RELATIONSHIPS BETWEEN EGO DEVELOPMENT

AND ADJUSTMENT: COLLEGE STUDENTS

AND COUNSELEES

By

Steven N. Gold

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

1981

ABSTRACT

RELATIONSHIPS BETWEEN EGO DEVELOPMENT
AND ADJUSTMENT: COLLEGE STUDENTS
AND COUNSELEES

By

Steven N. Gold

This study was designed to assess patterns and degrees
of adjustment and defensive styles in college students and
college counselees at the conformist level of ego development
versus those beyond the conformist level. Adjustment was
measured by the Minnesota Multiphasic Personality Inventory
(MMPI) and ego development was measured by the Washington
University Sentence Completion Test (WU-SCT). The test
results of 103 college students, 53 men and 50 women enrolled
in an introductory psychology course (nonclinical group) and
of 43 students, 19 men and 24 women about to enter therapy at
two university counseling centers (clinical group), were com-
pared. The clinical subjects' mean WU-SCT score was signifi-
cantly higher than that of the nonclinical group, and there
was a complete lack of representation of conformist individ-
uals among the clinical sample. The latter finding rendered
the original hypotheses regarding psychological functioning
of conformists versus those beyond the conformist level
untestable. In statistical analyses, therefore, subjects

below the conformist level, those at the conformist and self-aware levels, and subjects beyond the self-aware level were grouped together. Only the masculinity-femininity MMPI scale yielded a significant difference across these three groups. In multiple regression analysis of clinical versus nonclinical sample membership, the depression MMPI scale was most predictive, but the ego strength scale, acting as a suppressor variable, immediately followed it in the regression equation. This result was interpreted as indicating that college counselees were more aware of the psychological distress they were experiencing than their peers, but not more maladjusted. This was further supported by the finding of significantly higher scores on the repression-sensitization (i.e., greater use of intellectualizing rather than repressive defenses) and significantly lower scores on the social desirability MMPI scales among counselees than nonclinical subjects. The implication of a lack of a simple positive relationship between ego level and adjustment was discussed. The import of the recognition among college counselors that many of their clients, by virtue of their relatively high ego levels, possess competencies usable in the service of more effective treatment was also stressed.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

Ego Development Theory

Loevinger's hierarchical model of ego development, defined as "the integration of observations into a coherent frame of reference" (Loevinger & Wessler, 1970, p. 8), is the product of an interactive synthesis of theory building and empirical research. Drawing upon the common elements of the models of several theorists of personality development, most notably C. Sullivan, Grant, and Grant (1957), Issacs (1956), and H. S. Sullivan (1953), a preliminary hierarchy was formulated. It was then continuously revised, refined and expanded as data were collected in the process of constructing a test of ego development, the Washington University Sentence Completion Test (Loevinger & Wessler, 1970). The present version of the model (Loevinger, 1976), outlined in Table 1, is summarized below. The synopsis of each stage is followed by representative responses to the sentence completion test selected from the scoring manual (Loevinger, Wessler, & Redmore, 1970).

Presocial/Symbiotic (code I-1), the first level in the hierarchy, is prelinguistic and therefore not scorable on the sentence completion test. Divided into two phases, autistic

1

Table 1.--Some Milestones of Ego Development.

Stage	Code	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Presocial			Autistic		
Symbiotic	I-1		Symbiotic	Self vs. nonself	
Impulsive	I-2	Impulsive, fear of retaliation	Receiving, dependent, exploitative	Bodily feelings, especially sexual and aggressive	Stereotyping, conceptual confusion
Self-protective	Δ	Fear of being caught, externalizing blame, opportunistic	Wary, manipulative, exploitative	Self-protection, trouble, wishes things, advantages, control	
Conformist	I-3	Conformity to external rules, shame, guilt for breaking rules	Belonging, superficial niceness	Appearance, social acceptability, banal feelings, behavior	Conceptual simplicity, stereotypes, cliches
Conscientious-conformist	I-3/4	Differentiation of norms, goals	Aware of self in relation to group, helping	Adjustment, problems, reasons, opportunities (vague)	Multiplicity

Table 1 (cont'd.)

Stage	Code	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Conscientious	I-4	Self-evaluated standards, self-criticism, guilt for consequences, long-term goals and ideals	Intensive, responsible, mutual, concern for communication	Differentiated feelings, motives for behavior, self-respect, achievements, traits, expression	Conceptual complexity, idea of patterning
Individualistic	I-4/5	Add: Respect for individuality	Add: Dependence as an emotional problem	Add: Development, social problems, differentiation of inner life from outer	Add: Distinction of process from outcome
Autonomous	I-5	Add: Coping with conflicting inner needs, toleration	Add: Respect for autonomy, interdependence	Vividly conveyed feelings, integration of physiological and psychological, psychological causation of behavior, role conception, self-fulfillment, self in social context	Increased conceptual complexity, complex pattern toleration for ambiguity, broad scope, objectivity

Table 1 (cont'd.)

Stage	Code	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Integrated	I-6	Add: Reconciling inner conflicts, renunciation of unattainable	Add: Cherishing of individuality	Add: Identity	

Note: "Add" means in addition to the description applying to the previous level.

Note: From Ego development: conceptions and theories by J. Loevinger; copyright by Jossey-Bass, 1976.

and symbiotic, this stage involves the differentiation of self from nonself.

Impulsive (code I-2), the second stage, is so called because of the relative lack of impulse control manifested by individuals at this level, as well as a preoccupation with bodily, especially sexual and aggressive, feelings. Impulses are controlled primarily by immediate rewards and punishments in the environment, and interpersonal relations are character-ized by exploitiveness, receiving and dependency.

When they avoided me--I went home and cried.

I feel sorry--for myself when I cannot get something I want.

When I am with a man--I get hot.

If my mother--had any money I would like to see it once in a while.

Self-protective (code Delta) persons are capable of greater impulse control than impulsive ones, but institute this control only when it is to their immediate advantage. While people at this stage do fear being caught for trans-gressions, they tend to externalize blame, attributing it to others, to the situation, or even to parts of the body. Deal-ings with others are colored by a preoccupation with control, domination and advantage, and tend to be exploitive and manip-ulative in nature.

When they avoided me--I turned the tables.

What gets me into trouble is--running around with the wrong group.

When people are helpless--they expect everyone to wait on them.

> Women are lucky because--they don't have to work as hard
> as a man.

Conformist (code I-3) individuals are characterized by
an absolutistic cognitive style; issues are perceived in terms
of polar opposites. Obedience to rules, superficial nice-
ness, emphasis on the need to belong and concern with appear-
ances rather than intentions are descriptive of the conform-
ist's social interactions.

> Raising a family--is the best thing that can happen to
> a girl.

> When people are helpless--I like to be of assistance if
> possible.

> My father--is a dear.

> A wife should--be loving and cheerful and a good home-
> maker.

Self-aware (code I-3/4) people, as the name implies,
manifest a growing sense of self fundamental to the transi-
tion from group (I-3) to self (I-4) determined standards. The
absolutism of the previous level is replaced by a multiplistic
outlook (the ability to see alternative aspects of a situation)
and feelings are more differentiated than at previous stages.

> When they avoided me--I felt I had offended them.

> Being with other people--is good sometimes but at other
> times it's not.

> My main problem is--I'm too self-centered and can't set-
> tle down.

> The worst thing about being a woman--is bending to public
> opinion.

Conscientious (code I-4) individuals are distinguished
by their preoccupation with achievement, concern for respon-
sibility, formation of long-term goals and capacity for

reflexivity. True mutuality and concern for communication color their relations with others.

> The thing I like about myself is--that I always like a challenge.

> I feel sorry--for people who have no real drive.

> A woman feels good when--she can truly communicate with her husband.

> My conscience bothers me if--I know I've done something against my standards.

Individualistic (code I-4/5) persons evince consciousness of the distinction between inner reality and external appearances. The accent placed by conscientious individuals upon moralism, responsibility and achievement is partially tempered by a growing concern with interpersonal relations and awareness of inner conflict.

> Education--is a terrific experience but does not always represent what it seems to.

> My father--is not easy to understand but yearns for love and companionship.

> I feel sorry--for people who have hollow and mechanical relationships.

> My main problem is--that I need to resolve some "strings" that hold over from childhood.

Autonomous (code I-5) people continue to relinquish the conscientious achievement orientation, supplanting it with an emphasis on self-fulfillment. The name of this level reflects the autonomous individual's respect for the independence of other people as well as an awareness of the balance between trends towards independence and interdependence in his own life. Cognitive functioning at this stage is marked by relativity and toleration for ambiguity.

> The thing I like about myself is—that I am an individual and am liked for that reason above all else.

> A woman feels good when—she has given of her unique self.

> A good mother—loves her children but gives them freedom.

> A woman should always—try to understand her husband's moods as best she can.

Integrative (code I-6), the final stage in the hierarchy, is probably reached by less than 1 out of 100 individuals in the general population, and coincides with Maslow's (1968) concept of self-actualization.

> My father—has greatly enriched and influenced my life by his immense common sense logic and faith in the person.

> I feel sorry—that I can't do more for people and places and things, but refuse to try when I know it is futile.

> At times she worried about—money, health, the state of the world, and whether her son needed new shoes right now.

> The worst thing about being a woman—cannot be generalized, as one woman makes an asset of the same situation decried by another.

Although these stages and the sentence completion test created to measure them were derived from research on normal populations, there has been such a strong tendency to assume that mental health increases progressively with ego level that it has been repeatedly stressed by Loevinger (1966, 1968, 1976) that ego development and adjustment are conceptually distinct. The goal of the present study is to attempt to clarify this distinction in the hope that it might help to define more precisely not only the concept of ego development but that of adjustment as well.

Ego Level and Symptom Pattern

The rationale of a previous study (Gold, 1977) of rela-
tionships between level of ego development as measured by the
Washington University Sentence Completion Test (SCT) and
symptom patterns as measured by the Minnesota Multiphasic Per-
sonality Inventory (MMPI) in 14 and 15 year old high school
students was derived from a point made by Loevinger (1966)
pertaining to Meehl and Hathaway's (1946) analysis of the K
(correction) factor of the MMPI. The K scale, which was
developed to improve the ability of the MMPI to distinguish
normal from psychopathological individuals, is thought to
measure the proclivity to portray oneself in socially desir-
able terms, a definitive trait of the conformist stage of ego
development. The K factor cannot by itself differentiate nor-
mals from the maladjusted; it functions solely as a suppressor
variable when used in conjunction with the clinical scales of
the MMPI. However, K is not added to all of the clinical
scales, and varying proportions of K are combined with the
scales to which it is added. This is a reflection of the fact
that K correlates positively with some clinical scales, nega-
tively with others, and that these correlations vary in degree
from extremely low to moderately high (Meehl & Hathaway, 1946,
p. 548). From this variation in the correlation of K with
each of the clinical scales and similar variations one would
expect in the correlation of K with each ego level, it was
suggested that people at a given ego level were more likely
to be characterized by certain symptom patterns than by
others.

Working from this premise, the following parallels were hypothesized between particular symptom patterns, as measured by the clinical scales of the MMPI, and specific stages of ego development:

1. Impulsive stage and hypochondriasis--The most striking similarity here is between the focus on bodily functions and malfunctions by hypochondriacal persons and the impulsive's preoccupation with bodily feelings. Those with high scores on the hypochondriasis scale of the MMPI are demanding of others (Gough, 1953), a trait shared by impulsive individuals, for whom "people are seen as sources of supply" (Loevinger & Wessler, 1970, p. 57). Other signs of a low ego level exhibited by these patients include egocentricity (Carson, 1969) and immaturity (Lachar, 1974). Moreover, hypochondriacs often use their symptomatic complaints as a means of controlling others (Carson, 1969) and seeking sympathy (Lachar, 1974). This strategic approach to social relations exemplifies the receptive, dependent, exploitive interpersonal style of impulsive persons.

2. Self-protective stage and psychopathic deviance--In a rare statement relating a given symptom pattern to a specific ego level, Loevinger (1968) states that many people at the self-protective level "are clearly psychopathic" (p. 169). Research investigating ego development among delinquints (Hezel, 1969) revealed that lower ego levels were associated with

psychopathic delinquincy factors while higher ones were associated with subcultural factors. Another indication of the preponderance of psychopathic deviance among lower ego levels is that it is often connected with poor impulse control (Lachar, 1974). Furthermore, the fact that individuals scoring high on the psychopathic deviance MMPI scale "usually only care about others to the extent that they may further their own ends" (Lachar, 1974, p. 20) is reminiscent of the exploitative and manipulative style found at the self-protective level.

3. Conformist stage and hysteria--The hysteria scale of the MMPI was the only clinical scale found to consistently correlate positively with the K factor by Meehl and Hathaway (1946). As noted above, K is often conceptualized as the tendency to describe oneself in socially desirable terms, a trait intrinsic to the conformist's manner of functioning. Like the conformist, the individual scoring high on the hysteria scale is often outgoing and visible in social relations, and these relations are often carried out on a superficial level (Carson, 1969; Lachar, 1974). In addition, phrases applied to hysteria such as bland without insight (Carson, 1969), naive (Lachar, 1974) and global, black or white (Shapiro, 1965) reflect the absolutistic and banal nature of the conformist's cognitive and affective style.

4. Conscientious stage and obsessive-compulsiveness--
    The following characteristics of the conscientious
    level are attributed to the obsessive-compulsive
    style of functioning by Shapiro (1965): (a) pre-
    occupation with achievement (p. 31, 45); (b) empha-
    sis on responsibility (p. 40); (c) intensive style
    (p. 31); and (d) self-criticism (p. 34, 39). The
    extreme indecisiveness of persons with elevations on
    the psychasthenia (i.e., obsessive-compulsive) MMPI
    scale (Marks, Seeman, & Haller, 1974) seems to be
    related to the ability to perceive multiple possi-
    bilities in a situation which first appears at the
    self-aware ego level. Haan, Stroud, and Holstein
    (1973) found ratings on intellectualization, a
    defense mechanism associated with obsessive-
    compulsiveness, were higher for subjects at the con-
    scientious stage and above than for those at lower
    ego levels.

5. Conscientious stage and paranoia--A factor underlying
    a series of correspondences between paranoiac and
    obsessive-compulsive styles observed by Shapiro
    (1975) may be that both contain aspects of function-
    ing dependent upon capabilities associated with
    higher ego levels. Paranoid projection represents
    "externalizations of self-critical ideas or evalua-
    tions" (Shapiro, 1965, p. 96), an indication of the
    reflexive capacity found at the conscientious stage
    and above. Haan, Stroud, and Holstein (1973) found

that significantly higher ratings were perceived by subjects at the conscientious level and above on projection and the delusional fragmenting reaction than by those at lower ego levels. The paranoid trait of suspiciousness (Lachar, 1974), manifested in an attempt to penetrate beneath surface appearances to discover the underlying truth (Shapiro, 1965) is similar to the distinction between inner reality and outer appearances made by those at higher ego stages. Like those at higher ego levels, paranoid individuals display a preoccupying concern with autonomy (Shapiro, 1965, p. 83).

A profile analysis significant at the .0002 level supported all these hypothesized parallels between symptom patterns and three ego level groupings (i.e., those below the conformist level, those at the conformist level, and those above the conformist level) except that between psychopathic deviance and the pre-conformist grouping (Gold, 1977). It was suggested that the lack of confirmation of this hypothesis might be due to the nature of the psychopathic deviancy scale of the MMPI, which Hawk and Peterson (1974) found to measure deviation from societal norms, not psychopathic deviance per se. One unpredicted relationship, a tendency for depression to be most characteristic of the conformist ego group, was found. This finding is congruent with recent speculation of researchers in the area of depression, who have come to suspect that a strong trend towards conformity, and particularly dependency on social approval to maintain

self-esteem, plays an important role in the etiology and maintenance of depression (Friedman & Katz, 1974, p. 75-78).

The results of this research (Gold, 1977) also provided three sources of support for Loevinger's argument that the K factor of the MMPI is essentially a correction for ego level: (a) subjects at the conformist level of ego development (i.e., conformist ego group) scored significantly higher on the K scale than both those below the conformist level (i.e., pre-conformist ego group) and those above the conformist level (i.e., post-conformist ego group); (b) in a profile analysis of the mean T-score MMPI profiles (without K correction) of each ego group the K scale ranked significantly higher in the mean conformist profile than in the mean profiles of the other two groups; and (c) the addition of the appropriate fractions of K to the clinical scales diminished the mean differences between ego groups, thereby lowering the corresponding F-ratios in every case.

Ego Level and Adjustment

Aside from the above findings, which outline the relationship between ego development and the type of pathology manifested, several analyses pointed to a distinction between ego level and degree of maladjustment as measured by the clinical scales of the MMPI (Gold, 1977). Pre-conformist subjects scored significantly higher on 8 out of the 10 basic clinical scales of the MMPI (i.e., hypochondriasis, depression, psychopathic deviance, paranoia, psychasthenia, schizophrenia, hypomania and social introversion) than either conformists or

post-conformists. In every one of these cases there was no
significant difference between the scores of conformists and
post-conformists. The pattern of scores on Barron's (1953)
ego strength scale across ego level groupings was similar to
those observed among the clinical scales; no significant dif-
ferences were found between conformist and post-conformist
subjects. Lower scores among pre-conformist girls than among
post-conformist girls constituted the only significant dif-
ference found on the ego strength scale. These results sug-
gest not a steadily increasing level of adjustment as ego
level increases, but a sharp discontinuity between degree of
pathology at pre-conformist ego stages and at all those
stages above the pre-conformist grouping. This observed
pattern is consistent with Loevinger and Wessler's (1970) con-
jecture that "Probably those who remain below the conformist
level beyond childhood can be called maladjusted, and many of
them are undoubtedly so even in their own eyes" (p. 7).

Outline of Research Design

The aim of the present study was to clarify and expand
upon the findings pertaining to the relationships and dis-
tinctions between ego development and adjustment just
described by modifying the design of that research in several
respects. Firstly, college rather than high school students
were tested. It was assumed that this would drastically
reduce if not eliminate completely the representation of pre-
conformist subjects in the sample. It would also, however,
provide a greater number of subjects at the highest ego levels

within the post-conformist grouping than one would expect to
find among 14 and 15 year olds, thereby making it possible to
test out the generalizability of the conclusions of the pre-
vious study to the upper end of the ego development continuum.
This simultaneous extension of the range of ego levels repre-
sented by the post-conformist group of subjects and elimi-
nation of the pre-conformist group would allow for greater
discrimination and clearer contrasts between the conformist
and post-conformist ego groups. Considering the implication
of the pattern of MMPI scores among ego level groups that
the overlap between psychopathology and ego development is
greatest among pre-conformists (Gold, 1977), concentration on
a comparison of conformist and post-conformist subjects, it
was conjectured, would yield the most perspicuous information
regarding the distinction between ego development and
adjustment.

A second alteration of the methodology was introduced by
adding a behavioral criterion of adjustment to the design;
scores on the SCT and MMPI of college students receiving
psychotherapy were compared with those of a nonclinical group
of college students. Comparison of mean scores on the 10
basic clinical scales of the MMPI were used to determine
whether a difference in the level of psychological adjustment
between these two groups did in fact exist. For the purpose
of this study, these standards served as the operational (and
provisional) defining characteristics of adjustment.

It is recognized that although commonly used for research purposes, participation in psychotherapy is a less than optimal basis for differentiating psychopathological from adjusted individuals. There were likely to be subjects in the sample not engaged in psychotherapy who were experiencing psychological difficulties. Conversely, certain psychotherapy clients not experiencing psychological distress, but interested, rather, in self-exploration may not be justifiably designated as maladjusted. It was this very recognition of the absence of clearly defined and widely agreed upon behavioral and theoretical criteria for adjustment which acted in part to motivate the execution of this study. It was hoped that the process of distinguishing adjustment from ego level would aid in circumscribing and clarifying the meaning of both of these concepts.

Finally, three additional MMPI scales were scored and included in the analyses. The first of these, Byrne's (1961) repression-sensitization (R-S) scale, was employed to explore the relationship between defensive style and ego level group. The remaining two, Block's (1965) ego resiliency (ER-0) and ego control (EC-5) scales, were included in order to evaluate the validity of a proposed theoretical distinction between ego development and adjustment. The meaning, related literature and relevancy of these scales to the concepts of ego level and psychopathology are discussed in detail in the following chapter.

Theoretical Overview

The decision to consider both the relationships and the distinctions between ego development and adjustment simultaneously was intentional, necessitated by the apparent complexity inherent in the nature of their interconnection. The need to approach this issue from several divergent aspects in the chapters which follow warrants that, in order to avoid losing sight of the broader context within which these aspects converge, the theoretical framework from which they are derived be delineated here. First the various facets of adjustment proposed to be related to each ego level group will be described. (Although not represented in the sample of subjects chosen for examination in the present study, discussion of the pre-conformist ego group is included for the sake of conceptual completeness.)

Among adults who have not passed beyond the pre-conformist grouping of ego stages, maladjustment is often if not invariably directly attributable to low ego level per se. The minimal development of certain ego capacities (e.g., impulse control, delay of gratification, differentiation of ego functions, movement from egocentricity towards sociality) at these stages prohibits the attainment of the degree of ego control necessary for sufficiently effective ego functioning. Having already outlined the hypothesized relations of the symptom patterns of hypochondriasis and psychopathic deviance to these levels, it need only be pointed out here that both of these forms of psychopathology are characterized by a low

level of ego control and a lack of development of ego abilities such as sociality (i.e., concern for others) and delay
of gratification.

The attribution of maladjustment among pre-conformists to
a lack of ability to maintain adequate ego controls is consistent with the type of psychological disorders associated
with these stages. It would also explain the greater degree
of maladjustment, as indicated by significantly higher scores
obtained on 8 out of 10 clinical MMPI scales than conformist
and post-conformist subjects (Gold, 1977), found among those
at these ego levels. Conversely, this sharp discontinuity in
average level of adjustment between pre-conformists and those
at higher stages suggests that factors other than those which
would inevitably lead to an inability to achieve effective
functioning must be called into play to account for the occurrence of maladjustment among conformists and post-conformists.
This would require that certain similarities which might exist
between maladjusted pre-conformists and conformists be interpreted as resulting from dissimilar underlying causes.

For example, the hysterical and depressive symptomotologies found to be most common among conformist subjects
(Gold, 1977) imply a low level of ego control not unlike that
proposed to prevail among pre-conformists. However, since
there are clearly conformist individuals who are not maladjusted and who do not display poor ego control, it is more
appropriate to consider undercontrol among maladjusted conformists as being due to the intensification of pre-existing
trends than to ascribe it to the a priori absence of

corequisite abilities. The conformist's preoccupation with social acceptibility and tendency to attend more fully to outer than inner reality would foster growing reactivity to the external (and especially social) environment at the expense of the maintenance of adequate inner (i.e., ego) controls in response to the experience of increasingly stressful difficulties and conflicts.

A similar distinction can be drawn in relation to the question of where along the continuum of "repressive" (typified by repression and denial) versus "sensitizing" (typified by intellectualizing and obsessional tendencies) defensive styles these two ego level groups are likely to fall. Phrased in more theoretical terms, repression represents the exclusion of psychic contents from consciousness. In sensitization conflictual psychic content remains conscious, but is divorced from the affect associated with it. The symptom patterns associated with the pre-conformist and conformist stages suggested that both groups would exhibit a style of defense more accurately described as repressive than sensitizing. Due to the lack of awareness of self and inner processes among pre-conformists, this repressive style would probably be most precisely described as a passive inaccessibility of many areas of psychic content to conscious awareness. Among conformist individuals, however, repression probably most often takes the form of active and selective dissociation, facilitated by the conformist's inclination to place greater emphasis on attention to external than internal aspects of experience.

It is in the consideration of the presence of maladjust-
ment among post-conformist individuals that the distinction
between effectiveness and complexity of ego functioning
becomes most relevant. It appears particularly contradictory
that two symptom patterns generally thought to be especially
severe and difficult to treat, obsessive-compulsiveness and
paranoia, should be found to be most characteristic of those
in the high group of ego levels (Gold, 1977). Nevertheless,
in the following chapter evidence will be presented which
demonstrates that not only insufficient but also excessive
(in the sense of unnecessarily rigid) levels of ego control
are related to the incidence of psychopathology. This paradox,
therefore, can be resolved by the proposition that it is the
very complexity of functioning and unique capabilities present
at the highest ego stages (e.g., sophisticated cognitive pat-
terning, capacity for objectivity, ability to plan ahead)
which make possible the establishment of rigid and excessively
high levels of ego control (such as those found in obsessive-
ness and paranoia) in response to psychological conflict and
stress.

In clarifying this point, it is important to review the
changing modes of ego control as one progresses through the
ego development hierarchy, with an eye towards differentiating
mode of control from efficacy of control. At the pre-
conformist ego levels, ego control is relatively low. Control
over behavior and impulse expression is primarily external,
instituted through extrinsic rewards and punishments (at the
impulsive level) and fear of being caught (at the

self-protective stage). Although the capacity for effective ego control clearly exists at the conformist level, its basis in adherence to external rules and social norms introduces an inherent vulnerability. Although control is more internalized than at pre-conformist levels, it is still not completely grounded in autonomous evaluation. At the post-conformist ego stages, the institution of ego controls primarily through the application of self-evaluated standards represents an almost complete internalization of this process. Although internal, however, the exercising of ego controls is still not entirely an individually executed process in the strictest sense, for even these self-evaluated standards are derived in large part from the internalized injunctions of significant figures (Loevinger, 1976). Where these injunctions are overly rigid or harsh, and are not accessible to conscious appraisal, they can lead to the institution of excessive ego controls.

The exercising of overcontrol in response to anxiety by post-conformists suffering from psychopathology would provide a ready explanation for the difficulty encountered in attempting to treat the obsessive-compulsive and paranoiac symptom patterns associated with these stages. A high degree of ego control coupled with a capacity for complex modes of functioning can facilitate the erection of an extremely rigid, sophisticated and impenetrable symptomatic, defensive and delusional system. The growing awareness of inner conflict as one proceeds through the post-conformist ego stages (Loevinger, 1976) and the association of the sensitizing style of defense with obsessiveness provide substantial evidence for the prevalence

of sensitizing rather than repressive defenses among post-conformists.

As a means of consolidating the various aspects of the model just presented, it is interesting to note that maladjustment would appear to be typified by insufficient ego control of impulses among pre-conformists (manifested through hypochondriacal and psychopathic symptoms), by poor ego control of affect among conformists (as displayed in hysterical and depressive syndromes) and by excessive and rigid ego control of cognition (salient qualities of obsessive-compulsiveness and paranoia) among post-conformists. This observation provides an anchor which simultaneously serves to conceptually unify the symptom patterns most commonly found at each ego level group and differentiate these types of maladjustment between ego groups.

A final area to be considered at length in the following chapter is the factor structure of the MMPI as it relates to the problem of distinguishing between ego development and adjustment. Although this argument will be fairly detailed and intricate, the basic hypothesis which it aims to support is relatively straightforward. Briefly stated, this hypothesis was that the first MMPI factor taps a constellation of variables related to ego level but not to level of adjustment, and that the converse is true for MMPI factor II. The ultimate aim of this proposition was to clearly delineate the nature of the distinction between ego level and adjustment.

REVIEW OF RELATED LITERATURE

Repression-Sensitization (R-S)

Byrne's (1961) repression-sensitization (R-S) scale is
thought to measure an individual's characteristic style of
defensive reaction to threatening stimuli. The repressor end
of the continuum, corresponding to low scores on the R-S
scale, is typified by rationalization, repression and denial.
At the opposite end of the scale, high scores, indicative of
sensitization, are associated with intellectualization and
obsessiveness (Rios-Garcia & Cook, 1975). This dichotomy
closely resembles the relationships between the conformist
group and hysteria on one hand and the post-conformist group
and obsessiveness on the other (Gold, 1977).

It has been shown that the sensitizing style of defense
is positively related to self-criticism, a distinctive trait
of post-conformist subjects. Byrne, Barry, and Nelson (1963)
reported a correlation of .68 ($p<.01$) between R-S scores and
negative self-descriptions on Worchel's Self-Activity Inven-
tory. Similarly, Rios-Garcia and Cook (1975) found that R-S
scores correlated .64 ($p<.001$) with scores on the Self-
derogation scale.

Analogously, repressors, like those in the conformist ego
group, tend to describe themselves in socially desirable terms.

A correlation of -.45 (p<.01) was found between the R-S scale and the Marlowe-Crowne Social Desirability Scale by Feder (1967). Rios-Garcia and Cook (1975) report a correlation of -.70 (p<.001) between R-S and K. Abbott (1972), using scales of social desirability from both the MMPI and the Edwards Personality Inventory, obtained correlations of -.90 and -.77 respectively with R-S.

The tendency towards self-criticism among sensitizers and social desirability among repressors receives additional support from the finding that the self/ideal descrepancy scores of the former group are significantly greater than those of the latter group. This result occurred when both Worchel's Self-Activity Inventory (Byrne, Barry, & Nelson, 1963) and the Q-sort technique (Feder, 1968) were used to measure self/ideal discrepancy.

Another distinguishing characteristic of repressors and sensitizers which parallels the contrast between conformists and post-conformists is cognitive complexity. In a study executed by Wilkins, Epting, and Van de Riet (1972) sensitizers scored significantly higher (p<.001) in interpersonal cognitive complexity than repressors. Bynre (1961), moreover, found a correlation of -.40 (p<.01) between R-S scores and scores on the California F scale of authoritarianism, a trait which Loevinger (1976) attributes to subjects at the conformist stage and below.

If this proposed relationship between repression-sensitization and ego development does in fact exist, and one considers that Loevinger and Wessler (1970) equate their

highest stage with self-actualization, an interesting con-
tradiction comes to light. Maslow (1968), as well as those
working with equivalent concepts such as positive mental
health (Johoda, 1958), equate the qualities of Loevinger's
highest stages with adjustment. It has been repeatedly
reported by those working with the R-S scale, however (Black-
burn, 1965; Feder, 1967; Tempone & Wesley, 1967), that psy-
chiatric patients score significantly higher (i.e., in the
sensitizing direction) on R-S than normals. The implication
from a comparison of MMPI and SCT scores (Gold, 1977) that
conformists and post-conformists do not differ on the average
in degree of adjustment seems to further confuse the issue.

One possible resolution to this apparent contradiction
receives support from two sources, one theoretical, the other
empirical. From a theoretical viewpoint, both sensitizers and
post-conformists have a greater awareness of inner conflict
than both repressors and conformists. One would expect,
therefore, that the former group would be more likely than
the latter to enter therapy, although there may be no differ-
ence in the average level of maladjustment between them.
This supposition would be consistent with the results of the
three studies of R-S and adjustment cited above, each of
which used participation in psychotherapy as the criterion of
maladjustment.

This conjecture also receives support from Blackburn's
(1965) analysis of the relationship between R-S and adjust-
ment. He not only contrasted the mean R-S score of his psy-
chiatric sample with that of Bryne's normative sample but

also compared the distribution of R-S scores in each group. Although the normal sample's distribution was positively skewed and that of the psychiatric sample was negatively skewed, there was considerable overlap between the two distributions, with 31% of the maladjusted sample falling below the mean of Byrne's normal sample (i.e., at the repressor end of the scale). Rather than the J-shaped distribution one would find in the psychiatric sample if R-S were a measure of maladjustment (i.e., the vast majority of subjects scoring above the mean and extremely few scoring below), the distribution roughly approximated a normal curve (Blackburn, 1965, p. 401).

Additional support for this contention is provided by research executed by Merbaum (1972). Subjects were divided into repressors and sensitizers on the basis of their scores on the R-S scale and administered the MMPI under normal conditions and 90 days later under instructions to appear as normal as possible. Contrary to the author's expectations, sensitizers were not only capable of "faking" valid profiles but actually produced more valid profiles than repressors under both test-taking sets. These data suggest that sensitizers resemble post-conformists in terms of cognitive complexity and perceptiveness, and more importantly, that apparent differences in degree of adjustment between repressors and sensitizers derived from responses to personality inventories may be a result of socially desirable versus self-critical response tendencies rather than psychopathology per se.

To trace and recapitulate the major steps in this argument: (a) post-conformists are more likely to score at the sensitizer end of the R-S scale than conformist subjects; (b) post-conformists are more likely to choose to enter psychotherapy than conformists; (c) there should, therefore, be a greater proportion of post-conformists than conformist clients in most psychotherapeutic service agencies; and therefore, (d) if ego development is controlled for, there should be no difference in mean R-S scores of adjusted and maladjusted groups as differentiated on the basis of participation in psychotherapy. The proposed series of interconnections between these variables both points to an association between defensive style and ego development and underlines the complex nature of the relationship between ego level and adjustment.

Ego Resiliency (ER-O)

The tendency to respond to paper and pencil measures of psychological variables in a socially desirable manner appears to have such a pervasive effect on MMPI scale scores that in the early sixties a substantial body of literature arose supporting the claim that the MMPI is a measure of response tendencies rather than content (Couch & Keniston, 1961; Edwards, 1961; Edwards & Walker, 1961a, 1961b; Edwards, Diers, & Walker, 1962; Messick & Jackson, 1961). The primary evidence presented for the interpretation of the MMPI in terms of response sets was that when the MMPI was factor analyzed and the first two factors (i.e., those accounting for the largest and second largest proportion of variance) were rotated

orthogonally they correlated highly with measures of social
desirability, acquiescence and the tendency to falsify answers
(Edwards, Diers, & Walker, 1962).

In an effort to rebut the contentions of these investi-
gators Block (1965) eliminated the possible effect of acqui-
escence by balancing the number of true and false keyed items
on each of 21 MMPI scales. The MMPI protocols of several
subject samples were then scored for both the balanced and
the original unbalanced versions of the 21 scales. Separate
factor analyses for the balanced and unbalanced scale scores
were then performed for each sample. Comparison of the bal-
anced and unbalanced factors for each sample showed "that the
factor structure of the MMPI does not change when the possi-
bility of interference from an acquiescence-response set is
removed" (Block, 1965, p. 47).

In order to construct a scale which would measure the
first factor while removing the effect of social desirability,
items related to that factor were chosen which were neutral
in respect to social desirability or keyed against social
desirability. This scale was also balanced for the number
of true and false keyed items it contained. Once again, the
pattern of correlations of this scale to other MMPI scales was
comparable to the relations of the unmodified first factor to
those scales (Block, 1965).

Factor I of the MMPI is consistently highly and posi-
tively correlated with the K scale, often interpreted as a
measure of social desirability, as well as to the social
desirability (SD) scale of the MMPI itself. For example,

Couch and Keniston (1961) report correlations of the first factor with K and SD of .64 and .88 respectively; Edwards and Walker (1961) found corresponding correlations of .73 and .90 respectively. In five samples used by Block (1965) in the factor analyses of his 21 original and acquiescence-free MMPI scales, SD correlated between .87 and .92 with the first factor of the original scales and between .71 and .89 with the balanced scales. Most dramatically, even the scale created by Block (1965) to measure the first factor while eliminating the possible effect of social desirability and acquiescence response bias correlated between .59 and .79 with SD. These figures increased to about the correlational limit (i.e., between .77 and 1.00) when corrected for the effect of attenuation.

This last finding is of central importance to Block's (1965) proposition that the variance of the first factor of the MMPI could not merely be attributed to social desirability. Such substantial correlations between a social desirability-free scale of the first factor with the SD scale implied the antithesis, i.e., that the SD scale measures something other than social desirability alone.

Block (1965) identifies the variable tapped by the first factor of the MMPI as "ego resiliency" (p. 120). Low scores on this factor are indicative of relative resistance to the experience of anxiety, while high factor I scores are conceptualized as designating greater than average "susceptibility to anxiety" (p. 119). Other researchers have also labeled factor I with terms possessing psychopathological

connotations, such as "anxiety" (Welsh, 1956), "ego weakness versus ego strenghth" (Kassenbaum, Couch, & Keniston, 1959), and even more explicitly expressed, "psychoticism" (Wheeler, Little, & Lehrer, 1951) and "general maladjustment" (Tyler, 1951). All of these interpretations were made on the basis of either the loadings of MMPI scales on the first factor alone or this data in conjunction with other psychometric evidence. Similarly, those experimenters attempting to make a case for interpreting factor I as social desirability have relied almost exclusively on "psychological scaling and correlational analyses with few ties to external nontest evidence" (Dahlstrom, Welsh, & Dahlstrom, 1975, p. 137). To date, however, performance of clinical and nonclinical subjects has not been compared on either of the two scales Block (1965) constructed to measure this factor, ER-O (acquiescence-free ego resiliency) and ER-S (ego resiliency with both acquiescence and social desirability response bias eliminated).

Nevertheless, there does exist evidence, albeit indirect, which indicates that it would be grossly inaccurate to apply any designation to the first factor of the MMPI associated with the concept of maladjustment. It has been demonstrated by Meehl and Hathaway (1946) that the K scale, which is clearly highly correlated with factor I, "does not practically differentiate unselected normal and abnormal cases (1 to $2\frac{1}{2}$ raw score points difference between means for various samples)" (p. 545).

For several reasons, ego development is proposed here as
a more precise rendering of the meaning of the MMPI's first
factor than either psychopathology or social desirability.
The tendency of pre-conformists to score considerably and
significantly higher on the clinical scales of the MMPI than
those at higher ego levels (Gold, 1977) coupled with the
self-critical response tendencies of post-conformist subjects
provides a concise explanation for the fortuitous interpre-
tation of factor I in terms of maladjustment on the basis of
factor loadings. The prominent trend towards socially desir-
able self-description among conformist subjects as evinced by
their significantly higher scores on scales K and SD than
pre- and post-conformists (Gold, 1977) provides an analogous
accounting for the confounding of the first factor with social
desirability. Finally, if a true/false forced choice test
such as the MMPI was applied to the measurement of ego devel-
opment in this manner one would expect a collapsing of the
continuum such that conformists would represent one extreme
of the dimension with both pre- and post-conformists scoring
at the other extreme. If this were the case one would observe
the exact pattern of high positive K and SD loadings and nega-
tive clinical scale loadings repeatedly found on the first
factor. It was postulated, therefore, that this factor, as
measured by the ER-O scale, would discriminate conformists and
post-conformists but not clinical from non-clinical subjects.

Ego Control (EC-5)

Thus far social desirability has served as a major anchoring point in establishing various connections between ego development and MMPI variables. This is in large part due to the predominance of MMPI items representative of the first factor of the MMPI which is very highly correlated with social desirability as measured by scales SD and K. Factor II of the MMPI, however, shows a low to negligible correlation with SD. In five samples of MMPI scale scores factor analyzed by Block (1965) for example, the correlations between the second factor and SD ranged from -.15 to .04 when the proportion of true and false items comprising each scale remained unbalanced and from -.15 to .07 when this imbalance was corrected. Similarly, moderately negative to near zero correlations between this dimension and K were obtained by Rios-Garcia and Cook (1975).

Another characteristic distinguishing the second MMPI factor from the first is the comparitively low loadings of most MMPI scales on factor II. This discrepancy could very simply be accounted for by the preponderance of first factor related items and relative scarcity of second factor items in the MMPI item pool (Block, 1965, p. 61-62). This imbalance, however, would not sufficiently explain the findings of Rios-Garcia and Cook (1975) in one of a handful of studies employing the scale, labeled EC-5, constructed by Block (1965) to measure MMPI factor II. They obtained low correlations between EC-5 and two scales not derived from MMPI items, a self-derogation scale and a measure of anxiety proneness.

These low correlations of the second MMPI factor with both social desirability in particular and the majority of MMPI scales in general might be interpreted as evidence that factor II is unrelated to ego development on one hand and to psychopathology on the other. This conclusion, however, would fail to take into account the unusual structure and psycho-metric properties of the second MMPI factor and scale EC-5.

Extrapolating primarily from a comparison of psycho-logists' Q-sort ratings of the behavior of subjects scoring at the high end of this dimension and subjects receiving low scores, Block (1965) named the second MMPI factor "ego con-trol" (EC). The Q-sort items most characteristic of high EC subjects were interpreted by Block as representing excessive impulse containment (i.e., over-control). Conversely, items most characteristic of subjects who scored low on factor II appeared indicative of an impairment or lack of ability to adequately restrain impulse expression (i.e., under-control). As the following Q-sort items descriptive of high EC subjects show, their behavior is representative not merely of over-control, but also of the styles of functioning associated with both the conformist and post-conformist ego groups.

21. Is stereotyped and unoriginal in his approach to problems.

34. Conforming; tends to do the things that are prescribed.

11. Is a conscientious, responsible, dependable person.

70. Behaves in an ethically consistent manner; is con-sistent with own personal standards.

The items characteristic of low EC subjects, on the other hand, are descriptive of the complex of traits associated with the pre-conformist ego group as well as of under-control.

6. Is guileful and potentially deceitful.

12. Manipulates people as a means of achieving personal ends; opportunistic; sloughs over the meaning and value of the individual.

45. Under-controls his impulses; acts with insufficient thinking and deliberation; unable to delay gratification.

72. Is rebellious towards authority figures, rules and constraints.

The overt content of these items clearly points to a relationship between factor II and ego development. If high EC subjects were assigned in behavioral rating Q-sort items which outlined post-conformist traits only, one might suppose that factor II shows a monotonic relationship to the continuum of stages of ego development. The presence of items descriptive of both the conformist and post-conformist styles, however, makes this a questionable possibility. The pattern of association between EC and ego development seems, rather, to parallel that of ego development with 8 of the 10 basic clinical scales: a sharp discontinuity between the scores of those at pre-conformist stages and of all those above the pre-conformist grouping (Gold, 1977).

Most of the scales of the MMPI and many other dichotomously structured measures of personality variables are constructed so that scores at one end of a continuum are associated with the presence or prominence of a trait and scores at the opposing end represent the absence or relative

weakness of that trait. Many dimensions tapped by these instruments are assumed to represent characteristics approximately linearly related, either positively (e.g., anxiety, depression, schizophrenia, hysteria) or negatively (e.g., ego strength) to psychopathology.

The EC scale (and factor II itself), however, is related in a curvilinear fashion to maladjustment. In two separate studies (Nakamura, 1960; Acker & Nakamura, 1962) the mean scores on each of two MMPI scales which are precursors of EC-5, NOC (i.e., neurotic over-control) and NUC (i.e., neurotic under-control), significantly differentiated clinical from non-clinical populations, with clinical subjects scoring both more over-controlled and more under-controlled than the non-clinical groups. Functioning at either extreme of the EC continuum, then, seems to be suggestive of maladjustment. Integrating these data concerning EC, psychopathology and ego development, it would be expected that maladjustment among pre-conformist subjects would be manifested by low scores on EC-5 (i.e., under-control), maladjusted conformists and post-conformists would receive high EC-5 scores (i.e., over-control) and adjusted individuals at all ego levels would score within the middle range of the ego control dimension.

HYPOTHESES

The argument presented thus far for various types of relationships and distinctions between ego development and adjustment has been a fairly intricate and multifaceted one. As a means of clarification, therefore, each of its major points is summarized as the synthesis of all related propositions into a unitary hypothesis.

The first hypothesis had two primary aims: (1) to test whether the differences previously found (Gold, 1977) between the prominence of several symptom patterns in the conformist and post-conformist ego groups were replicable when the upper range of levels represented in the latter group is extended; and (2) to evaluate the validity of the assumption that these differences are due to level of ego development and not to degree of psychopathology.

1. The shape (i.e., ordinal configuration of scales) of the mean T-score MMPI profile (without K correction) of subjects in the conformist ego groups would differ significantly from the shape of the mean T-score MMPI profile (without K correction) of post-conformist subjects such that:

(a) The K (correction) scale, scale 1 (hypochondriasis), scale 2 (depression) and scale 3

37

(hysteria) would rank higher in the mean MMPI
profile of conformist subjects than in the mean
MMPI profile of post-conformist subjects; and

(b) Scale 6 (paranoia) and scale 7 (psychiasthenia)
would rank higher in the mean MMPI profile of
post-conformist subjects than in the mean MMPI
profile of conformist subjects; but

(c) The shape of the mean MMPI profile of clinical
subjects would not differ from the shape of the
mean MMPI profile of non-clinical subjects.

The next two hypotheses concerned the predicted absolute
differences in MMPI scale scores along the dimensions of ego
development and adjustment respectively. Scale Mf
(masculinity-femininity) was included in hypothesis 2 along
with those variables proposed to differentiate between ego
level groups but not between clinical and non-clinical sub-
jects because: (1) this was the only one of the 10 basic
clinical scales for which a significant difference was found
between conformists and post-conformists but not between pre-
conformists and conformists (Gold, 1977); (2) the traits of
males scoring high on this scale (Dahlstrom, Welsh, &
Dahlstrom, 1975) are descriptive of the post-conformist style
of functioning; and (3) this led to the conclusion that Mf
is more reasonably interpreted as tapping an aspect of ego
development than sex typing (Gold, 1977).

2. (a) The average score on scales K (correction), SD
(social desirability) and ER-O (ego resiliency)
of the MMPI would be significantly higher for

subjects in the conformist ego group than for
subjects in the post-conformist ego group; and

(b) The average score on scales Mf (masculinity-
femininity) and R-S (repression-sensitization) of
the MMPI would be significantly higher for sub-
jects in the post-conformist ego group than for
subjects in the conformist ego group; but

(c) There would be no significant differences on any
of these scales in the average score of clinical
and non-clinical subjects.

Hypothesis 3 lists those variables thought to distinguish
maladaptively from adaptively functioning individuals but not
between ego level groups. In addition, part 3(a) also served
as a check on the validity of using participation in psycho-
therapy as a criterion of maladjustment. The K corrected
versions of the clinical MMPI scales were specified here
because, on one hand, the K scale was created to improve the
predictability of the clinical scales in distinguishing normal
from psychopathological subjects (Meehl & Hathaway, 1946), and
on the other, K appears to act as a correction for ego level
(Gold, 1977; chapter 1 above).

3. (a) The average score on scales 1 (hypochondriasis),
7 (psychasthenia), 8 (schizophrenia) and 9 (hypo-
mania) with K corrections and scales F (fre-
quency), 2 (depression), 3 (hysteria), 6 (para-
noia), 0 (social introversion) and EC-5 (ego
control) of the MMPI would be significantly

higher for clinical than for non-clinical sub-
jects; and

(b) The average score on scale ES (ego strength) of
the MMPI would be significantly higher for non-
clinical than for clinical subjects; but

(c) There would be no significant differences on any
of these scales in the average score of conform-
ist and post-conformist subjects.

The final two hypotheses apply most directly to the
review of the first two factors of the MMPI presented in the
previous chapter. They establish a distinction between MMPI
factor I (as measured by scale ER-0) and related scales which,
it was proposed, were associated with ego development but not
with adjustment, and MMPI factor II (as measured by scale
EC-5), expected to differentiate level of adjustment but not
to distinguish between conformist and post-conformist ego
groups. The scales listed with it were also expected to dif-
ferentiate clinical and non-clinical groups, although they
do not load heavily on factor II. As discussed above, this
lack of high correlations between factor II and these scales
was thought to be the result not of a lack of relationship,
but of the curvilinear relation of the second factor to
adjustment.

4. (a) Scores on scales K (correction), SD (social
desirability), ER-0 (ego resiliency), R-S
(repression-sensitization) and Mf (masculinity-
femininity) of the MMPI would be significant
predictors of conformist versus post-conformist

ego group membership (such that K, SD and ER-0 would be negatively correlated to ego group membership); but

(b) None of these scales would be significant predictors of clinical versus non-clinical group membership.

5. (a) Scores on scales 1 (hypochondriasis), 7 (psychasthenia), 8 (schizophrenia) and 9 (hypomania) with K corrections and scales F (frequency), 2 (depression), 3 (hysteria), 6 (paranoia), 0 (social introversion), ES (ego strength) and EC-5 (ego control) of the MMPI would be significant predictors of clinical versus non-clinical group membership (such that ES would be negatively correlated and all other scales listed here would be positively correlated with clinical group membership); but

(b) None of these scales would be significant predictors of conformist versus post-conformist ego group membership.

METHODOLOGY

Subjects

It was originally intended that 200 students attending a large Midwestern state university, 100 of them enrolled in an introductory psychology course (i.e., the non-clinical group), and 100 receiving psychotherapy at the university counseling center (i.e., the clinical group) would be recruited to serve as subjects. However, due to the difficulty of enlisting the participation of student clients at the university counseling center, after over a year of data collection, only 26 clinical subjects, 11 men and 15 women, had been tested. It became necessary, therefore, to recruit additional subjects from another university counseling center, where 18 additional subjects, 8 men and 10 women, were tested. Each clinical subject was tested following the intake interview but before therapy per se was begun.

In all, 147 subjects, 103 non-clinical subjects, 53 men and 50 women, and 44 clinical subjects, 19 men and 25 women, were tested. However, only 146 subjects were included in the data analyses. One subject, a woman in the clinical sample whose SCT TPR was I-5, was excluded because as the only subject in the total sample who scored above I-4/5, there was no way of determining to what extent her MMPI scores were a

function of her unusually high ego level, and to what extent they were related to her membership in the clinical sample.

Instruments

The Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1947) was utilized to measure symptom patterns, response tendencies, defensive style, ego strength, ego resiliency and ego control. Administration and scoring of this instrument conformed to the standard procedures for adult subjects outlined by Dahlstrom, Welsh, and Dahlstrom (1972).

Form 9-62 for Women (see Appendix A) and Form 9-62 for Men (see Appendix B) of the Washington University Sentence Completion Test (Loevinger & Wessler, 1970) was used to measure level of ego development. Subjects were instructed to complete each of the 36 sentences on these forms. The standardized instructions (Loevinger & Wessler, 1970) were read aloud once each subject has been provided with a form:

> Now I would like you to fill out this sentence completion form. You see that these are incomplete sentences. Please finish each one. Notice that there are two pages; please make sure you have completed each one. (p. 138)

Responses to the sentence completion test (SCT) were rated in conjunction with a scoring manual for females (Loevinger, Wessler, & Redmore, 1970) and one for males (Redmore, Wright, & Rashbaum, 1974). No manual was currently available for one of the stems on the men's form, "I am embarrassed when--." This sentence therefore was rated impressionistically. The manuals consist of examples of responses at each ego level for each sentence stem grouped

into content category. An attempt has been made to "rationalize all empirical differences among categories in terms of theory" (Loevinger & Wessler, 1970, p. 38). Using these manuals, each of the 36 sentences was assigned an ego level, and a total protocol rating (TPR was arrived at through the application of a set of ogive rules. For each protocol, the frequency and cumulative frequency of sentences rated at each ego level was tabulated. The ogive rules (see Appendix C) were then applied to the cumulative frequency distribution. For instance, a subject might receive the following distribution of ratings:

I-2	_ /3	I-3	I-3/4	I-4	I-4/5	I-5	I-6	(item ratings)
0	2	1	5	12	16			(frequency)
0	2	3	8	20	36			(cumulative frequency)

Applying the ogive rules to this case, the TPR would be I-4, for there are less than 24 ratings at I-3/4.

Procedure

Administration

In all cases subjects were presented with the SCT first followed by the MMPI. Each subject was assigned a code number which served as the sole means of identifying his or her protocol. The sex, age and year in school of each subject was recorded, as well as a notation indicating whether the subject was in psychotherapy at the counseling center or elsewhere.

Scoring

SCT responses were transcribed from the test forms and grouped by item rather than by subject in order to avoid a "halo effect" bias by raters. Four undergraduate students were trained by the experimenter to score SCT protocols. Rating assignments were distributed among the four students and the experimenter so that: (a) each subject's protocol was scored by two raters; (b) each rater scored between 23 and 26 protocols; and (c) out of these protocols approximately one quarter were those of male clinical subjects, one quarter those of female clinical subjects, one quarter those of male non-clinical subjects and one quarter those of female non-clinical subjects. Protocols were coded so that the raters could not identify which sample, clinical or non-clinical, they belonged to. Once all SCT items were scored TPRs were arrived at through the application of the automatic ogive rules (see Appendix C). In each case where the pair of raters did not assign the same TPR to a subject, compromise ratings were obtained through consultation between the pair of raters for each SCT item not agreed upon in that protocol. The automatic scoring rules were then reapplied to the new set of item ratings in order to obtain the TPR for that subject. The interrater reliability coefficient was computed for the ego levels originally assigned to SCT protocols by raters before compromise ratings are made (see chapter following).

Once the 200 SCT protocols were scored, both raw and K corrected scores of all MMPI scales were obtained by using

the standard hand scoring stencil method as outlined by Hathaway and McKinley (1967).

Statistical Analyses

Three major statistical analyses were performed on the data collected. In order to test for differences in the pattern of the average profile across ego level groups and clinical versus non-clinical groups (i.e., hypothesis 1) profile analyses were carried out on the 13 basic scales (i.e., variables 3 through 15 below). For this analysis all profiles were standardized by transforming raw scores into T scores using the table of "T-Score Conversions for Basic Scales without K Corrections" (Dahlstrom, Welsh, & Dahlstrom, 1972, p. 386-387).

Hypotheses 2 and 3, which predict absolute differences in specific MMPI scale scores between ego level groups and clinical versus non-clinical groups, was tested by performing a three factor (sex by ego development by adjustment) multivariate analysis of variance (MANOVA) on the following 25 dependent variables, the last 23 of which are MMPI scale scores:

(1) subject's age to the nearest month;

(2) subject's year in college (i.e., freshmen versus sophomore);

(3) L (lie scale) score;

(4) F (frequency scale) score;

(5) K (correction scale) score;

(6) Hs (hypochrondriasis scale) score;

(7) D (depression scale) score;

(8) Hy (hysteria scale) score;

(9) Pd (psychopathic deviate scale) score;

(10) Mf (masculinity-femininity scale) score;

(11) Pa (paranoia scale) score;

(12) Pt (psychasthenia, i.e., obsessive-compulsive scale) score;

(13) Sc (schizophrenia scale) score;

(14) Ma (hypomania scale) score;

(15) Si (social introversion) score;

(16) K corrected Hs scale score;

(17) K corrected Pd scale score;

(18) K corrected Pt scale score;

(19) K corrected Sc scale score;

(20) K corrected Ma scale score;

(21) SD (social desirability scale) score;

(22) Es (ego strength scale) score;

(23) R-S (repression-sensitization scale) score;

(24) ER-0 (ego resiliency scale) score;

(25) EC-5 (ego control scale) score.

Finally, multiple regresson analysis was employed to test the last two hypotheses, with all 25 variables listed above serving as independent variables. To test hypothesis 4, ego group membership (i.e., conformist versus post-conformist group) was the target variable. Hypothesis 5 was tested by attempting to predict adjustment group membership (i.e., clinical versus non-clinical group).

RESULTS

Interrater Reliability of SCT Ratings

An attempt was made to divide the 147 SCT protocols in
the total sample among the six possible pairings of four
raters as equally as possible. One pair of raters scored
23 protocols, two scored 24, two 25 and one 26. The average
product-moment correlation of the scores arrived at by the
six pairs of raters was .71, yielding an $\propto$ reliability coef-
ficient of .91.

Comparability of Clinical Samples

In order to assess whether the subjects tested at the
two university counseling centers could be considered to have
been drawn from the same population, the means and standard
deviations of the age, grade and SCT TPR of each of the two
sub-groups were calculated (see Table 2) and t-tests of dif-
ferences between the means were performed. The t values for
age, grade and TPR were .09, 1.76 and 1.12 respectively
(df=41), none of which were significant. In all subsequent
analyses, therefore, these two sub-groups were combined into
a single clinical sample.

Distribution of SCT Ratings

The frequency and percentages of the distribution of ego
levels in the clinical and nonclinical samples obtained from

48

Table 2.--Means and Standard Deviations of Age, Grade and SCT TPR of Two Clinical Samples.

Variable	Clinical Sample A (N=25)		Clinical Sample B (N=18)	
	M	SD	M	SD
Age	22.80	3.27	22.67	6.48
Grade	3.60	1.15	2.33	1.19
SCT TPR	5.92	.86	5.10	1.45

the SCT are presented in Table 3. These percentages point to a clear trend towards a greater representation of non-clinical subjects at stage I-3/4 and below, and a heavier proportion of clinical subjects at stage I-4 and above. When ego levels I-2 through I-6 are assigned numerical values 1 through 9, the means of the SCT scores of clinical versus non-clinical subjects were 5.64 (SD=1.24), close to I-4, and 4.95 (SD=1.05), just below I-3/4, respectively. An analysis of variance (ANOVA) revealed this difference to be significant beyond the .001 level (SS$_{between}$=14.462, SS$_{within}$=178.939, F=11.719, df=1.145).

A possible source of confounding of this finding was a disparity in level of education of the clinical and non-clinical samples. College freshmen and sophomores comprised the bulk of the non-clinical sample, while many of the clinical subjects were seniors and graduate students. The means of the SCT scores for each grade in school (i.e., freshmen, sophomore, junior, senior and graduate student) were 4.94 (n=72, SD=1.03),

Table 3.--Distribution of SCT Scores.

Sample		Ego Levels								
		I-2	Δ	Δ/3	I-3	I-3/4	I-4	I-4/5	I-5	I-6
Clinical (n=44)	f:	0	2	1	0	17	13	10	1*	0
	%:	0	5	2	0	39	30	23	2	0
Non-clinical (n=103)	f:	0	5	6	8	57	24	3	0	0
	%:	0	5	6	8	55	23	3	0	0

*This subject was excluded from all subsequent analyses. (See "Subjects" section of the previous chapter.)

5.29 (n=28, SD=1.15), 5.16 (n=24, SD=1.34), 5.82 (n=17, SD=1.33) and 5.16 (n=6, SD=.41) respectively. Analysis of variance of these data approached significance ($p \leq .07$, $SS_{between}=11.272$, $SS_{within}=182.129$, f=2.197, df=4.142). This suggested the possibility that the attainment of higher SCT scores among clinical subjects than among non-clinical subjects was not a function of sample membership per se, but of the higher level of education of the clinical sample. However, when the original ANOVA between clinical and non-clinical samples was recalculated using grade as a covariate, the differences between mean SCT scores remained significant at the .01 level ($SS_{between}=7.976$, $SS_{within}=178.667$, $SS_{covariate}=.272$, f=6.428, df=1.144).

Although this finding of a predominance of clinical subjects at the highest ego levels and a complete absence of clinical subjects at the conformist ego level may carry considerable theoretical import, it rendered the direct testing

of the hypotheses the study was originally designed to assess
(except 3(a), 3(b), and 5(a)) impossible, at least as applied
to ego level. Note that all of these hypotheses ultimately
rest on the assumption of a unique relationship between the
conformist level of ego development and the first factor of
the MMPI (as measured most directly, for example, by scales
ER-O, K and SD). Therefore, with an absence of conformist
level subjects in the clinical sample, there was no way to
assess whether differences in MMPI scores in the clinical
and non-clinical samples were due to sample membership per se,
or to the significantly different distribution of ego levels
comprising each sample.

In an attempt to strike a compromise between a consider-
ation of the statistical constraints posed by the distributions
of SCT scores obtained from the clinical and non-clinical sam-
ples, and the psychological meaning of various possible com-
binations of ego levels, each analysis was perfromed by group-
ing together subjects scoring at I-level Δ with those scoring
at Δ/3, I-3 with I-3/4, and I-4 with I-4/5. For the sake of
convenience, these three groups are referred to below as the
low ego level, mid-range ego level, and high ego level groups.
It is crucial to keep in mind, in reviewing the results of
these analyses, that by grouping conformist with self-aware
subjects, one is at best only vaguely approximating an assess-
ment of the original hypotheses of this study because of the
psychological difference between conformity and self-
awareness. For this reason the results below are organized
according to type of statistical analysis, and their possible

relevance to the original hypotheses is considered in the "Discussion" section which follows.

Multivariate Analysis Main Effects and Interactions

Results for each interaction and main effect of the multivariate analysis of variance (MANOVA) of the 23 MMPI scale scores are presented in Appendix D. Level of education (i.e., grade) was used as a covariate in this analysis, for, as inspection of this table shows, it did have a significant effect on MMPI scores. None of the interaction effects was significant, but each of the main effects (i.e., ego level group, sample membership and sex) was significant beyond the .01 level.

Univariate Analyses of Ego Group Effect

Mean MMPI scores of low, mid-range and high ego level groups are presented in Table 4. Only the univariate analysis of the Mf scale yielded a significant result. Means of this scale were ordered in the predicted direction, increasing from low through high ego level groups. T tests between the means of each pair of ego level groups all were significant.

On the F and Es scales, t-tests of the means of paired ego groups revealed significant differences between mid-range and high ego groups in both cases. Mean scores on scale F were significantly higher among mid-range ego level subjects than among high ego level subjects. High ego group subjects scored significantly higher on scale Es than mid-range ego level subjects. T-tests also yielded a significant difference

Table 4.--MMPI Scale Means, Standard Deviations and Univariate F Ratios
for Ego Group Effect (Clinical and Non-Clinical Groups Combined)

MMPI Scale	Grouped Ego Levels						
	Δ & Δ/3 (n=14)		I-3 & I-3/4 (n=82)		I-4 & I-4/5 (n=50)		F
	M	SD	M	SD	M	SD	(df=2.133)
L	3.07	2.76	2.85	1.94	2.60	1.77	.254
F	7.50	4.00	7.73	4.98	5.56	3.78	2.924[b]
K	11.57	4.47	12.38	3.97	12.70	4.20	.321
Hs	6.43	3.34	7.90	5.96	6.00	3.87	1.726[b]
D	18.93	4.89	21.34	6.03	21.02	5.10	1.290
Hy	19.07	5.36	21.95	5.80	21.20	5.19	1.695
Pd	19.86	5.16	18.34	5.24	17.52	5.61	.971
Mf	27.14	4.83	33.75	5.85	36.70	6.75	21.896[**] [a,b,c]
Pa	11.07	3.87	11.53	3.49	11.14	4.36	.241
Pt	16.07	6.01	17.49	7.30	16.46	7.26	.344
Sc	17.35	7.42	18.80	10.14	17.00	8.49	.359
Ma	22.35	5.29	20.34	4.63	20.10	4.77	1.093
Si	27.86	6.26	27.44	9.08	27.64	8.99	.037
Es	43.93	5.74	41.79	6.42	44.22	5.04	2.594[b]
SD	16.43	2.44	16.13	3.94	17.12	3.80	.637
R-S	46.29	16.24	47.98	18.61	43.96	17.10	.478
ER-O	74.79	12.37	70.61	16.29	75.18	12.14	1.188
EC-5	13.07	4.23	15.33	5.71	14.94	3.61	1.264
Hs+.5K	12.43	2.53	14.38	5.60	12.58	3.78	2.135[b]
Pd+.4K	24.42	4.70	23.18	5.37	22.58	5.54	.596
Pt+1K	27.64	3.65	29.84	6.26	29.16	5.25	.946
Sc+1K	28.93	5.68	30.89	9.04	29.70	7.14	.425
Ma+.2K	24.57	4.67	22.99	4.07	22.70	4.63	.802

[**]$p \leq .01$

[a] T-test of difference between means of low and mid-range ego group subjects significant at or beyond the .05 level.

[b] T-test of difference between means of mid-range and high ego group subjects significant at or beyond the .05 level.

[c] T-test of difference between means of low and high ego group subjects significant at or beyond .05 level.

in the means of these two ego groups' scale Hs scores both with and without K correction, with mid-range subjects scoring higher than high ego group subjects.

Due to the absence of conformist ego level subjects in the clinical sample, a series of t-tests was computed comparing MMPI scale means of subjects who scored at the conformist level (I-3) with both those who scored below and those who scored above this level in the non-clinical sample (Table 5). Significant differences between the mean scores of non-clinical subjects scoring below I-3 and those at I-3 were obtained on scales K, Hy and Mf. In each instance the mean score of I-3 subjects was the higher of the two groups. The mean score of I-3 subjects on scale K was also significantly higher than that of subjects above the conformist ego level. Mean scores of subjects above I-3 for both scale Hy and scale Mf were significantly higher than those of subjects below I-3.

Univariate Analyses of Sample Membership Effect

The results of the univariate analyses for the sample (i.e., clinical vs. non-clinical) membership effect are summarized in Table 6. Mean MMPI scores of clinical subjects were significantly higher than those of non-clinical subjects on scales F, D, Pd, Mf, Pt, Sc, R-S and K corrected scales Pd, Pt and Sc, and significantly lower on scale SD.

Univariate Analyses of Sex Effect

Female subjects scored significantly higher than males on scale Mf, and significantly lower on scale Es (see Table 7).

Table 5.--MMPI Scale Means and Standard Deviations of Non-Clinical Sample Only.

| MMPI Scale | Grouped Ego Levels | | | | | | p |
| | Below I-3 (n=11) | | I-3 (n=8) | | Above I-3 (n=84) | | |
	M	SD	M	SD	M	SD	
L	2.82	2.40	4.00	2.45	2.65	1.90	
F	6.64	3.30	8.75	6.56	6.48	4.29	
K	11.36	3.91	15.88	4.76	12.12	3.95	a*, b**
Hs	6.00	2.41	7.00	5.76	7.15	5.01	
D	17.91	4.30	20.25	7.03	20.19	4.97	
Hy	17.82	3.57	22.25	3.45	21.26	5.57	a*,c*
Pd	19.36	3.61	16.00	4.78	17.32	4.78	
Mf	27.09	4.16	35.00	5.05	33.54	6.33	a**,c**
Pa	10.55	3.45	11.50	4.69	11.17	3.57	
Pt	15.64	4.76	15.25	8.97	16.69	6.67	
Sc	16.73	6.54	17.13	12.64	17.54	8.78	
Ma	21.91	5.30	18.63	4.41	20.43	4.61	
Si	26.82	6.71	26.75	7.25	26.62	9.11	
Es	44.45	4.16	41.88	8.59	42.38	5.44	
SD	16.82	1.94	16.38	3.96	16.71	3.63	
R-S	44.64	12.56	40.38	23.41	46.32	16.88	
ER-O	76.00	9.46	75.25	14.08	73.12	14.16	
EC-5	12.82	4.24	17.00	5.07	15.43	5.29	
Hs+.5K	11.91	1.92	15.13	5.57	13.49	4.81	
Pd+.4K	23.82	2.89	22.50	4.34	22.14	4.90	
Pt+1K	27.00	3.55	31.13	5.74	28.79	5.53	
Sc+1K	28.09	5.84	33.00	9.70	29.32	7.94	
Ma+.2K	24.18	4.75	21.63	3.93	23.06	4.20	

*$p \leq .05$

**$p \leq .01$

[a] T-test of difference between means of subjects below I-3 and at I-3.

[b] T-test of difference between means of subjects at I-3 and above I-3.

[c] T-test of difference between means of subjects below I-3 and above I-3.

Table 6.--MMPI Scale Means, Standard Deviations and Univariate F-Ratios for Sample Effect.

MMPI Scale	Non-Clinical (n=103)		Clinical (n=43)		F
	M	SD	M	SD	(df=1,133)
L	2.78	1.97	2.81	1.88	.853
F	6.67	4.40	7.67	5.04	7.376**
K	12.33	4.11	12.60	4.04	.119
Hs	7.02	4.84	7.33	5.96	3.631
D	19.95	5.08	23.51	6.15	14.396**
Hy	20.97	5.35	22.49	6.06	1.984
Pd	17.44	4.69	20.05	6.43	8.881**
Mf	32.96	6.38	36.93	6.40	10.637**
Pa	11.13	3.62	11.91	4.27	.670
Pt	16.47	6.64	18.28	8.20	4.619*
Sc	17.42	8.83	19.56	10.44	5.983*
Ma	20.45	4.68	20.47	4.97	1.943
Si	26.65	8.69	29.70	8.69	4.111*
Es	42.56	5.60	43.47	6.89	.041
SD	16.70	3.49	16.02	4.41	5.440*
R-S	45.68	16.96	48.26	20.00	3.851*
ER-O	73.59	13.66	70.14	16.93	8.803**
EC-5	15.27	5.22	14.28	4.27	.470
Hs+.5K	13.45	4.66	13.88	5.39	3.307
Pd+.4K	22.35	4.69	24.88	6.44	7.296**
Pt+1K	28.78	5.40	30.88	6.29	5.963*
Sc+1K	29.48	7.89	32.26	8.50	7.627**
Ma+.2K	23.07	4.23	22.98	4.60	2.276

*$p \leq .05$

**$p \leq .01$

Table 7.--MMPI Scale Means, Standard Deviations and Uni-
variate F-Ratios for Sex Effect.

| MMPI Scale | Sex | | | | F (df=1,133) |
| | Male (n=72) | | Female (n=74) | | |
	M	SD	M	SD	
L	2.96	2.24	2.62	1.67	1.322
F	7.18	4.95	6.76	4.26	.946
K	12.38	4.65	12.45	3.46	.007
Hs	6.31	4.58	7.89	5.61	1.724
D	20.14	4.91	21.84	6.18	1.285
Hy	20.43	5.60	22.38	5.44	2.696
Pd	18.89	5.81	17.54	4.86	2.561
Mf	30.24	5.94	37.82	4.81	62.946**
Pa	11.88	3.97	10.85	3.64	2.876
Pt	16.74	7.24	17.26	7.11	.003
Sc	17.90	9.25	18.19	9.51	.145
Ma	20.00	5.30	20.89	4.13	1.205
Si	27.76	8.19	27.34	9.36	.277
Es	44.05	5.48	41.64	6.27	4.714*
SD	17.03	3.72	15.99	3.80	1.514
R-S	45.64	17.94	47.22	17.90	.012
ER-O	73.78	15.34	71.41	14.10	.056
EC-5	14.07	6.07	15.86	3.93	3.382
Hs+.5K	12.79	4.40	14.34	5.22	1.753
Pd+.4K	23.67	5.79	22.54	4.90	1.777
Pt+1K	29.11	5.69	29.68	5.81	.001
Sc+1K	29.94	7.90	30.64	8.42	.015
Ma+.2K	22.71	4.71	23.36	3.92	.576

*$p \leq .05$

**$p \leq .01$

Profile Analysis Main Effects and Interactions

The results of each main and interaction effect of the profile analysis (on each of the 13 basic MMPI scales, i.e., the 3 validity and 10 clinical scales) are summarized in Appendix E. As in the MANOVA, each main effect was significant, but none of the interaction effects were. Once again level of education (i.e., grade) was employed as a covariate, and the results clearly indicate a highly significant and strong relationship (canonical correlation = .98) with MMPI profile shape. Unlike the MANOVA, in fact, the effect of educational level in the profile analysis was not only a powerful one, but clearly greater than that of any of the main effects.

Profile Analysis of Ego Group Effect

The T-score and rank of each MMPI scale in the mean profiles of low, mid-range and high ego level group subjects are listed in Tables 8 (male subjects) and 9 (female subjects). These data had to be divided by sex because of the differing T-score conversions for males and females on the MMPI. Due to this need for division, which has the effect of further reducing the number of subjects in each ego group, and because the interaction between ego group and sex was not significant, only those patterns which appear in both tables can be considered meaningful.

Given these stipulations, scale F appears less prominent in the profiles of high ego group subjects than in the other two groups, and most salient in mid-range ego group profiles.

Table 8.--Means, T-Scores and Ranks of MMPI Scales (Without K Correction) in Profiles of Male Subjects in Each Ego Group.

MMPI Scale	Grouped Ego Levels								
	Δ & Δ/3 (n=12)			I-3 & I-3/4 (n=37)			I-4 & I-4/5 (n=23)		
	M	T	Rank	M	T	Rank	M	T	Rank
L	3.33	46	13.0	2.89	46	13.0	2.87	46	13.0
F	7.00	60	4.0	7.83	62	3.5	6.30	58	8.5
K	12.25	49	12.0	12.24	49	12.0	12.65	51	12.0
Hs	5.75	53	9.5	6.97	56	9.5	5.52	53	10.0
D	18.08	53	9.5	20.27	58	8.0	21.00	60	7.0
Hy	18.33	53	9.5	20.46	56	9.5	21.48	58	8.5
Pd	19.50	65	2.0	18.76	63	2.0	18.78	63	4.0
Mf	26.58	63	3.0	30.14	69	1.0	32.30	73	1.0
Pa	10.92	59	5.5	11.73	62	3.5	12.61	65	2.0
Pt	14.42	56	7.0	16.81	60	7.0	17.83	61	6.0
Sc	16.00	59	5.5	18.14	61	5.5	18.52	63	4.0
Ma	21.50	68	1.0	19.49	61	5.5	20.04	63	4.0
Si	28.00	53	9.5	28.24	53	11.0	26.87	52	11.0

Table 9.--Means, T-Scores and Ranks of MMPI Scales (Without K Correction) in Profiles of Female Subjects in Each Ego Group.

MMPI Scale	Grouped Ego Levels								
	Δ & Δ/3 (n=2)			I-3 & I-3/4 (n=45)			I-4 & I-4/5 (n=27)		
	M	T	Rank	M	T	Rank	M	T	Rank
L	1.50	44	12.0	2.82	46	13.0	2.37	44	12.0
F	10.50	68	4.0	7.69	62	2.0	4.93	55	5.0
K	7.50	42	13.0	12.49	49	11.5	12.74	51	10.0
Hs	10.50	58	10.0	8.67	54	9.0	6.41	48	11.0
D	24.00	59	8.5	22.22	55	8.0	21.04	53	7.5
Hy	23.50	59	8.5	23.18	57	6.0	20.96	54	6.0
Pd	22.00	70	2.0	18.00	61	3.0	16.44	56	3.5
Mf	30.50	61	7.0	36.73	49	11.5	40.44	43	13.0
Pa	12.00	62	6.0	11.38	59	5.0	9.89	56	3.5
Pt	26.00	67	5.0	18.04	56	7.0	15.30	52	9.0
Sc	25.50	69	3.0	19.36	60	4.0	15.70	57	2.0
Ma	27.50	81	1.0	21.04	66	1.0	20.15	63	1.0
Si	27.00	52	11.0	26.78	52	10.0	28.30	53	7.5

Both scales D and Pa rank progressively higher in the mean
MMPI profiles as ego level increases, while scale Pd ranks
progressively lower with increasing ego level. Moving from
low to mid-range to high ego level groupings, scale Mf ranks
increasingly higher in the male sample, and progressively
lower in the female sample. Raw Mf scale scores are inverted
in computing T-scores for women, so that T-scores decrease
as the raw scale score increases. This result, therefore,
signifies movement towards the more "feminine" pole of the
Mf scale with increasing ego level.

As for the analysis of variance, the profile data from
the non-clinical sample was considered separately in order
to compare the MMPI scale ranks of I-3 subjects with those
scoring above and below that stage. These rankings are listed
in Appendices F (male subjects) and G (female subjects). How-
ever, this two-fold division of the data, i.e., considering
the non-clinical sample only and each sex separately reduces
the number of subjects in each cell so drastically that sta-
tistical analysis becomes impossible. Therefore, although
these data are included because they bear more directly on
the questions this study originally aimed to investigate than
those in Tables 8 and 9, conjectures about the generaliza-
bility of the trends they suggest beyond this sample can only
be made with extreme tentativeness.

Despite the need to approach these results with a con-
siderable sense of conservativeness, the ranking of 2 of the
13 MMPI scales in the mean profiles of both male and female
conformist subjects differ sufficiently from those at other

ego levels to warrant specific mention. Firstly, the K
scale, as predicted, ranks higher in the average profiles
of I-3 level subjects than those in the other ego groupings.
Similarly (although not a predicted result), scale F ranks
more prominently in mean conformist profiles than in the
other two groups.

Profile Analysis of Sample Membership Effect

Table 10 contains the rankings of the 13 basic MMPI
scales in the mean profiles of the clinical and non-clinical
samples. Only one MMPI scale shows a disparity in its rank
among clinical and non-clinical subjects both male and
female, i.e., scale Pd ranks much higher in the mean clinical
profiles than in the average profiles of the non-clinical
sample.

Profile Analysis of Sex Effect

The rankings of the 13 basic MMPI scales in the mean
profiles of male and female subjects are presented in
Table 11. Both scales F and Hy figure much more prominently
in the mean profile of the women than in that of the men.
Note that the extreme difference of the rank of the Mf scale
in the mean male and female MMPI profiles is only an apparent
one, resulting from the inversion of women's raw scores on
the Mf scale in converting them to T-scores.

Multiple Regression Analyses

All 23 MMPI scales were employed in each of the multiple
regression analyses performed, entered into the regression

Table 10.--Means, T-Scores and Ranks of MMPI Scales (Without K Correction) in Profiles of Non-Clinical and Clinical Samples.

MMPI Scale	Male						Female					
	Non-Clinical (n=53)			Clinical (n=19)			Non-Clinical (n=50)			Clinical (n=24)		
	M	T	Rank	M	T	Rank	M	T	Rank	M	T	Rank
L	2.96	24	13.0	2.95	46	13.0	2.58	46	13.0	2.71	46	12.0
F	7.06	60	6.0	7.53	62	5.0	6.26	58	3.5	7.79	62	4.0
K	12.17	49	12.0	12.95	51	12.0	12.50	51	9.0	12.33	49	11.0
Hs	6.58	56	9.5	5.53	56	10.0	7.48	50	11.0	8.75	54	10.0
D	19.77	58	8.0	21.16	60	7.5	20.14	51	9.0	25.38	61	5.0
Hy	20.19	56	9.5	21.11	58	9.0	21.80	56	5.5	23.58	59	6.5
Pd	18.34	60	6.0	20.42	65	2.5	16.48	56	5.5	19.75	65	2.0
Mf	28.81	67	1.0	34.21	55	1.0	37.36	49	12.0	39.08	45	13.0
Pa	11.51	62	3.0	12.89	65	2.5	10.72	59	2.0	11.13	59	6.5
Pt	16.64	60	6.0	17.00	60	7.5	16.28	54	7.0	19.29	58	8.0
Sc	17.75	61	4.0	18.32	61	6.0	17.06	58	3.5	20.54	63	3.0
Ma	19.89	63	2.0	20.32	63	4.0	21.04	66	1.0	20.58	66	1.0
Si	27.49	52	11.0	28.53	54	11.0	25.76	51	9.0	30.63	56	9.0

Table 11.--Means, T-Scores and Ranks of MMPI Scales (Without K Correction) in Profiles of Each Sex.

MMPI Scale	Male (n=72)			Female (n=74)		
	M	T	Rank	M	T	Rank
L	2.96	46	13.0	2.62	46	13.0
F	7.18	60	6.5	6.76	60	3.0
K	12.38	49	12.0	12.45	49	11.0
Hs	6.31	53	10.5	7.89	52	9.5
D	20.14	58	8.0	21.84	55	7.5
Hy	20.43	56	9.0	22.38	56	6.0
Pd	18.89	63	2.5	17.54	61	2.0
Mf	30.24	69	1.0	37.92	47	12.0
Pa	11.88	62	4.0	10.85	59	4.5
Pt	16.74	60	6.5	17.27	55	7.5
Sc	17.90	61	5.0	18.19	59	4.5
Ma	20.00	63	2.5	20.89	6	1.0
Si	27.76	53	10.5	27.34	52	9.5

equation through forward stepwise inclusion. The number of steps reported in the tables summarizing these analyses is restricted to the point at which either: (1) the value of the F ratio of the full equation (i.e., "overall F") ceased to reach the .05 level of significance; or (2) the F ratio of the next variable to be included in the equation (i.e., "F to Enter") failed to reach a value of at least .01.

Multiple Regression Analyses of Ego Group

Two multiple regression analyses were computed in which ego level group was the target variable. In the first, both the clinical and non-clinical samples were included in the analysis, and ego levels were combined, as in the MANOVA and profile analyses, into low, mid-range and high ego groupings (see Appendix H).

As illustrated by Appendix H, although 21 MMPI variables were included in the analysis before the F ratio or the next variable to be entered dropped below .01, the full equation remains significant beyond the .01 level (R=.50). However, only the first two variables entered into the equation, Mf and Es, contribute significantly to the prediction of ego group (R=.42, $p \leq .01$). Of these two scales, only Mf correlates significantly (r=.38, $p \leq .01$) with ego group, by far the highest simple correlation of any of the MMPI scales with this variable. Refering back to Table 4 helps to clarify the nature of this relationship. Not only is the F ratio in the univariate analysis of the Mf scale the only one in the ego group effect of the MANOVA which achieves significance, but the mean

scores of the Mf scale at each ego group suggest that this is the only MMPI variable which relates in a single monotonic fashion to ego group.

The absence of a significant simple correlation between scale Es and ego group in spite of the significant contribution of Es to the prediction of ego group in the multiple regression analysis indicates that it is functioning here as a suppressor variable.

As with the MANOVA and profile analysis, an additional multiple regression analysis was performed in an attempt to more closely evaluate the hypotheses originally proposed. In this regression analysis (Appendix I) only non-clinical subjects were included, the target variable being whether they were at the I-3 ego level or above it. (Non-clinical subjects scoring below I-3 were not included in this analysis.) Here K is the only variable which contributes significantly to the prediction of ego level ($r=-.26$, $\underline{p} \leq .01$), although there are still 14 variables entered into the regression equation before the overall F ceases to reach significance ($R=.50$, $\underline{p} \leq .05$).

Multiple Regression Analysis
of Sample Membership

A final regression analysis, summarized in Appendix J, was computed to predict non-clinical versus clinical sample membership. Here there were four variables which contributed significantly to the prediction of the target variable, D ($r=.30$), Es ($r=.07$, $R=.37$), Mf ($r=.29$, $R=.43$) and Pd ($r=.23$, $R=.46$). The inclusion of 16 other MMPI variables into the

equation only raises R from .46 to .52, although the overall predictiveness of the equation remains significant beyond the .01 level. As in the regression analysis to predict low vs. mid-range vs. high ego group (Appendix H), Es acts as a suppressor variable, but in this case in relation to D rather than Mf.

DISCUSSION

Reexamination of Original Hypotheses

Although the complete absence of conformist ego level
subjects in the clinical sample made a direct statistical
assessment of the original hypotheses impossible, a compar-
ison of these predictions with the results obtained does
provide some information relevant to the assumptions under-
lying these hypotheses. Considered below, therefore, are
each of these five hypotheses in the context of the results
of the study, and an overview of the relation of the results
to the theoretical assumptions they were based on.

Hypothesis 1

This hypothesis predicted that MMPI scales K, Hs, D and
Hy would figure more prominently in the average profiles of
conformists than post-conformists (i.e., that the dimensions
tapped by these scales were more characteristic of the former
group than the latter), and that the reverse would be true of
scales Pa and Pt. Of these scales, only K seemed to fit the
predicted pattern in the profile analysis of non-clinical pre-
conformist, conformist and post-conformist subjects. This
appears to confirm the assumption that individuals at the
conformist level are characterized by greater social desira-
bility and defensiveness than those at other ego stages.

68

Whether the failure of the other scales to meet the predicted patterns is a function of the extremely small size of the conformist sub-sample or of a lack of relationship to ego level remains an open question.

However, an unpredicted pattern, the greater prominance of scale F in the mean profile of conformist subjects than in pre- or post-conformist subjects, was suggested by the data. The mean T scores on the F scale of the pre-conformist, conformist and post-conformist subjects in the non-clinical sample are 60, 66, and 58 respectively. (Unlike the clinical MMPI scales, the T score conversions for the validity scales are identical for both sexes.) Although all of these scores fall within what Dahlstrom, Welsh, and Dahlstrom (1972) refer to as the "middle range" of F scale scores (i.e., 50 through 66), they distinguish scores within this range, noting that

> Scores towards the upper end of this range may reflect some special area of concern which leads to the atypical endorsement of several items as a subset of the F scale. For example, there are several items dealing with a person's relationship with his family on this scale. . . If a subject is currently going through a period of mild rebellion against his family's religion, standard of living, or other basic values, he may answer such items in the significant direction as a reflection of this special alienation. (p. 159)

The simultaneous prominance of scales K and F in the mean MMPI profiles of conformists, therefore, may be taken to imply that their adherence to or claims of adherence to socially desirable norms does not occur in the absence of conflicted feelings about doing so. Their attempts to present themselves in a socially desirable light, in other words, may be a form of denial of conflict over conformity

to social norms rather than a sign of the nonexistence of conflict.

It was also predicted by the first hypothesis that there would be no difference in the shape of the mean profiles of the clinical and non-clinical samples. One difference, however, was found. Scale Pd ranked higher in the profile of the clinical than the non-clinical sample. In a study of the behavior of college students with various MMPI profile peaks Mello and Guthrie (1958) reported that counselees with peaks on scale Pd did not manifest the classic symptoms of psychopathy, but rather rebelliousness and resentment toward authority, particularly their parents. This may suggest that many of these students who entered counseling in the present study were motivated to do so due to some difficulty in negotiating the transition toward greater independence in moving from adolescence to young adulthood.

Hypothesis 2

It was predicted by this hypothesis that conformists would score higher on scales K, SD and ER-0 and lower on scales Mf and R-S than post-conformists. The mean score of the non-clinical conformist subjects on scale K was significantly higher than that of both pre- and post-conformist non-clinical sample members. There was no significant difference between conformists and post-conformists on scale SD. Although the difference did not reach the level of significance, the mean score on scale R-S of conformists (40.38) was lower than that of post-conformists (46.32).

Pre-conformist subjects scored significantly lower on scale Mf than both conformists and post-conformists. No significant difference was obtained between non-clinical conformists and post-conformists on scale Mf, but when both samples were divided into low, mid-range and high ego level groups, Mf was the only scale for which a significant difference was found, and this difference was in the predicted direction.

As predicted, conformists scored higher (75.25) than post-conformists (73.12) on scale ER-0, but this difference was not significant. Although not predicted, non-clinical pre-conformists were found to score significantly lower on scale Hy than either conformists or post-conformists.

Although far from conclusive, these findings are fairly encouraging considering the small sample size. At the very least, they point to the value of replicating this analysis with a larger group of subjects. The results appear to support previous data (Gold, 1977) indicating that scales K and Mf are among the most useful of the 13 basic MMPI variables in distinguishing levels of ego development.

Hypothesis 3

This hypothesis was included to assess whether the assumption of differences in level of adjustment between the clinical and non-clinical samples would be supported by the scores of these two groups on the MMPI scales, and to determine which MMPI scales may be more closely related to adjustment than to ego level. It was predicted that clinical

subjects would score higher on K corrected scales Hs, Pt, Sc and Ma and scales F, D, Hy, Pa, Si and EC-5, but lower on scale Es than non-clinical subjects, and that there would be no differences on these scales between the conformist and post-conformist ego groups. As suggested by the results reported above, no significant differences were found between conformists and post-conformists on any of these scales, but because of the number of subjects involved, the meaningfulness of this finding is dubious.

Of the scales included in this hypothesis, clinical subjects scored significantly higher on scales Pt and Sc (both with and without K corrections), and scales F, D, and Si. There also was a trend ($p \leq .10$) towards higher scores on scale Hs, both with and without K correction, among clinical subjects. No significant differences were found between samples on scales Ma (either with or without K correction), Hy, Pa, EC-5 or Es.

However, several variables not included in hypothesis 3 did significantly discriminate between clinical and non-clinical samples. Clinical subjects scored significantly higher than non-clinical subjects on scales Pd (both with and without K correction), Mf and R-S, and significantly lower on scales SD and ER-0.

These data suggest some intriguing interpretive possibilities. On one hand, they do seem to confirm that the clinical sample was more deviant (scales F, Pd), experienced more worry, distress and confusion (scales D, Pt, Sc, ER-0) and tended to be more socially withdrawn (scales Sc, Si).

However, the lack of a significant difference between these samples on the ego strength (Es) or ego control (EC-5) scales may be taken as an indication that there was no difference in the two groups' general psychological adjustment. The significantly higher score of the clinical sample on scale R-S (i.e., less repressive, more sensitizing) and significantly lower score on scale SD (i.e., less concern with portraying oneself in a socially desirable light) appears to imply that these subjects were more aware of whatever difficulties and distress they were experiencing, and more willing to communicate them. In the absence of differences in scales Es and EC-5, however, there is no clear evidence that the clinical sample was functioning any less effectively than the non-clinical sample.

Perhaps what distinguishes college students who seek psychological counseling from those who do not is not that they have more or more severe problems, but that they have a greater awareness of, willingness to convey, and motivation to work on whatever difficulties they do have. Certainly this interpretation would be consistent with the finding of a higher average ego level among the clinical subjects, and of an absence of conformist level subjects in the clinical sample.

Hypothesis 4

It was predicted by this hypothesis that scores on MMPI scales K, SD, ER-O, R-S and Mf would be significant predictors of conformist versus post-conformist ego group

membership, in a multiple regression analysis. Of the 23
MMPI scales included in the analysis, only the K scale sig-
nificantly predicted conformist versus post-conformist ego
group membership. This provides further evidence for the
central role of the K factor in distinguishing conformist
level subjects from those at other levels. The moderate to
high correlation of K with scales SD (r=.41), ER-O (r=.52)
and R-S (r=-.69) among the sub-sample of non-clinical con-
formists and post-conformists may have rendered them too
redundant to serve as significant predictors once K had been
entered into the regression equation. (The Mf scale, how-
ever, seems to be unrelated to K (r=-.04)). That scale SD,
the second variable employed in the regression equation,
functions as a suppressor variable supports this possibility.
It remains unclear what the psychological meaning is of the
common variance SD shares with K which is not related to
ego level. It is possible, for example, that K relates to
ego level to the extent that is measures defensiveness in
general, rather than social desirability per se. In order
to provide a more complete answer to this and similar issues,
it would be necessary to analyze similar data from a larger
sample on the level of item rather than scale analysis.

Hypothesis 5

    This hypothesis predicted that K corrected scales Hs,
Pt, Sc and Ma, and scales F, D, Hy, Pa, Si, Es and EC-5 would
be significant predictors of clinical versus non-clinical
sample membership in a multiple regression analysis. Four of

the 23 variables used in the analysis were significant predictors of sample membership, D, Es, Mf and Pd. Note that only the former two scales were included in the original hypothesis.

Scale D was the single most predictive variable of sample membership, further evidence that degree of experienced distress represented the greatest distinguishing characteristic between the students in counseling and those not in counseling. The next variable entered into the equation, Es, acts as a suppressor variable, strengthening this argument by suggesting that scale D predicts sample membership to the extent that it measures disphoric mood alone independent of effectiveness of functioning (i.e., general psychological adjustment).

The Mf scale, which was the third significant predictor entered into the equation, represents a unique case among the variables in this study. It was the only MMPI scale to reach significance in the univariate analyses of each of the three main effects of the MANOVA, ego development, sample membership and sex. Moreover, the t-tests for differences between the means of this scale of the pre-conformist and conformist ego groups and of the pre-conformist and post-conformist ego groups of the non-clinical sample were also significant. In addition, in the multiple regression analysis of low versus mid-range versus high ego level group it was the single best predictor.

This raises the question of whether the Mf scale is so heterogeneous in its content that some of its items measure

ego development, some adjustment and some sex role identifi-
cation, or if it taps a dimension which is related to all
three of these variables. It would seem useful in future
research to analyze how each of the Mf scale items relates to
each of these three variables.

The fourth and final significant predictor of sample
membership in this analysis, Pd, seems to reflect some way in
which the clinical sample is deviant from the non-clinical
sample. As discussed above, recent research suggests that
this scale does not measure psychopathic deviance, but a more
generalized form of deviance from social norms. An item
analysis such as that recommended for the Mf scale may pro-
vide a clearer definition of the form of deviance being mea-
sured by this scale.

In general, particularly with scale Es functioning as a
suppressor variable, the results of this analysis confirm the
conclusions drawn from the findings of hypothesis 3. The
clinical sample seems to differ from the non-clinical sample
not primarily in their level of adjustment, but in their
greater degree of self-awareness and experience discomfort.

The Factor Structure of the MMPI

One of the most fundamental assumptions underlying the
hypotheses of this study was that the first factor of the
MMPI, as measured by the ER-O scale, was related to ego devel-
opment, and that the second factor, represented by scale EC-5,
was a measure of adjustment. These are orthogonal factors, so
that a crucial implication of this assumption was that ego

development and adjustment were unrelated, independent of each other.

In a previous study employing administration of the SCT of ego development and the MMPI to high school students (Gold, 1977) it was hypothesized and supported by the results that ego development is not identical to adjustment. The data indicated a greater degree of maladjustment among pre-conformists than among those at the conformist level and beyond, but provided no evidence of differences in level of adjustment between conformist level subjects and those above that level. It was in large part these findings which led to the hypothesis in the present study of the complete independence of ego development and adjustment from the conformist stage of ego development on.

In the strictest sense, the hypothesized independence of ego development and adjustment beyond the pre-conformist ego grouping remains untested due to the lack of conformist level subjects in the clinical sample. Although one MMPI variable, the Mf scale, did differentiate between both ego level groups and sample membership, there were no significant differences between mean scores on this scale of non-clinical conformist and post-conformist subjects. Moreover, as reviewed above, the relation of the Mf variable to all three main effects in the MANOVA render its psychological meaning unclear and the probability of its homogeneity dubious. The at best equivocal evidence of actual differences in level of adjustment between the clinical and non-clinical samples adds further uncertainty to this issue.

However, the more specific hypothesis of scale ER-O constituting a measure of ego development and scale EC-5 a measure of adjustment was not confirmed by the data. There was no significant difference in the means of scale EC-5 between the clinical and non-clinical samples, but a significant difference was found between these samples on scale ER-O. Neither scale differentiated across ego levels, whether they were combined according to low, mid-range and high groupings or pre-conformist, conformist and post-conformist groupings.

Ultimately, the relation of these two scales to ego level and adjustment can be determined only be reevaluating this hypothesis with samples in which actual differences in adjustment are more readily demonstrable, and which are represented by a more varied distribution of ego levels. Given the present findings, however, the eventual confirmation of the original hypothesis seems doubtful.

Ego Level and Participation in Therapy

Although the absence of conformist level subjects in the clinical sample negated the possibility of directly testing the original hypotheses, this finding, along with the greater representation among clinical than non-clinical subjects of the higher stages of ego development, may be the most theoretically significant results of this research. Contrary to the common assumption that adjustment increases monotonically with ego level, and that psychotherapy clients are therefore more likely to be relatively low in their stage of ego development, these results suggest that high ego level individuals

may be more likely to seek psychotherapy than others. Obviously college counselees constitute a very select subset of the psychotherapy client population as a whole, but it would be useful to investigate whether similar results obtain for other outpatient groups.

The differing MMPI scale scores between the clinical and non-clinical samples provide some clues to the reason for a higher mean ego level among the counselees, although a more comparable distribution of ego levels in the two samples may have provided more cogent information. The complete lack of conformist level subjects, a central characteristic of whom is a concern with portraying themselves in socially desirable terms, in combination with higher scores on scale R-S and lower scores on scale SD in the clinical sample, indicates that these subjects may have sought counseling in reponse to greater awareness of themselves, their difficulties and their distress. That the D scale was the best single predictor of sample membership in the multiple regression analysis, with scale Es functioning as a suppressor variable, further substantiates the argument that what distinguishes college counselees from other students is not a greater degree of maladjustment, but greater awareness of internal distress.

Such a possibility has great clinical utility in alerting college counselors to the strengths and competencies of many of their clients with high ego levels which may be tapped in the service of more effective treatment. Several examples of these characteristics are described by Rogers (1961) in his delineation of stages of personality change which occur during

the psychotherapeutic process (p. 125-159). Loevinger (1976)
has discussed the parallels between these stages and the
levels of ego development. At those stages she equates with
the conscientious level and those above it, Rogers refers to
the increasing capacity of clients to: (a) recognize their
responsibility in the problems they are experiencing; (b) iden-
tify and express feelings with intensity, immediacy and full-
ness; (c) recognize the personality constructs they adhere
to and question their validity; and (d) be aware of and con-
cerned about inner conflict. In focusing on problems,
deficiencies and psychopathology in their clients, college
counselors may fail to recognize those at higher ego levels,
and therefore fail to make therapeutic use of these and
similar abilities. The results of this study point to the
usefulness of the Washington University Sentence Completion
Test as an assessment tool in aiding counselors to avoid this
possibility by identifying clients at higher ego levels. The
execution of similar research with other client populations
may provide similar practical benefits, as well as uncovering
psychological variables other than level of adjustment which
distinguish clinical from non-clinical samples.

Implications for Future Research

Despite the apparent usefulness of the concept of ego
development and the SCT of ego level, this study highlights
a serious practical problem with research in this area.
Especially because the theory and test are relatively new,
and the populations studied are therefore still fairly

limited, it is difficult to predict the range and concentra-
tion of ego levels which are likely to be found in a given
subject sample. The findings of this study, although
severely restricted by the limited distribution of ego levels
in the sample, are sufficiently intriguing and encouraging
to warrant replication with a larger sample from the same
population. Once this has been accomplished, replication with
other clinical populations and their comparable non-clinical
counterparts would further explicate the broader issue of the
relation between ego level, adjustment and participation in
psychotherapy.

Another methodological concern already touched upon is
the need underscored by the findings of this study for item
analysis of MMPI data in exploring their relationship to SCT
ego level scores. The analysis of the relationship of single
items of various MMPI scales to ego development, such as
scales Mf, K, SD and Pd, would help to clarify the psycho-
logical meaning of the scales themselves in addition to
yielding information about the connection between ego develop-
ment and adjustment. In the context, for example, of research
indicating that the Pd scale does not measure psychopathic
deviance, but some other more generalized form of deviance,
a correlation of each item of the scale with ego level may
help to define the type of deviation it taps. Similarly,
although scales K and SD have often been assumed to assess
almost identical psychological variables, in the multivariate
analysis of conformist versus post-conformist ego groups
scale K was the best predictor, but scale SD was entered next

as a suppressor variable. Analysis of the relation of each item on these two scales to ego level could aid in specifying the meaning of the dimensions they tap, and how they differ.

Once the research outlined above has been executed, it will be crucial to employ measures other than the MMPI as dependent variables to further delineate the connection between ego development and psychological adjustment. In addition to standard psychometric instruments, such measures may include therapist ratings and diagnostic classifications.

However, as the results of the present study emphasize, in an ongoing program of research exploring a previously unexamined area, it is crucial to thoroughly investigate and replicate each step before proceeding to the next. With this consideration in mind, it would seem advisable to replicate the analyses of the relationship between the MMPI scales employed here and ego development in a large non-clinical college student sample before returning to a contrast of these relations with those in a comparable clinical sample.

APPENDICES

APPENDIX A

SENTENCE COMPLETION FOR WOMEN

APPENDIX B

SENTENCE COMPLETION FOR MEN
(Form 9-62)

Identifying Code_____Age_____Date_____

Birthdate_____Year in School_____

Instructions: Complete the following sentences in any way
               that you wish.

1. Raising a family

2. Most women think that men

3. When they avoided me

4. If my mother

5. Being with other people

6. The thing I like about myself is

7. A man's job

8. If I can't get what I want

9. I am embarrassed when

10. Education

11. When people are helpless

12. Women are lucky because

13. What gets me into trouble is

14. A good father

15. If I were king

16. A wife should

17. I feel sorry

85

18. A woman's body

19. When a child won't join in group activities

20. Men are lucky because

21. When they talked about sex, I

22. At times she worried about

23. I am

24. A woman feels good when

25. My main problem is

26. Whenever she was with her mother, she

27. The worst thing about being a woman

28. A good mother

29. Sometimes she wishes that

30. When I am with a man

31. When she thought of her mother, she

32. If I can't get what I want

33. Usually she felt that sex

34. For a woman a career is

35. My conscience bothers me if

36. A woman should always

APPENDIX C

AUTOMATIC RULES FOR ASSIGNING TOTAL PROTOCOL

RATINGS TO THE OGIVE OF ITEM RATINGS

APPENDIX C

AUTOMATIC RULES FOR ASSIGNING TOTAL PROTOCOL RATINGS TO THE OGIVE OF ITEM RATINGS*

TPR is:	If there are:
I-6[a]	No more than 34 ratings at I-5
I-5	No more than 31 ratings at I-4/5
I-4/5	No more than 30 ratings at I-4
I-4	No more than 24 ratings at I-3/4
I-3/4	No more than 21 ratings at I-3
I-2	At least 5 ratings at I-2
Δ (Delta)	At least 6 ratings at Delta
Δ/3 (Delta/3)	At least 6 ratings at Delta/3

Note: Apply these rules in the order given, from I-6 to Delta/3.

[a]To receive an I-6 rating, the I-5 criterion must also be met.

*From Loevinger and Wessler, 1970, p. 129.

87

APPENDIX E

DEGREES OF FREEDOM, F RATIO, SIGNIFICANCE

LEVEL AND CANONICAL CORRELATION FOR

EACH EFFECT IN PROFILE ANALYSIS

APPENDIX E

Table E:1.--Degrees of Freedom, F Ratio, Significance Level
and Canonical Correlation for Each Effect in
Profile Analysis.

Source	df	F	p	Canonical Correlation
Grade (within cells)	12	288.627	.00001	.98
Error	122			
Ego level x sample	24	.823	NS	.28
Error	246			
Sample x sex	12	1.593	NS	.37
Error	122			
Ego level x sex	24	1.070	NS	.39
Error	246			
Ego level x sample	24	1.030	NS	.32
Error	246			
Sex	12	9.393	.00001	.69
Error	122			
Sample	12	2.916	.001	.47
Error	122			
Ego level	24	2.917	.00002	.58
Error				

APPENDIX F

MEANS, T SCORES AND RANKS OF MMPI SCALES

(WITHOUT K CORRECTIONS) IN PROFILES OF

EACH EGO GROUP OF MALE SUBJECTS

IN NON-CLINICAL SAMPLE ONLY

APPENDIX F

Table F:1.--Means, T Scores and Ranks of MMPI Scales (Without K Corrections) in Profiles of Each Ego Group of Male Subjects in Non-Clinical Sample Only.

Grouped Ego Levels

MMPI Scale	Δ & Δ/3 (n=10)			I-3 (n=2)			I-3/4 (n=23)			I-4 & I-4/5 (n=13)		
	M	T	Rank	M	T	Rank	M	T	Rank	M	T	Rank
L	2.90	46	13.0	4.00	50	12.5	2.96	46	13.0	2.85	46	13.0
F	6.90	60	4.5	11.50	70	1.0	7.00	60	6.0	6.12	58	8.5
K	11.40	48	12.0	18.50	62	3.5	11.86	49	12.0	12.46	49	12.0
Hs	5.80	53	8.5	9.00	60	5.5	6.89	56	9.5	6.15	53	10.0
D	17.80	53	8.5	21.00	60	5.5	20.14	58	8.0	20.31	58	8.5
Hy	17.40	51	11.0	22.50	62	3.5	20.07	56	9.5	22.23	60	6.0
Pd	19.20	63	2.0	16.50	58	8.0	18.21	60	6.0	18.23	60	6.0
Mf	26.30	61	3.0	28.00	65	2.0	29.18	67	1.0	30.08	69	1.0
Pa	10.60	59	6.0	10.50	59	7.0	11.93	62	2.0	11.46	59	7.0
Pt	15.00	57	7.0	12.50	54	11.0	17.14	60	6.0	17.46	60	6.0
Sc	16.60	60	4.5	13.50	56	10.0	18.29	61	3.5	18.15	61	3.0
Ma	21.60	66	1.0	16.50	57	9.0	19.43	61	3.5	20.08	63	2.0
Si	27.10	52	10.0	25.50	50	12.5	28.39	53	11.0	26.15	51	11.0

APPENDIX G

MEANS, T SCORES AND RANKS OF MMPI SCALES

(WITHOUT K CORRECTION) IN PROFILES OF

EACH EGO GROUP OF FEMALE SUBJECTS

IN NON-CLINICAL SAMPLE ONLY

APPENDIX G

Table G:1.--Means, T Scores and Ranks of MMPI Scales (Without K Correction) in Profiles of Each Ego Group of Female Subjects in Non-Clinical Sample Only.

Grouped Ego Levels

MMPI Scale	Δ & Δ/3 (n=1)			I-3 (n=6)			I-3/4 (n=29)			I-4 & I-4/5 (n=13)		
	M	T	Rank	M	T	Rank	M	T	Rank	M	T	Rank
L	2.00	44	13.0	4.00	50	11.0	2.55	46	13.0	2.07	44	13.0
F	4.00	53	7.5	7.83	62	1.5	6.97	60	2.0	4.29	53	4.0
K	11.00	48	12.0	15.00	55	7.0	12.24	49	11.5	12.07	49	10.5
Hs	8.00	52	9.0	6.33	48	13.0	8.00	52	9.0	6.86	50	9.0
D	19.00	49	10.5	20.00	51	10.0	20.62	53	8.0	19.29	49	10.5
Hy	22.00	56	5.5	22.17	56	5.5	22.38	56	7.0	20.43	52	7.0
Pd	21.00	68	2.0	15.83	56	5.5	17.21	58	5.0	14.93	53	4.0
Mf	35.00	53	7.5	57.33	49	12.0	36.59	49	11.5	39.14	45	12.0
Pa	10.00	56	5.5	11.83	62	1.5	11.14	59	3.5	9.43	53	4.0
Pt	22.00	62	3.0	16.17	54	8.0	16.86	55	6.5	14.71	52	7.0
Sc	18.00	59	4.0	18.33	59	4.0	17.79	59	3.5	14.92	55	2.0
Ma	25.00	75	1.0	19.33	61	3.0	21.17	66	1.0	21.21	66	1.0
Si	24.00	49	10.5	27.17	52	9.0	25.03	50	10.0	26.79	52	7.0

APPENDIX H

MULTIPLE R, SIMPLE r, CHANGE IN R^2, AND

F RATIOS FOR EACH STEP IN MULTIPLE

REGRESSION ANALYSIS OF EGO GROUP

APPENDIX H

Table H:1.--Multiple R, Simple r, Change in R^2, and F Ratiors for Each Step in Multiple Regression Analysis of Ego Group.

		(N=146)				
Step	MMPI Scale Entered	F to Enter	R	Change in R^2	r	Overall F
1	Mf	24.689***	.38	.146	.38***	24.689***
2	Es	5.513**	.42	.178	.10	15.488***
3	Pd	1.571	.43	.187	.11*	10.890***
4	Pa	2.385	.45	.014	-.02	8.844***
5	Sc	1.262	.46	.007	-.05	7.341***
6	F	1.847	.47	.010	-.19***	6.462***
7	SD	1.071	.47	.006	.09	5.695***
8	D	.744	.47	.004	.06	5.066***
9	L	.812	.48	.004	-.08	4.588***
10	R-S	1.631	.49	.009	-.08	4.311***
11	Ma	.271	.49	.002	-.10	3.923***
12	ER-O	.111	.49	.001	.08	3.581***
13	Hs	.164	.50	.001	-.10	3.297***
14	Hy	.137	.50	.001	.04	3.052***
15	Pd+.4K	.058	.50	.000	-.09	2.832***
16	Sc+1K	.187	.50	.001	-.01	2.650***
17	K	.073	.50	.000	.07	2.480***
18	Ma+.2K	.032	.50	.000	-.10	2.327***
19	EC-5	.029	.50	.000	.06	2.189***
20	Hs+.5K	.032	.50	.000	-.08	2.065***
21	Si	.022	.50	.000	.00	1.952***

*$p \leq$ .10

**$p \leq$ .05

***$p \leq$ .01

APPENDIX I

MULTIPLE R, SIMPLE r, CHANGE IN R^2, AND

F RATIORS FOR EACH STEP IN MULTIPLE

REGRESSION TO PREDICT NON-CLINICAL

SUBJECTS AT VERSUS ABOVE I-3

false
APPENDIX I

Table I:1.--Multiple R, Simple r, Change in R^2, and F Ratios for Each Step
in Multiple Regression to Predict Non-Clinical Subject At
Versus Above I-3.

		(N=92)				
Step	MMPI Scale Entered	F to Enter	R	Change in R^2	r	Overall F
1	K	6.371***	.26	.066	-.26***	6.371***
2	SD	2.322	.30	.024	.03	4.393**
3	Ma	2,825*	.34	.028	.11	3.931***
4	Pd	2.059	.37	.020	.08	3.498***
5	Pd+.4K	3.302*	.41	.032	-.02	3.533***
6	F	2.209	.44	.021	-.14*	3.354***
7	Mf	1.105	.45	.011	-.07	3.036***
8	L	.477	.25	.005	-.19**	2.670***
9	Sc+1K	.453	.46	.004	-.13	2.434**
10	Sc	2.248	.48	.021	.01	2.449***
11	Si	.659	.49	.006	.00	2.277**
12	Hy	.852	.50	.008	-.05	2.154**
13	Es	.341	.50	.003	.03	1.998**
14	R-S	.177	.50	.002	.10	1.848**

*$p \leq .10$

**$p \leq .05$

***$p \leq .01$

93

APPENDIX J

MULTIPLE R, SIMPLE r, CHANGE IN R^2, AND

F RATIOS FOR EACH STEP IN MULTIPLE

REGRESSION ANALYSIS OF

SAMPLE MEMBERSHIP

Table J:1.--Multiple R, Simple r, Change in R^2, and F Ratios for Each Step in Multiple Regression Analysis of Sample Membership.

			(N=146)			
Step	MMPI Scale Entered	F to Enter	R	Change in R^2	F	Overall F
1	D	13.852***	.30	.087	.30***	13.852***
2	Es	8.141***	.37	.049	.07	11.337***
3	Mf	8.841***	.43	.050	.29***	10.917***
4	Pd	4.014**	.46	.022	.23***	9.364***
5	Hs	2.118	.47	.012	.03	7.974***
6	EC-5	1.015	.48	.006	-.10	6.815***
7	Sc+1K	.579	.48	.003	.17**	5.906***
8	Sc	.413	.48	.002	.11*	5.198***
9	Pd+.4K	2.577	.50	.014	.22***	4.959***
10	F	.879	.50	.005	.13*	4.547***
11	Pa	.374	.50	.002	.10	4.149***
12	L	.307	.50	.002	.01	3.809***
13	SD	.233	.51	.001	-.09	3.514***
14	Si	.236	.51	.001	.17**	3.261***
15	Ma+.2K	.398	.51	.002	.00	3.056***
16	Ma	1.292	.52	.007	.01	2.952***
17	R-S	.337	.52	.002	.07	2.784***
18	K	.379	.52	.002	.04	2.638***
19	Pt	.101	.52	.001	.13*	2.487***
20	Hs+.5K	.774	.52	.000	.05	2.349***

*$p \leq .10$

**$p \leq .05$

***$p \leq .01$

REFERENCES

REFERENCES

Abbott, R. D. On confounding of the repression-sensitization and manifest anxiety scales. Psychological Reports, 1972, 30, 392-394.

Acker, C. W. & Nakamura, C. Y. Performance of chronic schizophrenics on inventory measures of over-controlled and under-controlled behavior. Journal of Clinical Psychology, 1962, 18, 488-490.

Barron, F. An ego strength scale which predicts response to psychotherapy. Journal of Consulting Psychology, 1953, 17, 327-333.

Blackburn, R. Emotionality, repression-sensitization and maladjustment. British Journal of Psychiatry, 1965, 111, 399-404.

Block, J. The challenge of response sets. New York: Appleton-Crofts, 1965.

Byrne, D. The repression-sensitization scale: Rationale, reliability and validity. Journal of Personality, 1961, 29, 334-349.

Byrne, D., Barry, J., & Nelson, D. Relation of the revised repression-sensitization scale to measures of self-description. Psychological Reports, 1963, 13, 323-334.

Candee, D. Ego developmental aspects of new left ideology. Journal of Personality and Social Psychology, 1974, 30, 620-630.

Couch, A. & Keniston, K. Agreeing response set and social desirability. Journal of Abnormal and Social Psychology, 1961, 62, 175-179.

Carson, R.C. Interpretive manual to the MMPI. In J. N. Butcher, ed., MMPI: Research developments and clinical applications. New York: McGraw-Hill, 1969.

Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. An MMPI handbook: Volume 1: Clinical interpretation. Minneapolis: University of Minnesota Press, 1972.

Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. An MMPI handbook: Volume 2: Research applications. Minneapolis: University of Minnesota Press, 1975.

Edwards, A. L. Social desirability or acquiescence in the MMPI? A case study with the SD scale. Journal of Abnormal and Social Psychology, 1961, 63, 351-359.

Edwards, A. L. & Walker, J. N. A short form of the MMPI: The SD scale. Psychological Reports, 1961a, 8, 485-486.

Edwards, A. L. & Walker, J. N. Social desirability and agreement response set. Journal of Abnormal and Social Psychology, 1961b, 62, 180-183.

Edwards, A. L., Diers, C. J., & Walker, J. N. Response sets and factor loadings on sixty-one personality scales. Journal of Applied Psychology, 1962, 46, 220-225.

Feder, C. Z. Relationship of repression-sensitization to adjustment status, social desirability, and acquiescence response set. Journal of Consulting Psychology, 1967, 31, 401-406.

Feder, C. Z. Relationship between self-acceptance and adjustment, repression-sensitization and social competence. Journal of Abnormal Psychology, 1968, 73, 317-322.

Friedman, R. J. & Katz, M. M. (eds.) The psychology of depression: Contemporary theory and research. Washington, D.C.: V. H. Winston & Sons, 1974.

Gold, S. Relationships between a measure of ego development and symptom patterns in adolescents. (Masters thesis, Michigan State University, 1977.)

Gough, H. G. Tests of personality: Questionnaires. A. MMPI. In A. Wieder, ed. Contributions toward medical psychology: Theory and psychodiagnostic methods. Volume II. New York: Ronald Press, 1953.

Haan, N., Stroud, J., & Holstein, J. Moral and ego stages in relationship to ego processes: A study of 'hippies.' Journal of Personality, 1973, 41, 596-612.

Hathaway, S. R. & McKinley, J. C. The Minnesota Multiphasic Personality Inventory Manual. New York: Psychological Corporation, 1967.

Hawk, S. S. & Peterson, R. A. Do MMPI psychopathic deviancy scores reflect psychopathic deviancy or just deviancy? Journal of Personality Assessment, 1974, 38, 362-368.

Hazel, J. D. Some personality correlates of dimensions of delinquency. _Dissertation Abstracts International_, 1969, 29 (8-B), 3087.

Issacs, K. S. Relatability, a proposed construct and an approach to its validation. Unpublished doctoral dissertation, University of Chicago, 1956.

Jahoda, M. _Current concepts of positive mental health_. New York: Basic Books, 1958.

Lachar, D. _The MMPI: Clinical assessment and automated interpretation_. Los Angeles: Western Psychological Services, 1974.

Loevinger, J. The meaning and measurement of ego development. _American Psychologist_, 1966, 21, 195-206.

Loevinger, J. The relationship of adjustment to development. In S. Sells, ed. _The definition and measurement of mental health_. Washington: U.S. National Center for Health Statistics, 1968.

Loevinger, J. _Ego development: Conceptions and theories_. San Francisco: Jossey-Bass, 1976.

Loevinger, J. & Wessler, R. _Measuring ego development 1: Construction and use of a sentence completion test_. San Francisco: Jossey-Bass, 1970.

Loevinger, J., Wessler, R., & Redmore, C. _Measuring ego development 2: Socring manual for women and girls_. San Francisco: Jossey-Bass, 1970.

Marks, P., Seeman, W., & Haller, D. _The actuarial use of the MMPI with adolescents and adults_. Baltimore: Williams & Wilkins, 1974.

Maslow, A. H. _Towards a psychology of being_. Princeton, N.J.: D. Van Nostrand Co., 1968.

Mello, Nancy K. & Guthrie, G. M. MMPI profiles and behavior in counseling. _Journal of Counseling Psychology_, 1958, 5, 125-129.

Meehl, P. E. & Hathaway, S. R. The K factor as a suppressor variable in the Minnesota Multiphasic Personality Inventory. _Journal of Applied Psychology_, 1946, 30, 525-564.

Merbaum, M. Simulation of normal MMPI profiles by repressors and sensitizers. _Journal of Consulting and Clinical Psychology_, 1972, 39, 171.

Messick, S. & Jackson, D. N. Acquiescence and the factoral
     interpretation of the MMPI. Psychological Bulletin,
     1961, 58, 299-304.

Nakamura, C. Y. Measures of over-controlled and under-
     controlled behavior: A validation. Journal of Clinical
     Psychology, 1960, 16, 149-153.

Redmore, C., Wright, D., & Rashbaum, E. Measuring ego devel-
     opment: Scoring manual for men and boys. Prepublica-
     tion version, January 1974. (not cross-validated)

Rios-Garcia, L. R. & Cook, P. E. Self-derogation and defen-
     sive style in college students. Journal of Personality
     Assessment, 1975, 39, 273-281.

Rogers, C. R. On becoming a person. Boston: Houghton
     Mifflin, 1961.

Shapiro, D. Neurotic styles. New York: Basic Books, 1965.

Sullivan, C., Grant, M. Q., & Grant, J. D. The development
     of interpersonal maturity; Applications to delinquency.
     Psychiatry, 1957, 30, 373-385.

Sullivan, H. S. The interpersonal theory of psychiatry.
     New York: W. W. Norton & Co., 1953.

Tempone, V. J. & Wesley, L. Repression-sensitization and
     its relation to measures of adjustment and conflict.
     Journal of Consulting Psychology, 1967, 31, 131-136.

Tyler, F. T. Factorial analysis of fifteen MMPI scales.
     Journal of Consulting Psychology, 1951, 15, 541-546.

Welsh, G. S. Factor dimensions A and R. In G. S. Welsh &
     W. G. Dahlstrom, eds. Basic readings on the MMPI in
     psychology and medicine. Minneapolis: University of
     Minnesota Press, 1956.

Wheeler, W. M., Little, K. B., & Lehner, G. F. The internal
     structure of the MMPI. Journal of Consulting Psychology,
     1951, 15, 134-141.

Wilkins, G., Epting, F., & Van de Riet, H. Relationship
     between repression-sensitization and interpersonal cog-
     nitive complexity. Journal of Consulting and Clinical
     Psychology, 1972, 39, 448-450.