coping with the tasks of this stage.

But what of the adolescent who has difficulty coping with the developmental demands of adolescence? This frequently is the individual whose dependency needs and conflicts are sufficiently intense to render him susceptible to maladaptive coping with separation, increased independence and self-reliance. Is this the individual who appears in the Child Guidance Clinic and is diagnosed as an adolescent adjustment reaction? Is this the youngster who suddenly develops a school phobia upon entering high school and subsequently withdraws into himself and greatly limits his social participation? Or, is this the individual who develops physical symptoms as a means of expressing psychological stress? Any of the above behavioral reactions results in increased attention being paid to the individual. But especially the latter, the development of physical symptoms, usually results in attention, nurturance, care, support, and guidance from those around him. This is a means of handling stress which not only serves to vitiate anxiety since it is expressed somatically, but also implicitly ties him to and makes him dependent on others who must be concerned and care for him rather than developing more autonomous and self-reliant means for obtaining gratification of his needs.
The present study takes a look at a group of adolescents who fall into the latter category—those adolescents who present physical complaints, but whose symptoms prove to be functional (i.e., physical pain but no actual organic pathology). Clinically those patients are often conceptualized as manifesting "dependency conflicts" or "dependency needs." These conflicts or needs play a significant etiological role in the development of the symptomatology. Therefore, this group provides a good sample to examine the somewhat neglected construct of dependency with adolescent populations.

There is little doubt of the major importance of the types of behavior embodied in the construct of dependency and of its integral role in all theories of adolescent psychological development. With such an important construct it is puzzling that psychology has avoided any direct and systematic research with adolescents, especially since much attention has been paid to examining this "variable" with children by developmental and social psychologists. Unfortunately, although extensive efforts have been made to operationalize the construct in research with infants and children, the numerous methodological and conceptual inadequacies have been clearly seen and considerable difficulty has been met when attempts are made to define not only the concept but also employ it in research as a scientific variable with adolescents.

The resulting dilemma is rather stultifying, but one found all too frequently in scientific psychology: a major construct in developmental and personality theories dealing with socialization, which, because of its multi-faceted meaning, is difficult to subject to empirical validation. Nevertheless, because of the pressing need of the
professional worker in hospitals, clinics, and schools, for verbal tools which will describe and explain the wide range of behavior with which they have to deal, loose diagnostic and treatment concept must be adopted and used daily. Unfortunately, such concepts eventually become generalized to encompass structure (e.g., dependent personality), motivation (e.g., dependency needs), and behavior (e.g., dependent compliance and submissiveness). It is at this point that semantic problems develop, communication becomes ambiguous to the point of confusion, and theoretician, scientist, and practitioner must reevaluate and perhaps redefine. This is simply part and parcel of the scientific method to which we tenaciously cling: an examination of the constructs, the proven hypotheses and their interrelationship, which results in theory. The construct "dependency" is poorly operationalized with many hypotheses yet to be investigated and proven or disproven, but nevertheless is a core concept in several extensive interrelated theories. Perhaps it is here that part of the dilemma lies. Perhaps this is one of the reasons why the concept ". . . has received relatively little direct study of a systematic kind with adolescents." Is the concept a useful one? Should it continue to occupy its significant descriptive and explanatory role in theories of adolescent development with so little construct validation? Or, better yet, should the difficulties met in dealing with such a global construct point the way to alternative and perhaps more malleable conceptualizations and techniques?

The present study has critically evaluated the motivational--content oriented approaches emanating from traditional conceptualizations of dependency and explores alternative developmental-structural
constructs and methods which may help fill the gap which exists at present. However, prior to presenting the alternative approach used in this study of "dependency" phenomena, a brief look at the existing conceptual, theoretical, and methodological frames of reference is necessary in order to be aware of the difficulties and inconsistencies encountered thus far, and to identify those approaches and methods which have proven most and leave effective.
CHAPTER II

DEPENDENCY

Theoretical and conceptual issues

The term dependency has been used with a wide range of conceptual meanings. Unfortunately, these meanings frequently are bi-polar in nature and result in much ambiguity when attempts are made to compare research results and impose some form of order on a rather chaotic field. The term has been used both as a behavioral and motivational construct (58). As a behavioral construct it has been used to refer to a set of interrelated responses such as asking for help or reassurance, seeking physical contact, and attracting the attention of others. These responses have been considered as being "capable of eliciting attending and ministering responses" (7), or of being "... instrumental in obtaining social reinforcement" (58). In a recent article Richard Walters (115) points out that "immediately a semantic problem arises, for many of the responses that are instrumental in obtaining social reinforcement or gaining approval could readily be classified as "oriented toward achievement." Yet, in the American culture especially, achievement-oriented behavior is not only fostered and rewarded but also viewed as an indicator of independence. However, independence has been traditionally utilized to refer to behavior which embodies behavior which is the obverse of dependency.
Used as a motivational construct dependency has frequently referred to a unitary, discriminable drive, albeit a secondary drive which is acquired as a result of the interaction between the child and those who care for him during infancy and early childhood. Such a drive has been postulated by Beller (15), Heathers (60), and Sears (106). Sears et al. (106) suggest that the motivation involved in acquiring such a dependency drive emerges "only after the mother has occasionally failed to reward, or even has punished, dependent overtures in the child." The conflict engendered by the mother's failure to reward the child who is making dependent overtures results in dependency acquiring motivational properties. A somewhat different approach has been taken by Walters and Ray (114) and Hartup (58) who focus on behavior rather than motivation. Dependency behavior is learned in childhood as an anxiety reducing mechanism.

A problem commonly encountered is that the use of the construct in research and especially in clinical discussions as either a motivational or behavioral variable is seldom defined. The two are often used interchangeably thus affording the reader with little opportunity to categorize for himself in terms of a specific theoretical or conceptual framework.

A related issue has been the use of the term as a multidimensional or unidimensional concept. Beller's (15,16) studies have attempted to get at the unitary nature of a "general dependency drive." He focuses on the interrelation of five measures, all presumed to be components of a general dependency drive: seeking help, seeking physical contact, seeking proximity, seeking attention, and seeking recognition.
Using nursery school children as subjects and teacher ratings of the five components previously named, his findings have given "... impressive support for a unidimensional theory of dependency." However, because serious methodological questions have been raised concerning the "haloing" effects of the teachers ratings, the findings can only be considered as providing "tentative support for the hypothesis that dependency and independence are unitary dimensions."

The studies of Mann (81), Gewirtz (49), and Heathers (60), also conducted with nursery school children, do not provide any support for the unidimensional hypothesis. Gewirtz's findings, in fact, provide evidence that one dependency component (attention-seeking) is at least two-dimensional. Sears (106) in a summary article of his studies on dependency concludes that dependency is not a unitary construct. "Some camels have gotten into the tent of motivation," i.e., drive has been joined by several other constructs relating to the substantive rubric by which the particular drive is labeled, for example, actions, object choices, goals and traits. The main question then is whether drive construct and libido model which preserves it is necessary to the construct of dependency. A more basic question is what is dependency—a drive—a set of habit patterns—a set of actions? At the present Sears takes the position that drives may be an economical addition to a set of internal and external cues instigating dependent behavior. In the final analysis, though, the empirical question remains which can't be settled on the basis of our present data. The conflicting results of much of the research reported certainly lends itself to viewing the evidence as rather equivocal. In addition to the methodological weaknesses in
research which addresses itself to either the unidimensional or multidimensional problem the generality problem is ignored and dependency used as a label for a single unitary dimension in personality.

Related to the question of the degree of dimensionality of the concept of dependency is the delineation of conditions which lead a response to be classified as dependent. Behavior is commonly defined as dependent when it involves asking for help or soliciting approval. Yet an additional factor is often implicitly if not explicitly implied, i.e., the appropriateness of the request for help or approval in terms of the person's chronological age and the situation in which the request is made. It is when one begins to attempt to define what is and is not appropriate that, in the absence of empirical data, one often relies on judgments which may be value-laden. Behavior considered "appropriate" for females is often considered "inappropriate" for males; similarly, behavior is labeled "overly-dependent" in one situation and "pseudo-independent" in another, without specifying, or justifying the criteria by which the behavior is being evaluated. The establishment of normative data which would provide guidelines as to the appropriate degree and kind of dependency behavior in a wide range of situations and at various age levels seems needed to replace the often stereotyped and sometimes value-tinged definitions which pervade present thinking.

Conceptually then the major difficulties and confused issues which remain to be settled are the use of dependency as a behavioral or motivational construct; multidimensional versus unidimensional meaning; and the social judgments implicitly involved in the concepts' cultural relativity. The lack of clarity in any of the above aspects stems mainly
from the multiple ambiguities in the definition of the concept. Certainly available research techniques have not helped shed light on the already cloudy area; and, too gross generalizations have been made from too little empirically valid data.

Theoretically, classical psychoanalytic formulations and various social learning approaches, have provided the constructs and the hypotheses for most of the research on dependency.

In psychoanalytic theory dependency assumes an integral role in explaining the socialization of the child. Initially the child is involved in a symbiotic relation with others, most notably the mother, and does not differentiate himself from the world around him. The focus is completely narcissistic, i.e., on himself. As the child grows he differentiates himself from other objects in his environment and begins to function as an autonomous, though interdependent, member of society. During later developmental stages if the child acts in a manner which puts him in a position of being less responsible for himself, in other words when others have to take over decision-making and provide guidelines and attention when the individual should be functioning more autonomously, the theory holds that these are manifestations of "dependency needs" and are traceable to "oral deprivation during the early period of development in the mother-child relationship." The overly dependent "oral character" has often been described as an excessively dependent, passive individual. This, in analytic terms, is held to be a consequence of fixation at the early oral stage of development. It indicates that with respect to large areas of functioning that the individual is developmentally immature.
Personality development in psychoanalytic terms then has its foundation in the long period of the human child's dependency on others—most specially, his parents. The nature of the dependent relationship, the extent to which it is gratifying and satisfies the child's needs (warm, nurturant, affectionate, indulgent care by the mother during early infancy) is the extent to which the child will form a positive, trusting relationship with this primary object, the mother, and is held responsible for the child's capacity to form object relationships (the relationships of the individual to other persons) in general.

The developmental nature of the phenomena involved in the dependency construct as well as the interpersonal aspects is exemplified in a statement by Anna Freud (41).

The state of the individual's dependency or independence is assessed in accordance with his chronological age. This is accomplished mainly by observing the "uses a child makes consecutively of his parents." This begins with narcissistic unity with a motherly figure at the age when no distinction is made between self and environment and finds its closing stage when the child "uses" the parents to provide patterns for identification which are needed for building up an independent structure.

One of the basic notions of psychoanalytic theory directly related to the construct dependency and the present research is that of libido. Ego analytic theory has taken the classic psychoanalytic concept of libido and views it in a less biological manner and more in social terms, emphasizing the energy aspects of the person's investment in others. The child initially invests tremendous "energy" in his parents. As he grows and as his social milieu broadens—he separates more and more from parental figures as the prime objects in which he is investing, his "energy." In other words, as he becomes more of a separate
entity, and adopts a separate identity, thereby making him a more autonomous individual, this energy again for a short time becomes invested in himself, as in the early stages of adolescence, and slowly to peers and opposite sex. The developmental line then proceeds from complete dependence to independence in object and sexual relations.

Nevertheless, it must be emphasized that in the psychoanalytic framework dependency is described as an ongoing process, an active and progressive component of the life span. "Dependency needs" are not instinctual needs: they are conditions for feeling loved and for loving. The individual whose ego needs were met with adequate resources in his infancy and childhood will accomplish the management of his dependency needs in any culture with less anxiety, more competence, and creativity than will an under- or over-stimulated or gratified person of the same culture.

Academic psychology has spent little time in attempting to operationalize the constructs involved in classic psychoanalytic theory and its notions of dependency. Only recently have some inroads been made, using ego-analytic approaches to development. In psychoanalytic circles the research has been limited to observations of analytic sessions and accounts of both child and adult analyses (53,66,124,125). Nevertheless, there is little doubt but that the analysts have produced a wide range of information and evidence which is relevant to the inferences concerning this construct. To this extent the theory and its notions of dependency have been shown to be empirically meaningful. What is lacking at the present is empirical confirmation—by empirical investigation.
One of the major obstacles in developing adequate research methodology to examine such concepts as dependency is one cited frequently with respect to psychoanalytic theory: namely, the danger in making observed motive patterns into entities, especially when very different action patterns are grouped together under a common name because they have the same end result in common. Also, it is important to point out how so many different types of behavior, all falling under the same construct, can prove to be an almost impossible task in terms of operationalizing. Thus, in the final analysis there are few research methods developed; it is difficult to modify them for use with older populations and a relatively static condition exists with the construct dependency in adolescent populations.

The need then is to identify the various dimensions involved in the construct and how they function in different situations before one turns to the question of antecedents of these behaviors. One of the difficulties with psychoanalytic studies and accounts of analyses which attempt to establish relationships in antecedent conditions (e.g., parental behaviors and present dependency) may be that the specific nature of functioning of these factors has not been empirically established, nor have adequate methods for investigation been developed.

The second orientation which has attempted to deal with dependency has been that of various social learning theory approaches. The approach has generated most of the research on the construct in recent years. Although efforts have been made to devise adequate methodology within this framework most of the studies have focused on infant and child populations and few of the operations can be implemented
with older subjects. Again we face the problem of limited generality and perhaps another indication why little systematic research has been conducted with adolescents and adults.

The range of the social learning theories and their different foci of emphasis is rather large. Historically the prime interest of these theorists was in reconciling Freudian theory with the objective theory of learning and to show that both interpretations of behavior are mutually compatible, if not co-extensive. The work by Sears and his co-workers was initially an attempt to operationalize psychoanalytic principles by applying learning theory methodology and related conceptualizations. In Sears' approach dependency is conceptualized as an early acquired drive learned in response to the mother's response in satisfying basic needs. That is, first the child learns instrumental acts to gain the mother's attention. The mother responds to these attention-seeking behaviors and thus reinforces them, leading to further attention-seeking behavior. Thus, dependent behavior comes to be evoked by (1) various drive states in the child and other discomforts and frustrations, (2) parents and other similar people, and (3) symbolic factors. Sears distinguishes between the instrumental acts of dependency and the drive properties of dependency, the former preceding the latter. Dependency then is a secondary motivation acquired mainly as a result of the conflict engendered by the frequency with which the mother is a source of gratification for the child and the nature and frequency of the times when she frustrates the child's overtures thus resulting in a non-reward, non-reinforcement type of situation.
Walters (114) in his social learning approach emphasizes anxiety as the motivational state which underlies much anxiety behavior. Dependency habits are learned in connection with drives such as hunger, thirst and pain and later in response to the anxiety aroused when the child's relationship with adults is threatened. The mother is the central figure who reinforces behavior through her nurturant actions. This is somewhat similar to Sears' approach in that maternal nurturance is the most relevant factor leading to the establishment of the mother as the secondary reinforcer. Maternal separation or frustration of the child is relevant as a source of anxiety. How much the mother reinforces dependent behavior is also important.

There are several other "social learning theorists and researchers who have focused on the concept dependency. However, their emphases vary considerably—ranging from research and methods devised within a comprehensive personality or developmental theory framework to those who focus heavily on traditional Hullian models.

Bandura's (8) orientation falls approximately in the middle range between Sears et al. (105) and their attempts to operationalize psychoanalytic constructs, and the strict learning theorists on the other end of the continuum. Dependency is regarded as imitative behavior, which in his behavior theory is operationally synonymous with the concept of identification as it involves the same behavioral phenomenon and the same learning process. His position places primary emphasis on contiguous sensory stimulation as a sufficient condition for acquiring most forms of matching responses. Motivational variables, reinforcement and set-inducing operations create conditions which enhance and channel
the subjects observing responses and thus influence imitation learning. The latter group of variables are regarded as facilitative rather than necessary.

Representing a more classic learning theory position is the thinking of Gewirtz (50). He uses a combined Skinnerian-Dollard and Miller model, and focuses on the stimulus-response relationships between socialization experiences and attention-seeking responses. He takes the point of view that dependent behavior is an operant activity in response only to those cues that have previously been associated with reinforcements that followed dependent supplication. He finds no need to include drive notions in his conceptualizations but stays at the level of stimuli and learned responses.

Although persons working within the general framework of social learning theory have made an important contribution in their attempts to operationalize various dimensions implied by the concept of dependency, in some cases such operationalization has resulted in a simplification of the concept. The most glaring omission seems to be that of neglecting the developmental aspects implied by the concept. Also, the complex phenomena implied by conceptualizations of object relations have often been reduced to examining the frustrating or reinforcing value of the mother figure.

General methodology and review of literature

Previous studies investigating the concept of dependency have typically used varying definitions and divergent methods of investigation. Furthermore, the populations used in these studies have varied
considerably. Both normal and clinical groups have been used, with various age groups although the prime focus has been children.

When attempts are made to compare results, the differences in methods of investigation and the populations used, contribute considerably to the inconsistency in results obtained and thus result in confusing methodological factors with theoretical inadequacies of the dependency construct.

Multi-method studies. Several studies investigating dependency have had a similar methodological focus. Following the lead of Allport (3) who suggests that both indirect (e.g., projective) and direct (e.g., self-report) methods of investigation should be used when studying motivation, measures varying in degree of directness and indirectness have been used.

Fitzgerald (36), studying dependency as reflected in TAT, ISB, interview and sociometric measures, found no correlation between TAT, interview and sociometric measures of dependency. Low but significant correlations between ISB and the other measures of dependency were reported. Zuckerman et al. (130), investigating the concurrent and construct validity of direct and indirect measures of dependency in a student nurse population, used peer ratings as his criterion measure and studied the ability of the other measures to predict peer ratings. He found that the more direct measures (various self-report measures) correlated highest with the criterion. The sentence completion fell in the middle position and the Rorschach and TAT measures (scored for dependency content) showed the lowest correlation with the criterion. Thus, at least in this "normal" population, the self-report measures showed the highest relationship with criterion peer ratings.
Behavioral observation. Among the most well-known of the studies on dependency is that by Sears et al. (106). His definitions of dependency and methods of investigation are noteworthy in that both are grounded in a theoretical framework. Using both secondary reward and expectancy notions built from the mother-child interaction, he defines dependency as the asking movements by the child for the mother's reciprocal behavior. He investigated five categories of dependency behavior by means of observation of free play as well as mother-child interaction: (1) negative attention seeking, (2) positive attention seeking, (3) touching, (4) being near, (5) seeking reassurance. He found these five categories to be relatively independent, to show different patterning in boys as compared with girls, as well as to be associated with different antecedents in parental behavior. These are the results that led him to conclude that dependency was not a unitary construct.

Another study, which anticipates a more developmental approach to investigating behaviors encompassed by the dependency construct, is that by Heathers (60). Using categories similar to Sears, she found the categories "touching" and "being near" to be relatively immature (i.e., characteristic of younger children) forms of dependency while the category of "seeks positive attention" is a more mature form (i.e., characteristic of older children) of behavior.

Clinical populations. Most of the studies investigating the concept of dependency in clinical populations have used one or more of the four general methods of investigation previously described. Despite the varying methods used, there seems to be some consistency in the results obtained. In general, the dynamic pattern which seems to emerge is that
in studies using projective measures and behavioral observation methods, clinical populations tend to show more dependency behavior, concerns, or conflicts than studies using non-clinical populations. Dependency behavior has been primarily manifested in a tendency to conform in interpersonal situations. However, self-report measures less often consistently find these results. This suggests that data based on verbal reports are assessing factors not reflected in the other measures, e.g., defensive distortion.

For example, in a study by Downing and Pickels (30) comparing psychiatric and medical clinic patients on dependency and correlates of expressed anxiety, self-acceptance, and compliance, the following differences were obtained between the two populations: In psychiatric clinic patients dependency was associated with high anxiety and low self-acceptance but not associated with measures of compliance in a situation assessing tendency to comply with the opinion of an authority figure. On the other hand, in medical clinic patients dependency was not associated with anxiety or low self-acceptance but was associated with a tendency to comply with the opinion of the authority figure. Comparing the two populations across measures, psychiatric clinic patients show more anxiety and less self-acceptance than medical patients, while the latter show a tendency toward greater compliance than the former.

Thus, while the psychiatric patients expressed anxiety and lack of self-acceptance on self-report measures, they were less compliant in a behavioral situation in which they had to agree or disagree with an authority figure than the medical patients, who nonetheless reported less anxiety and greater self-acceptance. Results between behavioral
observation and self-report measures varied depending on the particular population used. The authors concluded, on the basis of their results, that if dependency is a part of the accepted self-concept, then the individual will be more compliant in overt behavior.

In studies with adult psychosomatic patients similar results are obtained. Weiss and Emmerich (121) used TAT dependency fantasy and behavioral conformity measures previously found to be significantly related in male undergraduates by Mussen (88) in psychosomatic and non-psychosomatic populations (ulcer and non-ulcer). Psychosomatics wrote more dependency themes on TAT than non-psychosomatics. In the Asch situation, the ulcer group yielded more often than the non-ulcer and normal groups; the non-ulcer and normal groups did not differ significantly. In the normal group dependency and conformity were correlated .67, but in the psychomatic groups they were not significantly related.

Marshall (83) studying the personality correlates of ulcer patients, found them to be over-conforming and acquiescent, to avoid insight, and to inhibit emotional expression. However, they did not find that the psychosomatic group showed a clear-cut pattern of denying dependency needs, as was found on self-report measures in the study.

In a multi-disciplinary approach to studying ulcer patients, Weiner et al. (116) found the only distinguishing criterion was the "intensity of their attempts to maintain relationships with others." Similar results were obtained by Harris (56) in a study of naval enlisted personnel with duodenal ulcers where conformity as a tentative form of adjustment was the most outstanding characteristic noted in this population.
Although no studies have been done investigating adolescents with psychosomatic complaints, a post-hoc analysis of the social and emotional adjustment during adolescence of adults with psychosomatic illnesses was made by Stewart (110). Using data from the Berkeley Growth Study, he compared psychosomatic, behaviorally maladjusted and normal group data obtained from various self-report measures. The psychosomatic group scored below average adjustment on scales measuring sense of well-being, self-control, and achievement via independence, as well as showing greater conformity of thought processes and behavior in comparison with the other groups. However, they reported above average adjustment on scales of dominance and sociability, as well as increasing family and social adjustment as they progressed through adolescence. In interpreting their results, the authors focused on the repressive and/or depressive features reflected in these dynamic interrelationships.

Although done in capsule form, the preceding review points out the marked theoretical, conceptual, and methodological difficulties met when dealing with the construct of dependency. In fact, Hartup (58) in concluding his recent review of the literature states:

Most of the empirical findings presented with regard to children must be considered as highly tentative since investigations in this area have been too infrequently replicated. Also a variety of conceptual, theoretical and methodological difficulties are pressing for solution.

It is not known how long such molar constructs as dependency and independence will continue to be useful to scientists in their attempts to control and predict interpersonal behavior. These concepts are at the moment firmly entrenched in the vocabulary used to describe social behavior in children. New empirical approaches are needed. (p. 359)
In view of the conceptual difficulties with the construct, which center around the tendency to neglect its developmental aspects as well as multidimensional nature, and the confusion surrounding its use as a motivational vs. behavioral variable, its theoretical and methodological difficulties centering around variation in the operations employed in investigating the concept, and the inappropriateness of some operations used with child populations for older age groups, it seems fruitful to explore available alternative ways of conceptualizing and investigating the phenomena involved in the dependency construct.
CHAPTER III

AN ALTERNATIVE CONCEPTUALIZATION

One alternative way of looking at the phenomena involved in the construct dependency is by using a combination of developmental and ego-analytic theories. The constructs involved in these theories have relevance to dependency (e.g., differentiation, levels of integration, separate identity) and are primarily concerned with the individual's level of development. Such a combination may help us to avoid talking in absolute terms and making entities out of complex motive and/or behavioral patterns, but above all they provide us with research tools and fresh conceptualizations which have not only grown directly from developmental and ego-analytic theory but also have a considerable body of research results to substantiate their theoretical formulations.

The present study then will be couched primarily in the formulations of the developmental psychology of Heinz Werner, with many of the notions of ego-analytic theory interwoven. Werner's approach is mainly concerned with structural changes that take place in the course of development. The constructs in his theory have been adequately operationalized and a considerable body of research literature produced. This combination of developmental-ego psychology approaches is suggested in the closing chapter of Witkin's studies on psychological differentiation (127).

Another important direction for further conceptual development and research is the relation between the findings and concepts that have been presented and some of the concepts of ego
psycology. In common usage "ego" refers to the psychological "apparatus" which mediates functions such as perceiving, learning, thinking, motility, and which is the "seat" of the defenses. It is the ego which would in this usage be the agency responsible for such achievements as articulation of experience, and the kinds of defensive operations characteristic of people who tend to experience in an articulated fashion. The qualities of experience and characteristics of defense we have been investigating thus could be considered expressions of ego functioning, and the constellations studied conceived as products of differentiated kinds of egos—specifically of a more of less differentiated ego. (p.587)

Although Heinz Werner's organismic-developmental approach (118) is a unitary framework, it still consists of the coordination and integration of two distinct orientations: One is organismic-holistic, the other developmental. The organismic-holistic orientation maintains that "... any local organ or activity is dependent upon the context, field, or whole of which it is a constitutive part: its properties and functional significance are, in large measure, determined by this larger whole or context. The second general assumption is directiveness—the organism functions in the realization of ends imminent in the activity of the organism as a whole."

The holistic assumption is significant for the conceptual framework of the present study in that the focus is on a reciprocal relationship between an organism and its environment. "Analysis of behavior in its fullest scope should not be directed toward an organism in isolation, but an organism embedded in its own vital field or 'Umwelt.' The thesis is that analysis should take into consideration the context, especially for the functional significance of an action."

The developmental orientation is conceptualized by Werner as a constitutive movement of organismic functioning. The assumption here
being that "organisms are naturally directed toward a series of transformations reflecting a tendency to move from a state of relative globality and undifferentiation towards a state of increasing differentiation and hierarchic integration." These developmental changes entail both continuity and discontinuity. The orthogenetic principle implies continuity in terms of specific, concrete forms and operations, novel structures emerge and in this respect change is discontinuous. Even in the emergence of novel forms and functions, however, there is an intertwining of continuous and discontinuous changes.

Werner intertwines these developmental and organismic principles to emerge with a theoretical foundation that is basically concerned with the individual's specific separate identity, the goal-directed behavior engendered by this identity and the subsequent nature of the individual's relationships with other objects in his environment.

One finds that with development, both in phylogensis and human ontogenesis, local activities become more and more interrelated and integrated, that is come more and more under the control of and the determination by the focal, goal-directed activities of the organism. Concurrently, the nature of the organism-environment transactions undergoes marked changes. The environment is not only reacted to and acted upon, but is cognized, or 'known,' in the form of perceptualized and conceptualized objects. Implied in this development, there is an increasing diversification of the milieus or Umwelten in which the organism lives--with the lower levels of organism-environment transactions becoming to an increasing degree, subordinated to and integrated within the higher levels.

**Differentiation**

**General methodology and review of literature**

There has been increasing recognition of the utility of the concept of differentiation and numerous studies have investigated it
from various perspectives. Karl Pribram, in a recent theoretical article (92), addresses himself to clarification of the neural mechanisms involved in the cyclic process in perceptual (and behavioral) differentiation. White, reviewing studies on learning (122) presents evidence for a "hierarchical arrangement of learning processes" as well as the developmental nature of thought processes. Fowler (38) suggests that the work of Gardner et al. (45) and Santostefano et al. (102) investigating cognitive styles with adults and children respectively, the Witkin et al. work (127) investigating field dependence--independence (in child and adult populations), and Kagan et al. (67) work with children, investigating analytic-nonanalytic styles of thinking, might be grouped under the broader concept of "cognitive differentiation." As he points out, studies investigating these dimensions have found each of them to progress toward differentiation with age. He concludes his article by stating that differentiation in type and style appears to be one of the important rules of cognitive development.

All of these researchers use an ego-developmental theoretical framework in which the dimensions investigated are considered aspects of ego organization which are multi-dimensional in nature. Consistent with this framework, all use a structural rather than content approach in investigating ego organization. Thus, the methods of measurement they use are based on techniques growing out of ego-analytic and developmental theoretical traditions emphasizing behavioral observation which focuses on the "how" (i.e., structural) rather than "what" (i.e., content) of perceptual cognitive functioning. These studies typically investigate correlates of these dimensions: Gardner et al. (45) focus
on intellectual abilities and primary defense mechanisms, antecedents in parental behavior are studied by both Witkin and Kagan. Variations in normal populations differing in age and sex have been researched by Kagan, Witkin, and Santostefano. The differences in normal clinical populations have been studied by Witkin.

In general, findings with regard to these variables suggest that sex as well as age differences in differentiation exist (females tending to show less cognitive differentiation), and that parents fostering differentiation have more differentiated children. Witkin is the only one of these investigators to study the dimensions' variation in clinical versus non-clinical populations. In psychiatric populations, for example, those diagnosed as schizophrenic, neurotic, and psychopathic, have been found to show less differentiation than their normal controls. Also some groups with psychosomatic symptoms have been studied (e.g., asthmatic children, adults with functional cardiac disorders), and have also been shown to be less differentiated. However, none of these workers have investigated adolescent groups, either clinical or non-clinical.

Another series of studies working out of Werner's developmental theory and studying variations in perceptual-cognitive functioning in various clinical populations are those conducted by a group of workers at Clark University (e.g. Friedman, Hemmendinger, Siegel, Pena, and Frank). Using a perceptual cognitive approach to evaluating Rorschach responses, they have studied the level of perceptual-cognitive maturity in three groups of patients diagnosed schizophrenic: hebephrenic, catatonic and paranoid. They initially found that each of these groups
differed significantly from each other—the catatonic: hebephrenic being the least mature and the paranoid most mature in perceptual cognitive functioning. They then went on to show that the functioning of these groups had elements of communality with the functioning of children of various ages: the catatonic: hebephrenics' functioning was similar to that of children ages 3-5, the paranoids' to children 6-10 and the neurotics' scoring intermediate between 10 year old children and adults.

The work of Framo (40) provides support for the utility of the Rorschach developmental level dimension from another research perspective. He studied the "microgenesis" of perception by varying the exposure time of tachistoscopically presented Rorschach cards. In comparing his normal adult population with Hemmendinger's child population, he got the same kind of curve with increased exposure times that Hemmendinger got with increasing age.

Subsequent work with the Rorschach developmental level dimension has focused on establishing correlates with various aspects of personality functioning as well as determining its discriminatory value in other kinds of populations. Studies have shown developmental level to be related to such other factors as adaptation to stress [Rosenblatt and Solomon (96)], social attainment [Fowler (37)] and various psychological control mechanisms [Misch (86)].

Grace (52), Lane (75), and Wilensky (123) all found a relationship between perceptual functioning and social functioning. Grace also found perceptual functioning to be related to content of verbalizations.

In the only study investigating Rorschach developmental level in psychosomatic populations, Climes et al. (24) found the functional group to score significantly lower than the organic group.
The research by Fisher and Cleveland (35) has relevance to the study of clinical populations by means of assessing perceptual-cognitive functioning. Also, there is work beginning to establish their body image and body reactivity dimensions as developmental dimensions (23), which represents a further tie-in with the work of Witkin, Gardner, Kagan, Santostefano et al. Fisher and Cleveland use a structural approach to evaluating Rorschach responses which seems, at least in some respects, similar to the approach of the Clark researchers. Fisher and Cleveland have conducted considerable research with psychosomatic populations and have found the type of symptom manifested to have correlates in the type of perceptual-cognitive functioning as revealed in Rorschach responses.

Although all of the researchers previously discussed have drawn upon Werner's conceptualizations regarding differentiation, it is primarily Witkin who has addressed himself to operationalizing the many dimensions of the differentiation concept in a systematic manner with Werner's theoretical framework.

Discussion of the concept

However, Witkin has shown some changes in thinking about what he was measuring. Initially he focused on the dimension field independence-dependence and stated that the "personality characteristic most closely related to field dependence or independence was the tendency toward active coping with or passive submission to the environment" (p. 474). He has tended to become more theoretical over time. In his 1962 book, he utilizes the concept of differentiation which subsumes the field dependence-independence dimension. Some of his revisions seem to be in
line with Gardner's (47) conceptualizations. He defines differentiation as the complexity of structure of a psychological system. One of the main characteristics of differentiation is specialization of function; another is clear separation of self from not self. He also uses the concept of integration which he feels refers particularly to the form of the functional relations among parts of a psychological system and between the system and its surroundings. He uses this somewhat analogously to Werner's organismic-holistic formulations. It is this form aspect, i.e., the nature of integrations, which he feels is tapped by the field dependence-independence dimension. Thus, his thinking and interest is parallel to that of persons investigating cognitive styles, e.g., Gardner et al., and, in fact, he presents evidence to support field dependence-independence as part of a cognitive style. He defines cognitive style as a characteristic way of responding which extends over several areas of functioning, e.g., perceptual, intellectual, defensive. Thus, what he once called field dependent he now calls a global and diffuse cognitive style, where organization of the field as a whole dictates the manner in which its parts are experienced. Instead of field independence he now talks in terms of a delineated and articulated cognitive style, where parts of the field are experienced as discrete and the field as a whole is organized. For example, he reports studies showing a global cognitive style (field dependence) to be associated with [what he calls] a less articulated body concept (as reflected in studies of perception of the upright and body adjustment test, and figure drawings). There is a certain circularity here in that the same measures are used on both the dependent and independent variables. Also associated
with a global cognitive style is a less developed sense of separate identity (as reflected in studies of conformity in field dependent subjects), and the use of defenses such as repression and denial rather than isolation and intellectualization as measured by studies of Rorschach responses, reaction times in a perceptual defense test, and the patient's dreams.

In further reviewing Witkin's operationalizing the concept of differentiation it must be noted that the evidence he cites is based on studies with questionable methodological procedures (e.g., the use of extreme groups, independent and dependent variables which overlap, results which do not always reach commonly acceptable levels of statistical significance) and conclusions which seem more general than presently warranted in view of the fact that many of these studies are as yet unreplicated.

His most recent work has focused on investigating the field dependence-independence dimension in clinical populations and discussing the theoretical implications of his preliminary findings (129). Studies which have been done he reports have found that alcoholics (69), ulcer (51), and asthmatic (34), as well as hysterical character (72), and character disorders (72), tend to show a "global cognitive style," while paranoid, obsessive-compulsive, neurotic, and psychotic patients, with "well developed defensive structures tend to show an articulated style." Many of the studies he cites are by personal communication to him (e.g., Korchin), thus methods with regard to diagnostic classification and other considerations are not known.
Nevertheless, there seems to be considerable theoretical justification and the beginnings of empirical support for his claims. Certainly a very positive factor is the multi-method procedures used in his research and the broad range of the constructs which are covered in this manner.

This section has reviewed the concept of differentiation from a broad conceptual, theoretical, and methodological point of view. As indicated by the extensive literature produced, the construct appears to be quite adequately operationalized and therefore is seen as possibly providing a more amenable avenue for studying the phenomena involved in the construct dependency.

Dependency or dependent behavior would be conceived in this framework as a characteristic of a less differentiated ego. The individual being less differentiated than those around him and is thus still more susceptible to being influenced and guided by others. In a sense then the person with a less differentiated ego (usually encompassing infancy, childhood, and early adolescence) still needs those around him to help him in his perceiving, thinking, and learning. In this framework then as the individual develops and his ego functions become more complex initially he would be more dependent on others to aid in this differentiation. The manner in which this is accomplished frequently will dictate the extent and nature of each individual's degree of differentiation. Logically then the more differentiated the individual the less does he depend on those around to aid in his perceiving, learning, etc. These functions become relatively autonomous at some point in development. At such a point it is usually thought that the
individual has achieved a separate identity, that is, he sees himself as different from those around him with his own system of wants, needs, attitudes, and interests. The most mature mode of functioning in society at this juncture is in an interdependent fashion. However, this requires a fairly high degree of integration on the part of the individual, with adaptable defenses and a considerable amount of flexibility. It involves the give-and-take we so often talk about with respect to mature adult relationships. This entails a high state of differentiation since the individual will be required to face countless situations and conflicts in which his sense of self will be tested.

The social basis of this conflict lies in the dependence of each individual on others in his social group. The division of labor and of responsibilities in any community group means that each individual is dependent on those around him to carry out their activities. At the same time, he must do his part so that others can depend on him for his part. This requires that a balance be struck between the individual functioning as a completely separate, autonomous individual, uninfluenced by needs and opinions of others, and the individual who acquiesces to every wish and suggestions of others—in other words the individual must strike a balance between "independence" and "dependence," neither of them being absolute.

But again it must be noted that this approach is from a structural prospective. This results in a relatively one-sided view of behavior. A supplemental theoretical approach which can be intertwined with Werner's relatively strict developmental notions is a theory which embodies the same developmental dimensions and, in fact, often uses the
same concepts, but its focus is primarily on the motivational components in development and the structural as secondary.

A motivational component--
Blos on adolescence

Many of the constructs and research techniques which have grown out of developmental theory (e.g., differentiation) appear to be directly related to contemporary theoreticians' conceptualizations of the adolescent developmental process.

Peter Blos's formulations (20), for example, provide a combined theoretical framework which affords us a way of looking at less mature, i.e., less differentiated behavior, in adolescence from a motivational perspective. Interestingly, dependency per se is hardly mentioned in Blos's recent book.

Blos characterizes the adolescent period as one marked by object relinquishment and object finding on the part of the individual. There is a "definitive turn toward separation from family and the gradual hierarchic arrangements of drive components and ego functions. An increasing social self-awareness with attendant anxiety and guilt is an essential ingredient in both these phases." These conceptualizations, although based in the drive-motivation notions of psychoanalytic theory, focuses attention on orderly developmental sequences, which Blos emphasizes, facilitates observing the changes which take place in adolescence as they approximate the epigenetic principle of development.

In line with developmental theory the transitions which take place in adolescence are seen as "vague and slow, and beset with oscillating movements; larger or smaller remnants of a seemingly
completed phase of adolescent development nevertheless persists for a
longer or shorter time during subsequent phases."

As most other theoreticians who focus on this developmental
stage, Blos also emphasizes the profound reorganization of psychic struc-
tures that take place during adolescence. These profound changes are a
reflection of the constant confrontations the adolescent has with his
object relationships and are accompanied by varying degrees of chaos on
the part of the developing individual. It is at this point that a wide
range of defenses, some adaptive and others less so, are called into
play. The types of defenses employed by the individual during this
phase is primarily dependent on the degree of his differentiation. "We
know from observations that the transition from restitutive to defensive
and adaptive processes is an intricate one. This problem goes to the
core of the adolescent process itself in terms of differentiation and
maturation."

The focus of Blos's formulations of adolescence is on the change
from an active to a passive mode of coping with situations. This is
described across several dimensions. The need to be loved for the child
only slowly transforms into the need to love--as does the need to
receive only slowly arouses its counterpart, the need to give. The
passive position of the child until this stage, that is, the need "to be
done to" somewhat forcefully during adolescence is reversed into the
need "to do to others." The position of being controlled is gradually
and partially replaced by the child's desire for active control of the
situations he encounters. This polarity of active and passive goals of
the adolescent is one of the major issues of this developmental phase.
Before any sort of lasting balance is attained between the extreme of active and passive, there is a period in which there is constant oscillation between the two poles—with the tendency to seek an earlier form of passive dependent relationship with the mother by the adolescent of both sexes. These factors not only play major roles in determining adolescent object choice but also are reflected in the fluctuating patterns of adolescent mood swings and behavioral changes. However, puberty and its accompanying heightened drive toward genitality demands that the adolescent turn toward objects other than the mother to achieve the types of gratification provided in the earlier passive dependent relationship.

The detachment from these primary object ties during the adolescent developmental stage is often accompanied by a temporary reverting to early object relations. The adolescent is in the process of disengaging himself from a relatively passive role in relation to his parents and begins to assume a more active role in decision-making and planning for himself. At this point in the individual's developmental history he is attempting to move to a higher level of differentiation, to adopt a separate identity, and begin forming different types of object relationships. This is, as previously described, part and parcel of the developmental tasks facing the adolescent.

"These processes reverberate in the ego to produce cathetic shifts which influence both the existing object representations and self-representations. Consequently, the sense of self, or sense of identity, acquires a heretofore unknown lability.

In the midst of this separation—of withdrawing libido from parents—the adolescent initially refocuses this energy on himself. One
of the results of this phenomena is heightened narcissism. The endless hours a teen-ager spends primping his hair, the body-building emphases, are good examples of adolescent narcissism. Also, this withdrawal of libido from the parents is often attached to the adolescent's body and gives rise there to the hypochondriacal sensations and feelings of body change that are well-known clinically. Landauer (74) refers to this as "heightened ego experience" and by the development of frequent situations where the adolescent experiences "poignant internal perception." In the body sphere, the body ego, it is expressed as exertion, pain, and excessive motility. Many of the tensions the teen-ager experiences are thus seen as being partly relieved in discharge to the outside by motor expressions; they are also partly discharged to the inside and account for many physiological disturbances of this problem. This "internal-izing" in the adolescent demonstrates a type of narcissism in which his emotional life is invested in his body organs and feelings. He has retreated into his body. The energy, emotion, or feeling which otherwise would have gone into projects, objects, and involvement with people is instead attached to body processes. Such adolescents have invested the body with a degree of concern and interest that makes it the sole and central reason for its existence. They manifest a cathexis of the body and body processes which is a substitute for object relations. The body becomes a substitute for interpersonal relationships.
CHAPTER IV

STATEMENT OF THE PROBLEM

The present research has focused on that segment of the adolescent population that reacts to separation—to the "estrangement" from primary object ties—by focusing the anxiety engendered in this situation on body organs. The question and problem of whether such a reaction is a manifestation of autonomous or defensive ego functioning is a difficult one and was not the concern of this study.

Expressing psychological tensions in a somatic manner is seen as a less differentiated, i.e., less developmentally mature, mode of functioning. "... Genetically earlier modes of functioning . . . may come to the fore again under special internal or external conditions. They also, and characteristically, may come to the fore when the organism is confronted with especially difficult and novel tasks: in such cases one often finds a partial return to more primitive modes of functioning before progressing towards full-fledged higher operations" (118). Adolescence, with its developmental crises, can be characterized as special internal and external conditions in which the organism is "confronted with especially difficult and novel tasks."

The vulnerability of the adolescent to handling stressful and conflict situations in a somatic manner is mainly determined by what has gone on in previous earlier stages of the child's development. Theoretically what is implied by the notion that separation from parents
frequently results in heightened body ego experiences (pain, hypochondriacal sensations, etc.) and a "temporary reverting to early object relations" has typically been referred to as a regressive phenomena. Nevertheless, it might well be that the individual who develops functional symptoms, may simply be demonstrating a lower attained developmental level. In other words, the reaction can also represent a "fixation" phenomena. The individual handles the stress in a manner consistent with his "developmental age"—which for his chronological age will be viewed as less differentiated and frequently as "dependent." In fact it is quite common for theoreticians and researchers to describe the individual who somatizes as an "infantile personality." Ruesch (100) emphasizes disturbed maturational level of psychosomatic patients. He feels that certain aspects of their behavior is on a primitive and genetically early level of development. In a combined SLT and psychoanalytic framework he asserts that such individuals attend more to information received from external than from internal sources (e.g., ego resources) suggesting that the usual maturational growth from proximal to distal senses have not been accomplished. In interpersonal behavior the individual thus uses somatic language and symptoms for social control.

Other stress that the adolescent responds with the development of physical symptoms to the stress that accompanies increase of sexual impulses and to the threatened loss of his dependent attachment to his parents. For some theoreticians the symptoms are an expression of the conflict between the chaotic adolescent wish for freedom and the need to have the protective support of a maternal person. Separation from the protective relationship engenders anxiety and an inability to develop
beyond a dependent need for maternal care. The symptom is then conceptualized as a reaction of helplessness and despair—the despair of the abandoned child.

The present research does not focus on the dynamic significance of increased physical symptomatology in adolescence. As Hartmann (57) has pointed out this helps in drawing the necessary distinction between "... the case in which both the vulnerability in question and its main determinants are specific of the phase in which they occur. This may help distinguish more clearly the specific features of a given phase from its genetic determinants; it may help us differentiate more clearly the element of genetic continuity from the element of phase specificity. It should also prevent us from describing what is actually a specific disposition of a later phase as characteristic of its genetic determinants."

Generally speaking, then, somatizing in adolescence is usually seen as related to what has been traditionally called "dependency needs" or is a reflection that the adolescent when faced with separation gives rise to his "dependency conflicts" and reverts to a genetically earlier mode of coping with the stress by focusing it on body ego and thus is phrased a "dependent personality."

That handling many of the stresses inherent in this developmental phase in a somatic manner is a typical and widespread phenomena among American adolescents is revealed in a recent survey of adolescent medicine in the United States and Canada (48). In separating the most frequent organic and emotional diagnoses it was found that obesity is the most common physical finding, with acne ranking second, and allergic
diseases third. (All three of these are considered to have significant emotional components and termed as psychophysiological reactions in the APA diagnostic and statistical manual.) Adjustment reaction to adolescence was the most common emotional disorder, with three of the clinics reporting 19 percent of their caseloads involving such diagnoses. Emotional complaints comprise 25 to 40 percent of all the diagnoses made in the adolescent clinics studied. The Adolescent Clinic at Columbus Children's Hospital reports that approximately 40 to 50 percent of its case load comprises adolescents with functional complaints (abdominal pain, headaches, dizziness, chest pain, etc.). There is little doubt then that this earlier genetic mode of functioning—expressing psychological tension—need—conflict—problems—in a physical manner is characteristic of many adolescents. Yet, all who experience such symptoms do not seek out medical aid, or have such aid sought out for them by parents. The focus of the present study then was to investigate the developmental level of ego functioning in adolescents with functional complaints (i.e., physical pain with no organic basis) as compared with a peer group with non-functional physical complaints. The developmental level, or developmental dimensions, involved are degree of differentiation, the articulation and integration of experience, sense of separate identity, and self-concept. The specific ego dimensions involved are embodied in what Blos (20) considers to be the ego's attributes after the developmental period of middle childhood and pre-puberty period—or the latency period in psychoanalytic theory. These are (1) the internalization of these characteristics of identification figures which enables the developing youngster to function in a more autonomous
fashion, (2) increased ego strength with concomitant resistance to engaging in regressive behavior, (3) the development of self-criticizing abilities to enable self-esteem to be more a function of internal factors than external sources in the environment, (4) and finally the reduction of the expressive use of the whole body and increase in the capacity for verbal expression in isolation from motor activity.

Hypothesis

It is from the combined developmental-ego psychology theoretical framework that the hypothesis of this study was derived. It is hypothesized that in a group of adolescents seeking medical aid for physical complaints, those who manifest functional disorders as compared with those whose symptoms are of a non-functional nature (i.e., actual organic pathology) will manifest less autonomous ego functioning as reflected in less differentiated behavior.
CHAPTER V

METHODS

The present study had a two-fold intent: first, to compare two populations, functional and non-functional on various measures of differentiation and secondly to examine the interrelationship between these measures in hopes of shedding additional light on the construct validity of the differentiation construct. It was hypothesized that the functional group would show more differentiation than the non-functional group on all four measures used. Although no specific hypotheses were made regarding the interrelationship between the various differentiation measures, the relationships obtained would yield information regarding the dimensionality of the differentiation construct.

Subjects

Subjects were 60 adolescents, ages 14 to 18, who were seen at the Adolescent Clinic of The Children's Hospital in Columbus, Ohio, because of some physical complaint. The Adolescent Clinic offers medical services to the community along with the training function of the Department of Pediatrics of The Ohio State University. Fees are less than those charged by private physicians, ranging from $1 to $5 per visit, and the population of the clinic could be described primarily as lower to lower-middle class in socioeconomic status. Patients are largely self-referred.
Thirty of these 60 Ss (15 males, 15 females), were diagnosed by their examining clinic team on the basis of extensive work-ups, as having symptoms which were functional in nature, i.e., having no organic basis. All of the Ss comprising this group (to be referred to as Functionals) had been seen at the clinic no longer than two months to control for effects produced by long-term illness per se rather than attributable to the major variables investigated in the study. Symptoms typically consisted of headaches, chest pain, stomachache, fatigue, dizziness, shakiness, muscular weakness, and muscular tensions. Persons with symptoms which are regarded psychophysiological, e.g., dermatitis, ulcers, asthma, were not included in the study.

The other 30 Ss (15 males, 15 females) were adolescents whose symptoms were diagnosed as clearly not of a functional nature. Symptoms typical of this group were upper respiratory infections, tonsillitis, cuts, etc. This group, which will be referred to as the non-functionals, also had illnesses of short duration, i.e., not exceeding two months.

All Ss participating in the study were of satisfactory intelligence (i.e., doing passing work in school) and were of lower to lower-middle socioeconomic status.

Measures

The orthogenetic principle, in distinguishing developmental change from other kinds of change, in terms of increasing differentiation and hierarchical integration provides a formal standard by which to assess primarily changes with age and secondarily changes which are due to psychopathology.
The measures used in the study were selected in view of their relevance to various aspects of the differentiation construct emphasized in the thinking of Werner and ego-analysts. The selection of several different measures of differentiation is regarded to be an important methodological feature of the study. Furthermore, their measures varied to some degree in the directness of the assessment method used, thus providing a multi-method approach to investigating the construct. In line with Brunswik's (22) emphasis on using situations which representatively sample the behavior under investigation, behavior in four different kinds of situations was assessed: (1) on a perceptual task (2) in a projective test situation, (3) on a self report measure and (4) in a social interaction situation.

**Perceptual-cognitive measure**

The Embedded Figures Test (EFT) developed by Witkin was the perceptual-cognitive task used in the study. It consists of 12 stimulus figures of varying complexity in which the S must isolate a previously seen simple geometric figure from a complex stimulus background designed to embed it. Scores on this test are felt to reflect the extent to which an item (the geometric figure) is perceived as differentiated from the organized context in which it occurs (see Appendix I for copy of stimulus figures). By implication, then, in the context of this study it was considered to provide information regarding the degree to which a subject was able to perceive himself as differentiated from his environmental field.
Scores are based on the amount of time it takes for the S to locate the geometric figure on the complex stimulus background. Thus high scores on the instrument reflect low differentiation.

A considerable body of data is available which supports the utility of the EFT measure in a variety of situations. Odd-even reliability correlations range from the high 80's to low 90's (127). Test-retest correlations over a three-year period in a young adult sample were .89 for both males and females. Correlations with test batteries assessing intellectual abilities are at a moderate level (127); relationships with such subscales as WAIS Block Design and Picture Completion subscales tend to be high, .80 and .72 respectively (127), and relationships with such subscales as WAIS Vocabulary tend to be low, .15 (127).

Gardner et al. (45) in their extensive study of cognitive control principles and perceptual behavior found that the EFT of all the perceptual-cognitive measures used in the study had the highest wording on the factor which he calls "field articulation" (i.e., Witkin's differentiation, or field independence-dependence). This finding led him to conclude that the EFT is one of the most adequate measures of field articulation.

The degree of relationships between EFT scores and scores on other perceptual cognitive tasks varies, probably due to the characteristics of the particular measures used as well as the populations investigated. On various projective tests (e.g., Rorschach, TAT) when structural-cognitive scoring systems are used (e.g., W response, organizational activity) correlations tend to range from .40 to .70 (4,70). Correlations with projective instruments using content scoring
systems (e.g., Phillips scoring system)-need achievement (127) tend to be low and non-significant.

Relationships with self-report measures do not show a great deal of consistency. These self-report measures usually assess content rather than stylistic-structural aspects of personality functioning. For example, Marlowe (82) found the EFT to be significantly related to only two of the five Murray needs assessed by the Edwards Personal Preference Schedule (EPPS): intraception and succorance. Dana and Goocher (29) found no significant relationship between the EFT and any of the variables measured by the Hilden Q-Sort.

Quite a few studies show EFT scores to be significantly related to paper and pencil tests measuring acceptance of authority (18), social rigidity (31), authoritarianism as measured by the F scale (79,90,99), other directed personality (13), but not to Rokeach's Dogmatism Scale (65,79).

Witkin and his co-workers have done the most systematically oriented research with the instrument. The early studies by Witkin et al. (126) established that with increasing age, persons show more differentiated responses on the EFT, thus establishing the developmental nature of EFT performance. Various studies have shown that less differentiated as contrasted with differentiated Ss tend to both view themselves and to be viewed by others as socially dependent, less assertive, and relying on others for support; they tend to use denial and repression rather than intellectualization and isolation, to show a less well-articulated body concept, and to have mothers characterized as less accepting and having a tendency to encourage dependent and discourage curiosity
behavior. Other workers have tended to confirm the findings by Witkin and his co-workers. For example, Rosner (97) and Linton and Graham (79) found the less-differentiated Ss on the EFT were more susceptible to influence by external sources, as measured by the Asch conformity situation.

Projective measure

The second measure used was the Rorschach Psychodiagnostic Test. Responses were scored using a scoring system developed by Friedmann (44) which was based on Werner's developmental principles of differentiation and hierarchical integration. In this scoring system the Rorschach percepts which are "global," "diffuse," "rigid," etc. are characterized as developmentally immature while responses which are "articulated," "discrete," "definite," and reflect flexibility are considered to be developmentally mature.

Hemmindinger (64) in addition to identifying a developmental sequence in the nature of Rorschach responses in various age groups of children, also noted a specific sequence in the transformation from less mature to more mature percepts. While children ages three to five generally gave genetically immature whole (W) responses, there was a shift in children around 6-8 from vague W's to small detail (D) responses which later declined in favor of integrated VJ's.

Becker (11) revised Friedmann's categories by placing them on a six-point scale: (1) W responses reflecting complete lack of structure or scored minus form according to Beck's norms, (2) D responses scored minus in form according to Beck, (3) vague W responses, e.g., clouds.
(4) mediocre \( W \) responses, (5) \( W \) responses on broken blot cards reflecting articulation and re-integration, and (6) \( W \) responses on unbroken blot cards reflecting articulation and re-integration (see Appendix for scoring system). Becker's scoring system was used in the present study. Using this system he found Rorschach developmental level to be significantly related to the process-reactive dimension used in evaluating the behavior of schizophrenics. Fine and Zimet (33) confirmed Becker's findings.

Studies investigating the relationship between Rorschach Developmental Level (DL) scores and intelligence test scores show correlations of varying magnitude exist, depending on the way the final score is computed. If ratio DL scores are used, e.g., which take the ratio of total \( W \) mediocre responses to all \( W \) responses, low-order and usually nonsignificant correlations are obtained [Friedmann and Orgel (44), Kessel (70)]. If non-ratio scores are used, moderate correlations, i.e. high .30's to middle .50's, are obtained between the two measures [Allison (4), Friedmann and Orgel (44)].

In the present study, each \( S \) gives one response per Rorschach card. Thus the effect on Rorschach performance of variation in number of responses is controlled. Scores for each response were averaged in order to give a mean DL score for each \( S \). Reliability comparisons between two judges (the author and another trained clinician) for 20 \( S \)s yielded a Pearson correlation coefficient of .73.
Behavioral rating measure

The method of behavioral observation in a standard situation is a technique commonly employed in psycho-sociological research. As is frequently pointed out, e.g., Cronbach (28), it has the advantage of standardization in comparison with field observation techniques, as well as being sufficiently flexible to allow the study of both infrequently occurring and typical behavior, unlike some other experimental procedures. Many ways of evaluating such behavioral observations have been developed, most often following the paradigm established by Bales (6) where interactions are categorized along various response dimensions and frequencies of responses in each category are tabulated.

Typical of studies using this approach are those by Sears et al. (105) as well as Bishop (19). Interaction between mother and child is observed and child's dependency behavior is rated on a variety of dimensions. Frequently, mother's behavior is also rated in terms of the ways on which dependency behavior is encouraged or discouraged.

Bell (14) recently reviewed studies using the method of observing interaction in an attempt to assess the effects of the structuring of the experimental situation on research findings. He emphasizes that the degree and type of structuring of the situation should be consistent with the theoretical framework in which the study is couched, as well as the particular kind of behavior under investigation. As previously conducted studies show, maximizing the degree of structure of the situation maximizes the frequency of occurrence of behavior of interest as well as enhances observer agreement and test-retest stability.
The third measure used in the present study employed behavioral ratings of mother-child interactions. This technique involves presenting a subject pair with a conflict situation in which they are asked to resolve differences reflected in their previously agreed upon individual positions and decide upon a common solution. This technique has previously been used by social psychologists, e.g., Strodbeck (111) in studying interaction in conflict situations. Recently the technique has been used by clinicians, for example Ferreira (32), Risken (94), Robbins (75) to study family processes for diagnostic purposes. Subsequently other researchers, e.g. Loveland, Wynne and Singer (80), Singer and Wynne (108), developed the particular method of taking differing Rorschach responses of various family members and asking the members to decide upon a common response. Interaction between family members in resolving this conflict situation is then observed and evaluated.

In the present study mother-child interactions were assessed in terms of the degree to which the S differentiated his or her response from the mother's, articulated his or her perception and showed flexibility in being able to see the mother's response as well as his/her own. All of these behaviors reflect dimensions of differentiated functioning as conceptualized by Werner and ego-analyst.

Scoring of the Revealed Differences situation is based on a six-point scale: (1) S immediately agrees with mother's response and doesn't mention his own, (2) S mentions his own but makes no attempt to get support for it, (3) S attempts to get support but yields to mother's response, (4) S consistently sticks to his own response but does not attempt to articulate or explain it, (5) S articulates and explains his
response in terms of characteristics of the blot, (6) $S$ both articulates his own response and shows flexibility in acknowledging his mother's response. (See Appendix III for specific scoring criteria.) Scores for this measure were based on the $S$s mean level of response for the 10 interaction situations. Mother-child interactions were tape recorded. Ratings of the interaction were based on listening to the tapes as well as referring to typescripts of the individual protocols in order to facilitate understanding individually derived responses. The Pearson reliability coefficient for 20 interactions was .82. (Judges were a psychiatrist and a clinical psychologist.) The author was not involved in any of the scoring.

**Self-report measure**

The self-report measure of differentiation used in the present study was the Leary Interpersonal Checklist. This instrument consists of 128 descriptive adjectives comprising 16 interpersonal dimensions felt to characterize all the varieties of motives involved in human interaction (see Appendix IV for copy of Checklist). These 16 dimensions are combined into eight adjacent octants: (1) managerial-autocratic, (2) competitive-narcissistic, (3) aggressive-sadistic, (4) rebellious-distrustful, (5) self-effacing-masochistic, (6) docile-dependent, (7) cooperative-overconventional and (8) responsible-hypernormal. These octants are graphically conceptualized in a circular continuum.

The Checklist was developed by Leary et al. (76) as part of a comprehensive system for assessing various levels of personality functioning. The sixteen dimensions involved in the "Interpersonal Wheel"
were investigated by a variety of methods and measures in order to assess the following levels: (I) how a person acts with others, (II) how he describes his actions with others, (III) how he fantasizes his actions with others, and (IV) how he idealizes his actions with others.

The original research which developed the Interpersonal system and began establishing its validity was conducted at Kaiser Hospital in Los Angeles, California. Leary and his co-workers applied the system to various populations including normal, psychiatric, obese and psychosomatic groups. Studies were conducted which demonstrated that the system had utility in both predicting changes over time within various levels of functioning as well as in predicting criteria external to the system.

The research conducted largely focused on reactions to psychotherapy in various clinical populations and changes over time in the various interpersonal levels as a result of treatment. For example, the kind and amount of change in therapy was related to the patterning of scores both within a particular level as well as between levels of functioning.

Also, quite a bit of work was done which showed the ability of the system, applied to various levels of analysis and using a variety of methods, to differentiate between various clinical groups. Level I analysis, as assessed by MMPI responses, differentiated between those who continued to seek psychotherapy help and those who terminated after three or less visits. "Help rejectors" tended to score high on the strong-responsible octant and "help acceptors" on the distrustful-masochistic octants. Level II analysis, as assessed by TAT responses,
showed the hypertensive group tended to repress hostile feelings while the ulcer group tended to repress tender feelings. Level II analysis, as assessed by the Interpersonal Checklist, differentiated psychotic, neurotic, normal, ulcer and hypertensive groups. Neurotics showed a greater frequency of responses on the distrustful-masochistic octants and hypertensive scored higher on the strong-responsible octants. Normal and ulcer groups were characterized by more diversity, some subjects tending toward the distrustful-masochistic and others toward strong-responsible octants but still largely characterizing themselves as hypernormal; the psychotic group showed tendencies similar to normals and hypertensive but were more apt to characterize themselves as masochistic-distrustful although less so than the neurotic group.

Studies employing multi-level analysis, investigating the patterning of relationships between various levels of functioning, reveal interesting preliminary findings. Although normal and hypertensive groups revealed minimal differences in Level I (overt behavior) and Level II (self description) analyses, they differ significantly in Level III (fantasy) functioning. Hypertensives showed more hostility and passivity at Level III while normals retained at this covert level the strength revealed at more overt levels. Findings from another study, investigating patterning between levels in the ulcer group, characterized the "modal" ulcer patient as (1) hypernormal at the level of symptomatic behavior, (2) competitive and disidentified with his/her mother as revealed in self descriptions, masochistic or docile at the level of private motivation, and tending to repress affectionate feeling.
Despite these studies suggesting the utility of this approach, little recent work has been done with the Interpersonal System to continue to establish its validity. However, the few studies which have been done generally continue to support its utility.

Zuckerman (130) used the dimensions in the Interpersonal System for both self report and criterion peer ratings on his study of direct and indirect measures of dependency. He found the highest relationship between the self-report ratings and other "direct" measures (e.g., questionnaire responses to the EPPS) and the peer ratings, and lowest relationships with "indirect" measures, i.e. Rorschach and TAT responses. The Rorschach and TAT measures did not use scoring systems based on the Interpersonal dimensions. Unlike the direct measures, which could account for the differences between obtained correlations with direct and indirect measure. Nonetheless, the findings of the study attested to the utility of the Interpersonal dimensions in general, and the self-report checklist measure in particular.

The only other study available in the literature is that by Briar and Bieri (21). Their study had a two-fold purpose: to compare checklist ratings with ratings in a criterion situation and to determine factor loadings on the eight octants. They found independent ratings to be significantly related to checklist responses. Factor analysis revealed three factors: one conforming with the Dominance factor proposed by Leary, another comprised of Leary's Love factor as well as conformity, and the third reflecting submissive trends and in opposition to factor I.
Scores in the present study were based on the octants found by Briar and Bieri to show the highest loadings on the Dominance and submission factors. Thus octants one through six were used. The subject's final score was based on the ratio of dominance items relative to the total number of both Dominance and Submission items checked. The use of a ratio score allowed control for number of items checked and thus scores were minimally influenced by frequency of response.

Procedure

Ss and their mothers were seen individually by the author in the Adolescent Clinic. They were told that they were being seen to further diagnostic work-up not only to help them understand the symptoms but also as part of a research project being conducted with adolescents and their parents in the Clinic. Neither the examiner nor the Ss and their mothers were aware of the diagnosis of functional or non-functional until participation in the study was completed to avoid contamination of responses. Furthermore, the examiner did not learn the diagnosis until after the data had been scored, as a further control for examiner bias.

During the first contact the mother and child individually filled out the self-report questionnaire, the Leary Interpersonal Checklist. In addition, they were individually given the Rorschach by the examiner. Potential bias in the examiner's behavior in the Rorschach situations was controlled by alternating the sequence in which mother and child were seen.

The subjects were then scheduled for another appointment the following week, which is routine clinic procedure. During the second
appointment the mother and child were individually administered the Embedded Figures Test. Following this, the Revealed Differences situation was presented. This procedure involves the mother and adolescent deciding upon a common response in the light of their previous individually derived responses. For example: "Last week, Mrs. Jones, you saw a butterfly on this card, and you, John, saw a halloween mask. I would like you now to look at the card and come up with one common response between the two of you." The same procedure was followed on all ten cards. The examiner sat behind the mother-adolescent pair to minimize the effects of his presence on the interaction.

All of the behavioral interaction between the mother and adolescent during this session was tape-recorded. Ss and their mothers were generally cooperative throughout the various aspects of the testing situation.
CHAPTER VI

RESULTS

The major hypothesis tested in the study was that Functional and Non-Functional groups would differ significantly in level of differentiation, as measured by four differentiation measures. Mean scores for each of the four measures, the EFT, Rorschach Developmental Level (DL), Revealed Differences, and the Leary Interpersonal Checklist. EFT scores were converted to be consistent in meaning of direction with other scores (i.e., minus means plus therefore are reported as positive). Table 1 reports a 2 x 2 analysis of variance for the four measures between the two groups.

Results of Table 1 support the hypothesis at a highly significant level on three of the four measures of differentiation used. Only the self-report measure, the Leary Interpersonal Checklist, did not significantly differentiate the two groups. As indicated on Table 1, there was no interaction between group and sex on any of the measures. On one measure, the Embedded Figures Test, differences between the Functional and Non-Functional Groups is highly significant.

A secondary focus of the present study was to examine the interrelationships between the four measures of differentiation used. Table 2 presents the information for the total sample of 60 Ss.
TABLE 1

F-Ratios from Four 2 x 2 Analyses of Variance to Test Differences in Level of Differentiation between (A) Functional and the Non-Functional Groups, (B) According to Sex

<table>
<thead>
<tr>
<th>Source</th>
<th>Analysis I N 60</th>
<th>Analysis 2 N 60</th>
<th>Analysis 3 N 60</th>
<th>Analysis 4 N 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>140.92**</td>
<td>10.21**</td>
<td>67.16**</td>
<td>.00(^b)</td>
</tr>
<tr>
<td>B</td>
<td>2.84*</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>AXB</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
</tr>
</tbody>
</table>

\(^a\) The measures of differentiation used were
1. Witkin's Embedded Figure Test (EFT)
2. Rorschach Developmental Level (DL)
3. Revealed Differences Situation (RD)
4. Leary's Interpersonal Checklist (IC)

\(^b\) These figures represent F-Ratio scores of .001 or less.

*An F of 2.99 is significant at the .05 level for 3 and 56 df.
**An F of 4.15 is significant at the .01 level for 3 and 56 df.

TABLE 2

Intercorrelations between the Four Differentiation Measures: Groups Combined, Sexes Combined

<table>
<thead>
<tr>
<th></th>
<th>EFT</th>
<th>RDL</th>
<th>RDS</th>
<th>LIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFT</td>
<td>34.**</td>
<td>.67**</td>
<td>.37**</td>
<td></td>
</tr>
<tr>
<td>DL</td>
<td>.25</td>
<td>.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RD</td>
<td></td>
<td>.30*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An r of .26 is significant at the .05 level for 58 df.
**An r of .34 is significant at the .01 level for 58 df.
Results of Table 2 indicate that there was varying communality between measures. The Embedded Figures Test showed the most communality, reflecting moderate level intercorrelations of .34 and .37, respectively, with the Rorschach Developmental Level and Leary Interpersonal Checklist scores and a fairly high correlation of .67 was obtained with the Revealed Differences Situation. The correlation between Rorschach Developmental Level and the Revealed Differences Situation was just below acceptable levels of statistical significance (.25) but suggests that a fairly reliable relationship between the two instruments exists. There was also a statistically significant relationship between the Rorschach measures and the Leary Interpersonal Checklist (.30).

In general, the results obtained indicate that the four measures used showed interrelationships of significant magnitude to suggest that they are in fact measuring various aspects of differentiation construct.

In order to assess differences in consistency of response on the four measures in the Functional as compared with the Non-Functional Groups, intercorrelations were obtained for each group, both with males and females combined, and for each sex separately. Table III shows these intercorrelations.

As is revealed in Table 3, the magnitude and the direction of relationships between the assessment situations often varies considerably in the two groups despite the overall consistencies obtained. With regard to the interrelationship between the EFT and the Rorschach DL, the Functional-Male group shows a positive though nonsignificant interrelationship (±.28), while the Functional Female shows a negative though
TABLE 3

Intercorrelations between the Four Differentiation Measures:
By Group, Sexes Combined, and Sexes Separate

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>EFT &amp; DL</th>
<th>EFT &amp; RD</th>
<th>EFT &amp; IC</th>
<th>DL &amp; RD</th>
<th>DL &amp; IC</th>
<th>RD &amp; IC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>30</td>
<td>-.01</td>
<td>.18</td>
<td>.23</td>
<td>-.14</td>
<td>.18</td>
<td>.24</td>
</tr>
<tr>
<td>Non-Functional</td>
<td>30</td>
<td>.08</td>
<td>.03</td>
<td>.37*</td>
<td>.06</td>
<td>-.36*</td>
<td>.15</td>
</tr>
<tr>
<td>Functional Male</td>
<td>15</td>
<td>.28</td>
<td>-.07</td>
<td>.35</td>
<td>.03</td>
<td>.41</td>
<td>.15</td>
</tr>
<tr>
<td>Non-Functional Male</td>
<td>15</td>
<td>.03</td>
<td>.08</td>
<td>.06</td>
<td>.11</td>
<td>-.45</td>
<td>-.16</td>
</tr>
<tr>
<td>Functional Female</td>
<td>15</td>
<td>-.28</td>
<td>.52*</td>
<td>.08</td>
<td>-.29</td>
<td>-.07</td>
<td>.40</td>
</tr>
<tr>
<td>Non-Functional Female</td>
<td>15</td>
<td>.05</td>
<td>-.08</td>
<td>.67*</td>
<td>.01</td>
<td>-.32</td>
<td>.15</td>
</tr>
</tbody>
</table>

*An r of .36 is significant at the .05 level for 28 df.
**An r of .51 is significant at the .05 level for 13 df.

nonsignificant interrelationship (-.28). No interrelationship seems to exist in the Non-Functional groups (r = .03 Males, and r = .05 Females).

It is the Functional-Female group which accounts for most of the relationship shown between EFT and Revealed Differences Situation (r = .52). In the other groups little interrelationship is shown (r's range from -.07 to +.08). On the other hand, it is in the Non-Functional Females (r = .67) and the Functional Males (r = .35) that a relationship is shown between the EFT and the Leary Interpersonal Checklist, while the Functional Females and the Non-Functional Males show little uniform variation in these two situations (r's = .08 and .06 respectively). No reliable relationship between Rorschach Developmental Level and the Revealed Differences Situation were obtained in any of the group or sub-group comparisons. The combined Non-Functional group was the only one
which showed a significant relationship between Rorschach Developmental Level and the Leary Interpersonal Checklist.

As sex differences have previously been found in using these measures on other populations, intercorrelations by sex for combined groups were obtained and are shown in Table 4.

**TABLE 4**

Intercorrelations by Sex for Combined Groups

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>EFT &amp; DL</td>
<td>.49**</td>
<td>.20</td>
</tr>
<tr>
<td>EFT &amp; RD</td>
<td>.63**</td>
<td>.73**</td>
</tr>
<tr>
<td>EFT &amp; IC</td>
<td>.34</td>
<td>.42*</td>
</tr>
<tr>
<td>DL &amp; RD</td>
<td>.36*</td>
<td>.16</td>
</tr>
<tr>
<td>DL &amp; IC</td>
<td>.28</td>
<td>-.06</td>
</tr>
<tr>
<td>RD &amp; IC</td>
<td>.28</td>
<td>.41*</td>
</tr>
</tbody>
</table>

*An r of .36 is significant at the .05 level for 28 df.
**An r of .46 is significant at the .01 level for 28 df.

Results shown in Table 4 indicate that males and females differ in the consistency they show in performance on the various differentiation measures. Only the relationship between EFT and Revealed Difference measures was significant in both male and female groups. On the other comparisons, males showed significant interrelationships on some measures (EFT and DL .49, DL and RD r = .36) and Females on others (EFT and Leary Checklist r = .42). Males tended to be somewhat more consistent across measures than Females, correlations ranging from .28 to .63. In the Female group the correlations ranged from -.06 to .73.
CHAPTER VII

DISCUSSION

The positive results of the present research point the way to many possibilities for studying significant developmental dimensions in adolescence. Many of these dimensions have long held integral roles in theoretical formulations of development from a social and a personality perspective. The major personality theorists, Freud, Sullivan, Erikson, for example, all attribute tremendous significance to the body ego and its role in providing some of the earliest "mental representations" for the developing child.

In this stage of development the main focus of psychological organization is on the body ego. A heavy burden is placed on adequate nurturance and succorance at this time. Any "trauma" (i.e., lack of affection, warmth or indulgent maternal care) at this time of ego immaturity creates a predisposition to react in an infantile manner during later stages of development to either stress, anxiety inducing, or traumatic situations.

This has long been the theoretical explanation which accounts for the relatively primitive mode of coping with psychological stress, namely somatization. Thus, Ruesch (100) labels the individual who somatizes as an "infantile personality." Psychosomatic patients commonly are found to manifest "dependency longings," implying needs which were
unmet at earlier stages of development. In TAT fantasy, the psychosomatic patient writes more dependency themes (121); ulcer patients are found to be submissive (121); overconforming (127) and acquiescent (121). However, as pointed out in the early chapters of this paper, most of the research which has attempted to explain the enigma of hysterical and psychophysiological symptoms have taken the theoretical given of a low level of developmental functioning, i.e., body ego, and operationalized the constructs from a content-motivational point of view. Again, it must be emphasized that the "given" in much of the early research with psychosomatic patients was a low level of psychological functioning. Only recently as the constructs in developmental theory have been operationalized has this assumption been able to be subjected to empirical investigation. This has been done primarily under the aegis of a structural-developmental framework.

The present research focused on a core but neglected problem in adolescence. The relationship of level of development in adolescents with functional (i.e., hysterical) symptoms. These individuals as previously noted are frequently characterized as dependent personalities, or people with marked dependency needs or conflicts, all implying psychological organization and behavior typical of earlier developmental periods. Yet the numerous theoretical, conceptual and methodological difficulties, as described in Chapter I, somewhat preclude the use of the construct dependency in research with adolescents.

It appears on the basis of the measures used in this study that adolescents with functional symptoms who either seek medical aid or whose parents assume the responsibility of obtaining such care for them do
show the hypothesized lower level of differentiation than adolescents who experience physical pain, seek care and are diagnosed as having an actual physical disease.

Specifically, the major significant finding is that among adolescents age 14-18 years, consistent individual differences across measures assessing various aspects of differentiation are obtained with functional and non-functional patients.

These findings lend strong empirical support to the theoretical formulations or characterization of the adolescent who somatizes. The information gleaned from the present research is that the adolescents with functional complaints are less developmentally mature in that they are less able to articulate and integrate experience, reveal a less developed sense of separate identity and thus appear to be more susceptible to being influenced by external, i.e., the surrounding field, than internal factors. It must be remembered, however, that this study investigated only aspects of these dimensions and in no way claims to have tapped all of the dimensions involved in the broader concept of differentiation and the subconstructs of articulation of experience, identity and independence from environmental influence. Nevertheless, the multi-method approach employed in this study and the significant results obtained with three of the four instruments attests to the utility of this approach for further research.

The fourth measure, the self-report instrument, did not yield significant differences between groups. This finding is consistent with other studies which have shown that self-report measures often do not differentiate between groups as adequately as other types of measures.
There are several factors which could account for this finding. Perhaps one of the most important is that the Leary Checklist, in contrast to the other measures, is not derived from developmental conceptualizations. Instead, its basis is dynamic, interpersonal and motivational system. Secondly, self-report measures have particular methodological difficulties which are well known. One of the most important of which is their susceptibility to defensive distortion. That this seems to be more the case with clinical as compared with normal populations is suggested by findings of highest intercorrelations in the non-functional groups as compared with functional in the present study as well as previous studies.

Finally, since little research has been done with the instrument, it may be that it requires further refinement to enable it to consistently differentiate between groups. That it does have empirical utility is suggested by its intercorrelations with the other measures, some of which reached a statistically significant level. It is important to note that intercorrelations were highest with those other measures, the EFT and RD situations, which had a similar focus, i.e., focused on the individual's way of interacting with the environment. This is in contrast to the nonsignificant relationships obtained with the DL measure, which has a somewhat different focus.

Only the EFT measure showed sex differences in differentiation in addition to group (functional and non-functional) differences. This finding is consistent with previous findings with the EFT that males tend to be less field dependent than females. Previous studies using the other measures did not consistently show sex differences in performance on these measures.
There are varying meanings which could be attached to the findings regarding the intercorrelations between the four measures used in the study. If one looks at the measures as assessment situations with varying characteristics, then one would expect to obtain higher correlations between situations which were more similar. The correlations obtained in general bear out this expectation. Highest relationships were shown between the two tasks involving differentiating stimulus from background in both as perceptual (the EFT) and social (RD) situation. Lowest relationships were obtained between the self report (the Leary Checklist) and the projective (Rorschach DL) measures which differ the most, in theoretical underpinnings and methods, of all the instruments used. If one looks at the four measures as assessing various aspects of the differentiation construct, then the findings have several implications. First of all, that most of the intercorrelations in Table I were at a statistically significant level gives further support (in addition to the major finding of ability of the instruments to differentiate between groups) to the validity of the differentiation construct. Secondly, that intercorrelations obtained were generally only at a moderate level, suggests that the differentiation construct is multi-rather than uni-dimensional in nature. Lastly, the findings may also be interpreted as providing support for view that adolescents as a population, due to characteristics inherent to their developmental stage, are apt to function in a somewhat inconsistent manner in various situations.

An examination of the intercorrelations obtained when the total sample is broken down by group and by sex does not yield any easy generalizations. Of the 36 comparisons, four of the obtained
interrelationships were at a statistically significant level. Largely, the comparisons yield information regarding which sub-groups account for most of the variance in the total group comparisons.

With regard to sex differences obtained when functional and non-functional groups were combined, differences seemed to be instrument specific. Neither group tended to show consistently high or consistently low interrelationships between the various measures. This finding to some degree varies from previous findings using these measures with other populations. Such studies (e.g., Gardner et al., 1960; Messick and Kagan, 1964) tend to show the higher intercorrelations are obtained with females as compared with males, leading authors commonly to conclude that females show less cognitive differentiation (i.e., perform more similarly in different tasks) as compared with males.
CHAPTER VIII

SUMMARY

Although the concept of dependency plays a major role in all theories of adolescent development, little research has been carried out with this construct with adolescents.

A review of the literature revealed many marked conceptual, theoretical, and methodological difficulties in attempting to utilize dependency as a scientific variable. The majority of past research and theorizing has been undertaken using content-motivational approaches.

The present study offered an alternative approach emphasizing a structural-developmental point of view. The theoretical foundation for this study was couched in the developmental notions of Heinz Werner (118) and Peter Blos's (20) theory of adolescent development.

Expressing psychological stress in a somatic manner is frequently seen as a manifestation of "dependency needs," "dependency conflicts," or a "dependent personality." Thus, a group of adolescents with functional symptoms (physical pain with no organic basis) and adolescents with physical complaints who actually had an organic disease were studied and compared.

The major constructs used in the present study were differentiation and separate identity. Rather than study "dependency" needs, behaviors, or motivation, levels of psychological differentiation were examined.
As hypothesized, adolescents with functional complaints were found to be significantly less differentiated than adolescents with organic disease. No significant sex differences were found between groups. A multi-method approach was used in order to tap different aspects of the concept differentiation. The instruments were a perceptual-cognitive measure (EFT), a projective test (the Rorschach), a rating of behavioral interaction, and a self-report measure.
APPENDIXES

A. Embedded Figures Test
B. Genetic-Level Scoring System
C. Behavioral Interaction Scoring Manual
D. Leary Interpersonal Checklist
APPENDIX A

Embedded Figures Test

DIFFERENCES IN EASE OF PERCEPTION OF EMBEDDED FIGURES

FIG. 1. SIMPLE AND COMPLEX FIGURES USED IN THE EMBEDDED-FIGURES TEST.

The simple figures are designated by a letter; the complex figures are designated by a letter and a number, the letter corresponding to that of the simple figure which it contains. Figures 7 and 8-1 are the practice figures.

The specific colors used in each complex figure are represented by numbers; and wherever necessary the same colors, e.g., a figure colored yellow is indicated by wavy lines radiating from the number. The colors to which the numbers refer are as follows: 1—red, 2—blue, 3—brown, 4—yellow, 5—brown, 6—dark green, 7—light green, 8—black.
DIFFERENCES IN BASE OF PERCEPTION OF EMBEDDED FIGURES

E

F

G

H
# TABLE 1
Definitions and Examples for the Rorschach Genetic-Level Scoring System

<table>
<thead>
<tr>
<th>Level</th>
<th>Classification</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amorphous Whole (Wa)</td>
<td>Shape plays no determinable role.</td>
</tr>
<tr>
<td></td>
<td>Minus Whole (W-)</td>
<td>Content requires specific form not provided by blot.(^a)</td>
</tr>
<tr>
<td></td>
<td>Confabulatory Response (DW)</td>
<td>A single detail is basis for interpretation of the whole.</td>
</tr>
<tr>
<td></td>
<td>Contaminated Response (Con R)</td>
<td>Fusing of two interpretations of the same blot area.</td>
</tr>
<tr>
<td></td>
<td>Fabulized Combination (Fab C)</td>
<td>Absurd combination on basis of spatial contiguity.</td>
</tr>
<tr>
<td></td>
<td>Perseveration (Per)</td>
<td>Same content to 3 or more cards with little regard to form requirements.</td>
</tr>
<tr>
<td>2</td>
<td>Amorphous Detail (Da)</td>
<td>Analogous to Wd.</td>
</tr>
<tr>
<td></td>
<td>Confabulatory Detail (DdD)</td>
<td>Analogous to Dw.</td>
</tr>
<tr>
<td></td>
<td>Minus Detail (D-)</td>
<td>Analogous to W-.(^a)</td>
</tr>
<tr>
<td></td>
<td>Vague Detail (Dv)</td>
<td>Form element is so unspecific that almost any blot area could encompass content.</td>
</tr>
<tr>
<td></td>
<td>Minus Unusual Detail (Dd-)</td>
<td>Analogous to W-.(^a)</td>
</tr>
<tr>
<td>3</td>
<td>Vague Whole (Wv)</td>
<td>Analogous to Dw.</td>
</tr>
<tr>
<td></td>
<td>Oligophrenic Detail (Adx-Hdx)</td>
<td>Response to part of an A or II percept usually seen as a completed figure.</td>
</tr>
<tr>
<td></td>
<td>Plus Unusual Detail (Dd+)</td>
<td>Content is a reasonable match to blot area isolated.(^a)</td>
</tr>
<tr>
<td>4</td>
<td>Mediocre Detail (Dm)</td>
<td>Form implied in outline and articulation matches blot area. At level of &quot;populars.&quot;</td>
</tr>
<tr>
<td>Level</td>
<td>Classification</td>
<td>Definition</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5</td>
<td>Mediocre Whole (Wm)</td>
<td>Analogous to Dm, but applies only to unbroken blots.</td>
</tr>
<tr>
<td>5</td>
<td>Plus Detail (D+)</td>
<td>Two or more D areas are combined into one &quot;good form&quot; percept.(^a)</td>
</tr>
<tr>
<td>5</td>
<td>Plus Whole (W+)</td>
<td>All D portions of a broken plot are combined into one &quot;good form&quot; percept.(^a)</td>
</tr>
<tr>
<td>6(^b)</td>
<td>Plus-Plus Whole (W++)</td>
<td>An unbroken blot is perceptually articulated and reintegrated into a &quot;good form&quot; percept.</td>
</tr>
<tr>
<td>6(^b)</td>
<td>Plus-Plus Detail (D++)</td>
<td>A D area is articulated and reintegrated into a &quot;good form&quot; percept.</td>
</tr>
</tbody>
</table>

\(^{a}\)Unbroken blots are I, IV, V, VI and IX; broken blots are II, III, VII, VIII, and X.

\(^{b}\)Level six is characterized by the highest form of differentiation and hierarchic integration which is found only in mature perception.
APPENDIX C

Behavioral Interaction Scoring Manual

1. Withdraws without expressing objections. Offers no personal opinion.
   Agrees with mother's response without making references to their own response.
   Imitates, spontaneously copies mother's response.
   Denies own response.

2. Tentatively gives own opinion (i.e., states previous percept) but easily accepts and agrees with mother's response. (e.g., verbal concession in response to maternal domination)
   Attempts to articulate own response but seeks much support, direction, and guidance.

3. Gives own previous percept, persists somewhat and seeks support for his view, but finally acquiesces.

4. Gives percept, defends it, has difficulty acknowledging mother's percept, refuses to give up own percept.

5. Gives own percept, articulates, not threatened by maternal non-agreement or acceptance, and tries further to explain rationale for own percept. Recognizes mother's percept. Easily and comfortably maintains own view in non-stubborn or non-rebellious manner.

6. Flexible. Gives own percept, articulates, seeks out other's point of view and makes active effort to decide on best response of the two.
<table>
<thead>
<tr>
<th>NAME</th>
<th>1. P □ 1</th>
<th>well thought of</th>
<th>17. H □ 1</th>
<th>able to criticize self</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. P □ 2</td>
<td>makes a good impression</td>
<td>18. H □ 2</td>
<td>apologetic</td>
</tr>
<tr>
<td></td>
<td>3. A □ 1</td>
<td>able to give orders</td>
<td>19. I □ 1</td>
<td>can be obedient</td>
</tr>
<tr>
<td></td>
<td>4. A □ 2</td>
<td>forceful</td>
<td>20. I □ 2</td>
<td>usually gives in</td>
</tr>
<tr>
<td></td>
<td>7. C □ 1</td>
<td>able to take care of self</td>
<td>23. K □ 1</td>
<td>appreciative</td>
</tr>
<tr>
<td></td>
<td>8. C □ 2</td>
<td>can be indifferent to others</td>
<td>24. K □ 2</td>
<td>very anxious to be approved of</td>
</tr>
<tr>
<td></td>
<td>9. D □ 1</td>
<td>can be strict if necessary</td>
<td>25. L □ 1</td>
<td>cooperative</td>
</tr>
<tr>
<td></td>
<td>10. D □ 2</td>
<td>firm but just</td>
<td>26. L □ 2</td>
<td>eager to get along with others</td>
</tr>
<tr>
<td></td>
<td>11. E □ 1</td>
<td>can be frank and honest</td>
<td>27. M □ 1</td>
<td>friendly</td>
</tr>
<tr>
<td></td>
<td>12. E □ 2</td>
<td>critical of others</td>
<td>28. M □ 2</td>
<td>affectionate and understanding</td>
</tr>
<tr>
<td></td>
<td>13. F □ 1</td>
<td>can complain if necessary</td>
<td>29. N □ 1</td>
<td>considerate</td>
</tr>
<tr>
<td></td>
<td>14. F □ 2</td>
<td>often gloomy</td>
<td>30. N □ 2</td>
<td>encourages others</td>
</tr>
<tr>
<td></td>
<td>15. G □ 1</td>
<td>able to doubt others</td>
<td>31. O □ 1</td>
<td>helpful</td>
</tr>
<tr>
<td></td>
<td>16. G □ 2</td>
<td>frequently disappointed</td>
<td>32. O □ 2</td>
<td>big-hearted and unselfish</td>
</tr>
</tbody>
</table>
33. P 2 often admired
34. P 2 respected by others
35. A 2 good leader
36. A 2 likes responsibility
37. B 2 self-confident
38. B 2 self-reliant and assertive
39. C 2 businesslike
40. C 2 likes to compete with others
41. D 2 hard-boiled when necessary
42. D 2 stern but fair
43. E 2 irritable
44. E 2 straightforward and direct
45. F 2 resents being bossed
46. F 2 skeptical
47. G 2 hard to impress
48. G 2 touchy and easily hurt
49. H 2 easily embarrassed
50. H 2 lacks self-confidence
51. I 2 easily led
52. I 2 modest
53. J 2 often helped by others
54. J 2 very respectful to authority
55. K 2 accepts advice readily
56. K 2 trusting and eager to please
57. L 2 always pleasant and agreeable
58. L 2 wants everyone to like him
59. M 2 sociable and neighborly
60. M 2 warm
61. N 2 kind and reassuring
62. N 2 tender and soft-hearted
63. O 2 enjoys taking care of others
64. O 2 gives freely of self
65. P ___ 3 always giving advice
66. P ___ 3 acts important
67. A ___ 3 bossy
68. A ___ 3 dominating
69. B ___ 3 boastful
70. B ___ 3 proud and self-satisfied
71. C ___ 3 thinks only of himself
72. C ___ 3 shrewd and calculating
73. D ___ 3 impatient with others' mistakes
74. D ___ 3 self-seeking
75. E ___ 3 outspoken
76. E ___ 3 often unfriendly
77. F ___ 3 bitter
78. F ___ 3 complaining
79. G ___ 3 jealous
80. G ___ 3 slow to forgive a wrong
81. H ___ 3 self-punishing
82. H ___ 3 shy
83. I ___ 3 passive and unaggressive
84. I ___ 3 meek
85. J ___ 3 dependent
86. J ___ 3 wants to be led
87. K ___ 3 lets others make decisions
88. K ___ 3 easily fooled
89. L ___ 3 too easily influenced by friends
90. L ___ 3 will confide in anyone
91. M ___ 3 fond of everyone
92. M ___ 3 likes everybody
93. N ___ 3 forgives anything
94. N ___ 3 oversympathetic
95. O ___ 3 generous to a fault
96. O ___ 3 overprotective of others


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