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A MULTIVARIATE STUDY OF THE RELATIONSHIP OF COGNITIVE CONTROL AND COGNITIVE STYLE PRINCIPLES TO REPORTED DAILY MOOD EXPERIENCES

by

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ABSTRACT

A MULTIVARIATE STUDY OF THE RELATIONSHIP OF COGNITIVE CONTROL AND COGNITIVE STYLE PRINCIPLES TO REPORTED DAILY MOOD EXPERIENCES

by

BERNARD S. GORMAN

Advisor: Professor Alden E. Wessman

This study was concerned with the relationship of cognitive control and cognitive style variables to reported daily mood experiences. The major premise of the study was that the ways in which an individual characteristically organizes and seeks information will be related to both the form and content of his mood reports.

A sample of 67 junior college students (47 women, 20 men) reported their daily moods on 14 of the mood scales of the Wessman-Ricks Personal Feeling Scales each night for 28 nights. From these mood reports, 102 measures were obtained for each S's mean peak, average, and trough mood levels; peak, average, and trough mood variability scores; and by the use of Cattell's P-technique factor analysis, measures of each S's relative mood differentiation were also obtained. In addition, Ss were given a battery of 34 tests and measures which included measures of the cognitive controls and styles of field articulation,

sensation-seeking, time orientation, conceptual differentiation and categorization styles, internal vs. external locus of control, defensiveness, and rigidity.

An R-technique factor analysis of the cognitive control measures yielded eight factors: Field Articulation, Subjective Hope and Confidence, Satisfaction with the Present, Sensation-Seeking, Conceptual Differentiation and Narrow Conceptual Bandwidth, External vs. Internal Locus of Control, Defensiveness, and Rigid Conventionality. By extending measures of mood level, mood variability, and mood differentiation onto the cognitive factor structure by Dwyer's factor extension technique, a number of relationships were found between cognitive style principles and mood characteristics. The major findings were:

1. Sensation-seeking was positively related to mood level; so that those Ss who preferred and sought temporarily tension-increasing and novel activities tended to report high peak mood levels.
2. Subjects who were satisfied with the present, optimistic about the future, and yet did not anticipate much more future happiness than present happiness were also likely to report high peak mood levels.
3. External locus of control beliefs, or beliefs about the control of events by fate, chance, or powerful others, were associated with lower trough mood levels.
4. Ss with high scores on the "defensiveness" factor

reported high trough mood levels in personal confidence, tranquility, lack of anger, and personal freedom and reported and displayed very little mood variability.

5. Field Articulation was related to both mood level and mood variability; so that field-independent Ss reported somewhat higher trough mood levels and demonstrated a high degree of mood stability.
6. Mood differentiation had a small association with sensation-seeking in that sensation-seekers displayed less mood differentiation than sensation reducers. However, mood differentiation was not appreciably related to any other cognitive control measures employed in the present study.

A series of factor analyses of daily mood level measures and mood variability measures was performed in order to investigate the factor structures of the Wessman-Ricks Personal Feeling Scales. The analysis of the mood level measures yielded two distinct orthogonal factors. The first factor was highly loaded with trough and average mood level measures. Extensions of cognitive style variables onto the first factor revealed that Ss who reported high peak moods were somewhat more likely to receive high scores on measures of sensation-seeking, future orientation, and within-day mood variability and rended to receive lower scores on measures of defensiveness, rigidity, and time anxiety. Extensions of cognitive variables onto the

second factor revealed that Ss who reported high trough mood levels were likely to avow less mood fluctuation, endorse more external locus of control beliefs, and display little within-day mood variability. The first factor appears to be related to Maslow's concept of Being-needs and Being-cognitions and the second factor appeared to be related to Maslow's concept of Deficiency needs and cognitions.

The factor analysis of mood variability measures yielded two factors which represented interpersonal peak mood variability and personal trough mood variability.

This study of the relationship of cognitive styles and mood characteristics measured over an extended period indicated the significance of conjoint investigation of cognition and affect in human personality.

CHAPTER I

INTRODUCTION

The present study is concerned with the relationship of cognitive control and cognitive style variables to subjective mood reports. The major premise of the study is that the ways in which an individual characteristically organizes and seeks information are related to both the content and the form of his mood reports.

Background

Ego Psychology and Cognitive Style Research

Until quite recently, the topics of cognition and affect have been among the most neglected areas of modern psychology. Perhaps the relative lack of research and theory in these areas can be traced to the positivistic emphasis of American academic psychology (e.g. Skinner, 1953; Watson, 1924) which considered these areas as too subjective for a scientific psychology and far less capable of reliable measurement and empirical investigation. However, some psychological approaches did not disregard subjective behavior as a legitimate and important source of data. One major attempt to discuss cognition and affect within a comprehensive psychological framework can be seen in psychoanalytic ego psychology.

Early psychoanalytic theory was mainly concerned with the vicissitudes of libidinal drive discharges. According to Freud, the drives operated in a tension-reducing manner with the attendant goal of drive discharge or its substitute in hallucinatory activity (Rapaport, 1960). However, drive discharges were not considered to be undirected and diffuse but were considered to be directed at objects either in fantasy or reality. Although drive discharge to fantasy objects could be easily handled by a topographic model which partitioned phenomena into unconscious, preconscious, and conscious states, the explanation of drive discharge to realistic objects required further theoretical elaboration. For Freud, the solution to this problem was found by postulating a secondary process model in which drive was considered to be discharged first through a secondary delay process and then to some external object. The hypothetical structure endowed with this ability was called the ego and was given the powers of intellective activity (Freud, 1938, p. 56), experimental action (Freud, 1938, p. 56), circumspection (Freud, 1933, p. 76), defensive functions (Freud, 1926a, p. 110), the ability to synthesize experiences (Freud, 1926b, p. 20), and the power to deploy anti-cathexes (Freud, 1938, p. 29). The ego, however, was not considered to be an independent region but was considered to be a derivative of the id. On this point, Freud had stated in The Question of Lay Analysis (1926, pp. 25-26) that "The instincts fill the Id; to put it shortly, all energy

in the Id comes from them. The forces in the Ego, too, have no other origin, they are all derived from the Id." Freud later repudiated the notion that the ego was completely subservient to the id and endowed the ego with some degree of autonomy from the id (Freud, 1933, pp. 57-80).

In the late 1920's and early 1930's Hartmann, Kris, Loewenstein, Rapaport, and others indicated dissatisfaction with Freud's treatment of the concept of the ego and began the development of a psychoanalytic "ego psychology" in which the ego was given an autonomous role in making adjustments to the external world. Hartmann (1939, 1951) spoke of an ego whose functions and structures were not derived from the id, but instead were developed from a common matrix along with the id and thus had at its disposal its own inherent energies and mechanisms. Among the inherent functional capabilities of the ego postulated by this new model one could find "perception, intention, object comprehension, thinking, language, recall phenomena, productivity,....motor development, grasping, crawling, walking, and the maturational and learning processes implicit in all these and many others." (Hartmann, 1939, p. 8). By endowing the ego with these ordinarily "conflict-free" coping functions as well as with the traditional defensive functions, Hartmann was able to give motivational and cognitive processes independent but coordinated statuses. As many of these postulated ego functions had long been considered to be in the province of academic psychology and amenable to study

by its techniques, a more satisfactory union of these two approaches to the study of personality seemed possible.

By studying differential ego capabilities, especially cognitive structures, one might investigate the interaction of these structures with individual expressions of affect. One approach to the study of individual cognitive structures can be found in the research in "cognitive controls". Riley Gardner, a prominent investigator of individual cognitive structures, describes cognitive controls as slow-changing, relatively invariant structures that "limit the influence of environmental forces and of tensions produced by motives" (Gardner et al., 1959). These hypothetical structures or patterns of organization can then be subsumed in higher-order constructs known as "cognitive styles". By employing psychometric measures of individual cognitive controls and cognitive styles, a number of researchers in these areas have shown how these postulated structures relate to such domains as intellectual abilities (Gardner, Jackson, and Messick, 1960; Witkin et al., 1954, 1962), defensive behaviors (Gardner et al., 1959; Witkin et al., 1954, 1962), and to developmental trends and differences in perception and cognition (Gardner and Moriarty, 1968; Witkin, 1962). Thus, through the study of complex cognitive styles, one could empirically study the individual adaptational processes of people who were not simply seen as mechanistically and passively driven by the conflicts of instinctual forces, but who were capable of cognitively deciding upon courses of

action and could process information needed for the gratification of given motives.

Theoretical Problems in the Study of Affects

While the descriptive labels and contents of different affective states evidently have been in existence throughout the linguistic history of mankind (Davitz, 1969), and while affective states have been frequently discussed throughout psychological literature as epiphenomena of drives, as symptoms of psychopathology, and as disorganizers of ongoing behavior, etc., major attention to affective phenomena in their own right has been comparatively rare (e.g. Arnold, 1960, 1970; Davitz, 1969, 1970; Izard and Tomkins, 1965; Plutchik, 1970; Wessman and Ricks, 1966; Tomkins, 1963). Because affects are relatively subjective and personal and because a great deal of psychological research has been guided by the canons of Behaviorism which demand objective and manipulable stimulus-response measures, the study of affects lagged. Most of the psychological research and theorizing that has been attempted has primarily concerned itself with the physiological or overt behavioral aspects of emotion.

Darwin's (1872) evolutionary theory of human emotion was one such biologically and physiologically-based theory which considered human emotional expression to be a vestigial remnant of emotional expression patterns of earlier species.

Freud's earlier views of affect arose from the same scientific zeitgeist from which Darwin's theories were derived and were also essentially physiological. Freud (1915b, p. 128) was quite cognizant of the possible physiological substrate of emotion when he wrote "Affectivity manifests itself essentially in motor (i.e. secretory and circulatory) discharges resulting in an (internal) alteration of the subject's own body without reference to the outer world" (italics mine). From the Behaviorist school, Watson (1924), who also credited his views of emotion to Darwinian concepts, defined emotion as "an hereditary 'pattern reaction' involving profound changes of the bodily mechanism as a whole, but particularly of the visceral and glandular systems." According to Watson, there were three basic emotions which corresponded to unconditioned reflexes: fear, rage, and love. All other emotions were either blends of the three primary emotions or were considered to be conditioned reflexes formed by the pairing of previously neutral stimuli with primary emotions. In an attempt to reduce emotion to a set of physiological processes, Cannon (1929) described emotions as thalamic elaborations of basic sensory processes. Although his theory was not congruent with Cannon's theory, William James' theory of emotion also employed a physiological explanation of emotion (James, 1884). Unlike previously mentioned theories, however, James' theory considered the cognition of bodily processes to be important in emotion while the other theories disregarded cognition at the expense

of describing physiological mechanisms.

Affects undoubtedly have a physiological component but in humans, at least, affects also have a phenomenological component. Although one can restrict one's observations simply to a subject's overt affective responses to stimulus objects; of equal importance is the meaning of those objects and situations to the subject. The existentially oriented psychologists (e.g. Buytendijk, 1950; May, 1950; Perls, Hefferline, and Goodman, 1951; Sartre, 1948; Schutz, 1967), who have been heavily influenced by phenomenology, have viewed emotions as processes intimately tied to relationships between the self and objects within the world. According to this phenomenological view of emotions, one is not just happy, or afraid, or angry; one is happy about something, afraid of something, and angry at someone. How one cognitively assesses objects (including, at times, the self) determines the affective state and, thus, a cognitive approach to the study of affect should provide as equally important information, at least, as more "objective" formulations of affect.

A particularly interesting aspect of affect in which subjective cognitions of subject-environment relationships play a crucial role can be found in the study of mood. Although comprehensive definitions of "mood" are not readily available, moods can be distinguished from emotions. In summaries of previous discussions of mood, Wessman and Ricks (1966, pp. 9-21) and Frank (1967, pp. 2-6) have pointed out that while emo-

tions may be considered as unconscious or conscious, moods are usually considered to be conscious or reportable. While emotions are considered to be phasic and sporadic states, moods are usually considered to be tonic and of longer duration. Finally, while emotions stand out as figures against a background of ongoing behavior, moods are usually considered to be background phenomena. Wessmann and Ricks (1966) have shown that mood phenomena appear to be basic factors to be considered in all human endeavors and are not merely epiphenomena of physiological states or symptoms of pathology. Moods are intimately related to social circumstances, to personality structure, and to personality dynamics. For Wessman and Ricks (1966), the study of moods provides pathways to the study of a person's transactions with his environment. Jacobson (1957, p. 75) aptly stated this notion when she said, "In fact, moods seem to represent, as it were, a cross-section through the entire state of the ego, lending a particular, uniform coloring to all its manifestations for a longer or shorter period of time."

Given definitions of mood or distinctions between moods and emotions, could one devise a rating scale or checklist so that one could accurately rate the moods of another person? Similarly, could a physiological measure accurately indicate the mood that a person is experiencing? At present, most attempts to appraise mood from an external observer's standpoint have been fairly futile (Borgatta, 1961; Nowlis, 1963). The

best indicators and, perhaps, the final valid indicators of mood lie within the person's self-reports of his own mood states (Nowlis, 1970; Wessman and Ricks, 1966) as the subject alone has imputed his own meaning to his situation. Thus the cognitive set that a person brings into a situation and his interpretation of the situation in which he finds himself might be crucial in understanding individual mood phenomena.

The Interrelationships of Cognition and Affect

While the effects of affective states as independent variables upon cognitions as dependent variables have been well documented (e.g. Murphy, 1956; Rapaport, 1950, 1951), the alternate situation in which affects are dependent variables has hardly been explored. It would appear plausible that affective responses are produced in situations in which situational cues or interior cues are either immediately present or are encorded in symbolic forms. If so, then such cognitive questions as: "How shall I categorize the situation?"; "What shall I do about it?"; "What choices for action do I have?"; and "How do I feel?" should have relevance to the person in such a situation. A theory of affect which includes such cognitive appraisals of situations can be found in Magda Arnold's (1960, 1969, 1970) theory of emotion. According to Arnold, "An object or situation is perceived, appraised, and liked or disliked, and this liking or disliking arouses a tendency to approach or withdraw, or to deal with this thing in some

particular way. Hence we have defined emotion as the felt tendency toward something appraised as good (and liked) or away from something appraised as bad (and disliked)" (Arnold, 1960, p. 82). Thus, in Arnold's theory, cognitive processes are an integral part of affective processes.

Recent research has shown that subjective accounts of affect can be significantly modified by altering a subject's cognitions of his situation. For example, the experience of pain and its affective accompaniment can be considerably reduced by altering cognitions with hypnotic procedures in which suggestions for pain relief, reductions in anticipations of fear and pain, and turning of attention to matters other than those concerning pain are employed (Barber, 1969; Hilgard, 1968). Petrie (1967) has shown that individual differences in pain sensitivity may be related to a cognitive style known as "augmentation versus reduction" in which some subjects tend to subjectively decrease what is perceived while others increase what is perceived. Melzack and Casey (1970), whose main research studies have been with animal subjects, report that a purely peripheral theory of pain perception seems to be quite inadequate and express the opinion that central processes appear to be extremely important in pain reduction.

Schacter and Singer (1962) have shown that sympathetic autonomic activity alone is not a sufficient condition for the experience of emotional rousal. In a series of experiments designed to investigate the effects of cognitions upon the

subjective reports of affect, subjects were actually injected with adrenalin but were told they were injected with "suproxin", a new research vitamin. Subjects were then assigned to three experimental conditions: they were either forewarned that Suproxin would have effects similar to those of adrenalin; or they were misinformed about the physiological effects that adrenalin would produce; or they were kept ignorant of the fact that adrenalin would produce any noticeable side effects. Subjects were then further assigned to conditions in which they interacted with a confederate who acted either euphorically or angrily. It was found that those subjects who were either ignorant or misinformed of the effects of adrenalin reported moods which closely matched those displayed by the confederates with whom they were paired while those subjects who were correctly informed about the side effects of adrenalin reported very little euphoria or anger. Schachter and Singer (1962) concluded that the moods reported by their subjects were modified by cognitive variables such as interpretations of the situation, social comparison processes, and expectancies concerning physiological arousal.

In another series of experiments, Schachter (1970) reported that another "basic" state, hunger, may also be modified by cognitive information. While gastric motility might provide an important cue in the experience of hunger, Schachter observed that obese subjects did not utilize bodily cues as often as normal subjects did. Instead, these obese subjects

were more likely to be guided by such "hunger" cues as the external availability of food and the cue of whether the clock indicated a mealtime. Phillip Zimbardo, who has been heavily influenced by the work of Festinger and Schachter on cognitive dissonance, has shown that by manipulating expectancies, other so-called basic motivational and emotional states such as aggression, hostility, and thirst could be modified. Zimbardo et al. (1960) demonstrated that cognitive manipulations not only altered their subject's self-reports and task performances but also altered physiological indices of emotion such as free fatty acid concentrations, galvanic skin responses, and basal skin resistances.

In studies of the experience of stress, Lazarus and his colleagues (Lazarus, 1966; Lazarus et al., 1970) have shown that the subjective and physiological indices of stress can be greatly altered by cognitive strategies. In Lazarus' experiments, stress was typically induced by showing subjects a film of subincision rites, a ceremonial genital operation among Australian aborigines. With the use of this technique, Lazarus and his group then employed a number of cognitive manipulations which altered continuously recorded measures of stress in their subjects. For example, by presenting three different sets of running commentaries on the subincision film: a "trauma" commentary, a "denial" commentary, and an "intellectualization" commentary, it was shown that the former commentary greatly increased stress while the two latter commentaries

greatly reduced stress. By presenting the subincision film in a silent format and by presenting some introductions to the film that employed traumatic, denial, or intellectualization communications, it was shown that stress could be augmented or reduced by the subject's anticipations of a stressful situation. In yet another study, Lazarus (1966, 1970) selected subjects with differing defensive styles and found that the stress of the subincision film was handled quite differently by subjects who tended to employ different defensive strategies.

The use of drugs to alter mood has been a common practice throughout man's history. However, here too, individual cognitions have been shown to greatly alter drug effects. Becker (1963) observed that neophyte marijuana users rarely reported any subjective affective changes upon their initial encounters with the drug. As the novice interacted with other, more experienced marijuana smokers, he learned to label and perceive his rather vague feelings and actions as drug-related and was able to report feeling "high". Adverse reactions to marijuana ("bummers") often occur after the user has been made to feel angry, or guilty, or distracted by another user and suggests that, here too, cognitions can alter moods.

Intracranial electrical stimulation of the subcortical regions provides a powerful technique of arousing affective states in both human and animal subjects. José Delgado (1970) noted that although stimulation of subcortical areas can pro-

duce both extreme rage and anger, subjects thus stimulated did not indiscriminately attack anything that they might encounter. Instead these subjects selected fairly appropriate targets (i.e. harmless objects; those least likely to strike back) upon whom they could vent their anger. Therefore, even in a situation in which maximum experimental control of affective states is present, cognitive appraisal processes exert an influence upon the final form of an affective display.

It can be seen that a substantial body of recent research and theoretical formulations argues for the significance of cognitive-affective interrelations and suggests their significance for personality research. In further sections and chapters, the proposition that individual cognitive styles are related to individual personal avowals of mood will be discussed.

General Design of the Present Study

In previous sections, evidence has been offered suggesting that subjective affective states are intimately connected with individual cognitions. In that individual cognitive controls, cognitive styles, or ego functions influence and reflect both the content and forms of an individual's cognitions, it was proposed that cognitive controls and cognitive styles should be associated with individual differences in reported mood experiences. The technique of the present study

is an outgrowth of an earlier study by Wessman and Ricks (1966) in which three sets of mood variables: mood level ratings, mood variability ratings, and mood complexity ratings were obtained from six weeks of daily subjective mood reports from 17 Harvard men and 20 Radcliffe women. These mood measures were then correlated with biographical information, projective and questionnaire personality test scores, and clinical interview data from a three-year personality assessment study. By studying subjects both ipsatively and normatively, a wealth of information concerning the personality correlates of mood level, mood variability, and mood complexity in relatively non-pathological subjects was obtained.

Unlike the earlier Wessman and Ricks (1966) study, which developed a technique for measuring long-term mood ratings in normal subjects and laid a broad groundplan for investigating developmental, social, and personality correlates of moods, the present study focussed more specifically upon the cognitive control correlates of daily mood experiences. In order to provide continuity and comparability with the Wessman and Ricks (1966) study, the mood measurement technique employed in the present study was essentially the same technique that Wessman and Ricks had developed.

In the present study, repeated daily mood reports on fourteen of the mood scales included in Wessman and Rick's Personal Feeling Scales were obtained from 67 subjects eachday for 28 days. The subjects were college students enrolled in a summer

session course in psychology taught by the writer. Each subject's data was P-technique factor analyzed (Cattell, 1963), and from the factor matrix and its by-products, measures were obtained of each subject's mean daily mood levels on each of the 14 mood scales as well as measures of measures of intra-day and day-to-day mood variability and mood complexity. In addition, measures of the "cognitive control" variables of field articulation, sensation-seeking, time orientation, categorization styles, internal versus external locus of control, defensiveness, and rigidity were obtained for each subject and were examined for their relationships to reported mood variables. In the sections to follow, the literature concerning each of the specific cognitive control or cognitive style measures will be reviewed; and the rationale for deriving hypotheses relating each of the cognitive style measures to aspects of mood characteristics will be presented.

Derivation of Hypotheses

Field Articulation

The individual ability to differentially articulate aspects of a perceptual field is a cognitive style which was originally called "field dependence-independence" and "global vs. analytical style" by Witkin et al. (1954, 1962). As one of a series of tests of sensori-tonic perceptual theory, Witkin was interested in finding individual differences in strategies for perceiving verticality. It was observed that

a subject could employ two distinct strategies in assessing verticality: (1) he could perceive verticality by employing proprioceptive cues or (2) he could perceive verticality by aligning objects perpendicularly to the apparent horizontal plane of the visual field. As the latter strategy was dependent upon external field cues, it was named "field-dependence"; while the former, internal bodily orientation was named "field-independence". Considerable individual differences in the use of these two strategies have been found with such measures of perceived verticality as the rod-and-frame test (RFT), the tilted room test, and the tilted chair test (Witkin et al., 1954, 1962).

Witkin then extended the principle of field dependence-independence beyond the mere judgment of verticality by employing a variant of the Gottschaldt figures known as the Embedded Figures Test (EFT). In this test, subjects are first presented with simple geometric figures and are then asked to isolate them when the figures are embedded in a complex surround. Subjects who could easily identify the embedded figures and could extract them from their surround were classified "field-independent" while those who were unable to isolate the figures were classified as "field-dependent". EFT scores have been shown to correlate significantly with RFT scores in many studies (e.g. Gardner et al., 1959, 1960; Witkin et al., 1962).

Once Witkin was able to demonstrate a consistent factor of field dependence-independence, he and others found that

measures of the factor correlated with a wide variety of perceptual, cognitive, and personality measures. For example, field-independence has been shown to be positively correlated with such relatively nonverbal WAIS and WISC performance subtests as the Picture Completion, Block Design, and Object Assembly tests, and has been shown to be negatively correlated with the presumably socially-acquired Comprehension subtest of the WISC (Witkin et al., 1962).

Socialization and body image studies added a new interpretation to the construct of field-dependence-independence. One could conceptualize the field-dependent person as an individual who demonstrates a relative lack of differentiation both within himself and between himself and objects in the external world. Thus, his internal construct categories are relatively undifferentiated and so are his external construct categories. Witkin et al. (1962) found that the human figure drawings of field-dependent children were far less sophisticated than those of field-independent children. The lack of maturity, detail, and sophistication in the drawings of the field-dependent children indicated that these children lacked a sense of body articulation and a sense of separate identity. Interviews and observations of interactions of parents of children differing in this cognitive style indicated that the parents of field-dependent children were more likely to foster dependence toward authority and, therefore, fostered less differentiation in the interpersonal field than the parents of field-independent

children did. As a result of these observations of lack of differentiation, Witkin et al. (1962) re-named this style "global vs. analytic" style.

Observations of dream recall protocols, projective test responses, and tachistoscopic recognition thresholds of people differing in global vs. analytical style implicates these styles in defensive behavior. Global or field-dependent subjects tend to employ such primitive and undifferentiated defenses as repression and denial while analytic or field-independent subjects tend to employ what Anna Freud (1936) considered to be the more sophisticated defenses: intellectualization, isolation, and rationalization (Witkin et al., 1962; Witkin, 1965).

It appears that in an analogous fashion to the perceptual aspects of field dependence-independence, in which subjects are differentially able to articulate and differentiate visual and proprioceptive cues within a complex visual field; in the affective domain it may be postulated that for field-dependent subjects, thoughts and feelings and percepts will be fused together in a global undifferentiated fashion, while for those who employ the analytic field-independent mode, thoughts, feelings, and percepts can be coolly "split off" from each other. In the present study it was predicted that field articulation would be related mean mood levels, to mood variability, and to mood complexity.

The cluster of traits associated with global style, namely

dependency and lack of interpersonal and intrapsychic differentiation, have often been considered to be factors which are important in depression. The classical psychoanalytic position on melancholia (Abraham, 1911; Freud, 1917) holds that the child depends upon oral supplies from external objects. When these external objects are insufficient or missing, the person turns inward in search of them and experiences depression. Unlike "simple" cases of depression, such as grief or mourning, in which the actual object loss can be "worked through", in melancholia the ego orally incorporates the lost object. Ambivalent feelings, including accusations and desires to punish the lost object, are then deflected toward the self and are experienced as self-accusations and self-punishment. Therefore, the person who is overly dependent upon external objects, and who lacks differentiation between the self and external objects and between different regions of the self, should be especially prone to depressive experiences.

A complementary principle to the classical analytic views of depression can be found in neo-analytic works. Adler (1956) and Bonime (1966) spoke of depression as a tactic which can often be employed by the dependent person. By publicly avowing that one is depressed, others can be summoned to care for the depressed person, to solve his problems for him, and to provide evidence that the person is liked, competent, and in "safe hands".

In the present study it was predicted that the more field-

dependent subjects would avow relatively lower mood levels than field-independent subjects would avow. It was further predicted that since field-dependent subjects experience difficulty in interpersonal differentiation, that these subjects would report lower mood levels in the more social mood areas of the Wessman-Ricks Personal Feeling Scales (PFS; Wessman and Ricks, 1966).

As had been previously mentioned, the person who employs a global field approach cannot easily compartmentalize or slough off the impact of the environment. What occurs externally, affects him internally and unlike the field-independent person, the field-dependent person has fewer differentiated resources with which he can compensate for the imbalancing forces of the environment. Some evidence that field-dependent subjects are affectively more labile than field-independent subjects was provided by Block (1957) and Cohen, Silverman, and Shmavonian (1959, in Witkin et al., 1962), who found that field-dependent subjects displayed significantly greater GSR lability than field-independent subjects. In the present study, is was predicted that field-dependent subjects would experience relatively more within-day and day-to-day mood variability on variability measures derived from the Personal Feeling Scales (Wessman and Ricks, 1966).

On the assumption that greater cognitive differentiation would be positively associated with increasing affective differentiation, Frank (1967) administered the PFS to 50 women

for 30 consecutive days and obtained a series of factor analytically derived indices of mood differentiation. In addition, measures of field articulation were obtained by means of the embedded figures test and human figure drawing body sophistication test scores. By the use of this procedure, Frank (1967) found two small positive correlations (.27, .24) between two measures of mood differentiation and field articulation. By obtaining retrospective essay accounts of emotional experiences, Weinberg (1968) also found a significant positive correlation between field articulation and affective complexity. In the present study, it was predicted that more highly articulated (field-independent) subjects would display relatively greater mood differentiation and complexity than would global or field-dependent subjects.

Temporal Orientation and Future Expectations

All cultures and societies construct their views of reality along spatial and temporal dimensions (Hall, 1959). Although discussions of spatial constructions of reality are quite numerous and have been discussed by aestheticians, anthropologists, and psychologists, temporal structuring of reality has only begun to be extensively discussed quite recently (e.g. Fisher, 1967; Fraisse, 1964; Fraser, 1966; Orme, 1969). As a person guides his actions in both spatial and a temporal context, individual stances toward temporal experience should be considered to be important cognitive control functions.

In his discussion of the secondary process model of affect and cognition, Rapaport (1960) placed emphasis upon the importance of a structuralized delay process which was interposed between the onset of a drive at threshold intensity and the subsequent discharge of drive energy in thought or affect. This delay function would serve to free the organism from the impact of an immediate stimulus-binding process which would ordinarily predispose the organism to rigid instinctive or reflexive actions. Instead, this new delay process enables the organism to employ more flexible time-binding activities in thought and planned action. The developmental process by which this "time sense" is acquired has been suggested by Piagetian research and by psychoanalytic theory. In a review of psychoanalytic viewpoints of the development of the ability to perceive time, Wallace and Rabin (1960) suggested that the ability to perceive time develops along with the infant's experiences with frustration in the oral and anal stages. During these stages, the child learns that his efforts to relieve the tensions of hunger pangs and bowel and bladder pressure will occasionally be frustrated and that gratification must take place within an externally-imposed schedule. The impulse to immediately relieve tension soon becomes linked to cognitions of the socially sanctioned times, modes, and places in which tensions may be released. Among the symbols of time needed to demarcate delayed gratification are the concepts of "later", "tomorrow", "today", "soon", and "not

now".

Piaget's theory of time perception parallels the psychoanalytic notion of time perception quite well. For Piaget (1955), perception of time stems from a sensory-motor recognition of the waiting period between feedings. As the child overcomes the concrete egocentricity of earlier modes of cognition and moves into the world of external objects, his conceptualization of time becomes more abstract and can include the ability to extend time into the past and future (Piaget, 1955; Piaget and Inhelder, 1969).

Once the ability to construct and to organize events within a temporal framework has been acquired, the person can anticipate the positive and negative consequences of his actions and cognitions. Furthermore, he can overcome temporarily frustrating situations by planning future alternative operations and by drawing upon past experiences which could promise greater gratification. Consequently, one may draw the conclusion that different individual conceptualizations of time may lead to greater or lesser feelings of gratification, hope, or worry. Some clinical observations of the perception of time rates in patients with affective disorders seem to bear upon this point. It has been observed that manic patients experience time as moving rapidly while depressed patients experience time as moving slowly (Ellenberger, 1958; Mezay and Knight, 1965; Solomon, 1947; Strauss, 1947). Goldstone, Broadman, and Lhamon (1958) found that mood-elevating

drugs such as amphetamines appear to bring about the cognition that time is moving rapidly while depressants such as the barbiturates cause subjects to view time as dragging. Similar findings concerning time rate perception were obtained by Wessman and Ricks (1966, pp. 117-120), who observed that happy subjects tended to describe the passage of time as active and soaring while unhappy subjects tended to view time as a rigid, slow, imposing process.

Allied to the perception of the rate of time flow is the ability to extend time into the past and future. The ability to efficiently order activities and events into a continuum of past, present, and future should be a characteristic of relatively happy people. Freud (1917) noted that depressives tend to dwell mainly in their supposedly happier past and Jacobson (1957, p. 91) also took time perspective into account when she stated "Analogous to sadness, joyfulness also arises from a discrepancy, though from an opposite one: between a world unpleasant as it was and might continue to be, and pleasant as it turned out and is now is expected to be." Epley and Ricks (1963) developed a TAT time perspective scale and found that subjects with long prospective or future-oriented time spans were less anxious than subjects with short prospective time spans. Employing a subsample drawn from the same population from which Epley and Ricks (1963) obtained their subjects, Keniston's (1965) study of alienated men found that alienated men also showed an alteration in time perspective.

For these alienated men, the past was seen as irrelevant, the present was seen as dull and depressing, and the future was met with pessimism. Therefore, it can be seen that in elation or depression or in alienated detachment, time perspective appears to play an important role.

In the present study, the following predictions concerning the relationship of temporal orientation and future expectations to mood phenomena were made:

(1) Those subjects who viewed time as a force to be defended against and who felt that they were ruled by rather than rulers of time, would manifest lower mood levels, while those who could flexibly conceptualize time would manifest higher mood levels;

(2) Positive anticipations of the future would be related to higher mood levels.

Sensation-Seeking

Early psychoanalytic theory and Hullian behavior theory (Dollard and Miller, 1950; Hull, 1952) described drive tension reduction as a pleasurable and reinforcing condition. Freud's definition of the aim of an instinct states "The aim of an instinct is in every instance satisfaction which can only be obtained by abolishing the condition of stimulation in the source of the instinct" (Freud, 1915a, p. 86). Expanding upon the notion of tension reduction, Freud (1920, p. 21) further stated that "We believe, that is to say, that the course of

these [mental] events is invariably set in motion by an unpleasurable tension, and that it takes a direction such that its final outcome is a lowering of that tension-- that is, with an avoidance of unpleasure or a production of pleasure." Recent research in the field of animal behavior and sensory deprivation, however, indicates that many aspects of behavior cannot be explained as acts which are instrumental in drive reduction. Instead, many quite salient motivational states such as curiosity, activity, manipulation, exploration, competence, and effectence all seem to involve increases rather than decreases in tension (Fiske and Maddi, 1961; White, 1963).

In a revision of psychoanalytic theory which distinguishes between tension-increasing and tension-decreasing affects and cognitive modes, Schachtel (1959) described two kinds of affect: embeddedness-affect and activity-affect. Embeddedness affect is a tension-reduction process whose aim is to restore the person to the relatively tension-free state of the womb. An example of this type of affect would be anxiety which, according to Schachtel (1959, p. 44) "....is the embeddedness affect par excellence. It arises with any separation from the state of embeddedness or with the threat of such a separation if the person is or feels helpless to cope with the situation of separation." Activity affects, however, are directed and sustained emotions whose goal is to sustain tension through activity. The pleasure that most well-fed people experience with food would be an example of such an affect, for according

to Schachtel (1959, pp. 65-66), "This enjoyment, as distinguished from the relief of tension in stilling one's hunger, is characterized by opening oneself and becoming receptive to the specific quality of the stimulus encountered, staying for a few moments in that encounter, and being attentive to what one feels." According to this viewpoint, openness to experience and active processing and seeking of sensory information should lead to positive affects in some spheres of functioning.

Fiske (1961) proposed that tension increases and behavioral variability are more commonplace than tension-reduction and stability, and further proposed that variability would be highly adaptive by increasing the range of adaptive behaviors, by increasing flexibility, and by increasing the impact of a stimulus, thereby sustaining an optimum level of stimulation. Maddi (1961) stated that mild novelty would be accompanied by feelings of pleasantness and suggested that there were individual differences in stimulus-seeking and novelty-seeking tendencies.

In an attempt to develop a questionnaire measure of novelty-seeking, Zuckerman and his colleagues found that their scale, the Sensation-Seeking Scale (SSS), was positively correlated with the Minnesota Multiphasic Personality Inventory (MMPI) mania, impulsivity, and hypomania scales and was negatively correlated with the MMPI defensiveness scales K, L, and R (Zuckerman et al., 1964; Zuckerman and Link, 1968). In a study of psychopathy, Blackburn (1969) confirmed Zuckerman's

MMPI findings and Gorman (1970) found that the SSS was positively correlated with the Cattell 16PF F (surgency), M (imagination), Q_1 (radicalism), E (assertiveness), and H (adventurousness) scales and was negatively correlated with the 16PF N (shrewdness), G (superego strength), and Q_3 (self-sentiment control) scales. Thus the network in which the SSS is anchored suggests that sensation-seeking may be indicative of a zestful, non-defensive style which might correspond to Schachtel's concept of activity-affect.

In the present study, it was predicted that those subjects who claimed to prefer tension-increasing and novel experiences would report higher mood levels on the Wessman-Ricks (1966) Personal Feeling Scales, especially on the mood scales of Impulse Expression vs. Self Restraint and Feeling of Receptivity towards the World. It was further predicted that those subjects who preferred tension-increasing and novel activities would demonstrate greater mood variability than those subjects who disclaimed such preferences.

Conceptual Differentiation and Categorization Styles

The strategies by which an individual categorizes objects, persons, and events in his life should have important adaptational consequences. The ability to reconceptualize experiences on many levels may be unique to humans, for, according to Schroder, Driver, and Streufert (1967):

> Compared to that of lower animals, human thought is characterized by the generation of

> more alternatives. More meanings can be attributed to objects, and a greater number of connections (relations) between the meanings arise. In this way, human thought is less stimulus bound; action can be delayed; a given stimulus gives rise to a greater number of outcomes, creating more uncertainty and ambiguity. Taking an extreme case, the moth has no alternative when faced with a "light" and immediately flies toward it, whereas a human engages in complex thought processes, can perceive stimuli in many ways and can consider many ways of interrelating these perceptions for his adaptive purposes. In this sense, human thought has more degrees of freedom." (p.5)

One dimension of human cognitive processes that frees the individual for further actions can be found in conceptual differentiation. Goldstein and Scheerer (1941) observed that the "catastrophic" inability of brain-damaged patients to effectively deal with new situations was related to the patient's inability to go beyond the concrete bounds of a given situation and to finely differentiate among objects on several dimensions of meaning. One technique, developed by Goldstein and Scheerer (1941), the object sorting task, has found use in studies of the cognitive style "equivalence range" in normal subjects (Clayton and Jackson, 1961; Gardner et al., 1959; Gardner, Jackson, and Messick, 1960; Gardner, Lohrenz, and Schoen, 1968; Messick and Kogan, 1963; Sloane, Gorlow, and Jackson, 1963). When given a group of objects to be sorted into a set of categories, subjects may employ several, quite different sorting strategies. One grouping strategy can be seen in some subjects' attempts to sort objects into a few broad groupings. According to Gardner et al. (1959), these

subjects exhibit a low degree of differentiation or "broad equivalence range". An alternate strategy, which demonstrates a high degree of differentiation, or "narrow equivalence range", can be accomplished by sorting objects into many tight groupings of a few objects each. Each strategy might be adaptive for some tasks. For example. narrow equivalence range stylistic measures have been shown to be positively correlated with vocabulary tests in which a precise narrowing of meaning was required (Messick and Kogan, 1963), while broad equivalence range has been shown to be related to tasks requiring flexibility and preferences for complexity such as Guilford's Brick Uses test and the Barron-Welsh Art Scale (Gardner, Lohrenz, and Schoen, 1968).

Pettigrew (1958) has developed a measure of "category width" which measures a style which appears to be somewhat similar to equivalence range or conceptual differentiation (Sloane, Gorlow, and Jackson, 1963). In Pettigrew's test, subjects are presented with a mean quantitative value of a given object (e.g. the length of the average whale) and are then asked to choose estimates of the largest and smallest possible values of the given object. Those subjects whose upper and lower estimates greatly deviate from the mean value are said to display "broad category width" while those whose estimates remain close to the mean value are said to display "narrow category width". In a discussion of the cognitive aspects of conservatism, Wallach and Caron (1959) suggested

that narrow categorization behavior, with its emphasis of "straight-and-narrow" behavior, may be caused by a fear of independence.

Dollard and Miller (1950) spoke of another categorization principle, "labelling", which they felt might be important in the etiology of neuroses and in the course of psychotherapy. According to these authors, the difficulty and the malaise experienced by some neurotics may be partially related to difficulties in differentiating among people, motivational patterns, and feelings from context to context. Of this principle, they state:

> The neurotic is a person who is in need of a stock of sentences that will match the events going on within and without him. The new sentences (of psychotherapy) make possible an immense facilitation of higher mental processes. With their aid he can discriminate and generalize more accurately; he can motivate himself for remote tasks, he can produce hope and caution within himself and aid himself in being logical, reasonable, and planful. By labelling formerly unlabelled emotional responses, he can represent these responses in reasoning. (1950, p. 281).

Davitz (1964) provided some evidence that vocabulary ability aids in the identification of emotional states when he found that vocabulary measures were positively correlated with some measures of comprehension of emotional meaning.

In the present study, it was predicted that the previously mentioned categorization principles and styles would influence three aspects of mood: mood levels, mood variability, and mood differentiation. Specifically, the following

predictions were made:

(1) Narrow equivalence range would be positively correlated with mood differentiation. Thus, the person who could perceive objects as belonging to small, compartmentalized groups would also be likely to construe his own mood ratings on the 14 scales from the Wessman-Ricks (1966) PFS as being independent of each other -- i.e. he would produce more mood factors or dimensions.

(2) Narrow category width would be negatively correlated with within-day mood variability. Thus, the person who would rate objects as belonging to a narrowly defined domain which is centered about some average value would also be likely to construe the range of his own moods as belonging close to his average daily mood ratings.

(3) Measures of vocabulary level and affective word fluency would be positively related to mood differentiation. Therefore, in accord with Dollard and Miller's speculations that the possession of labels of affects will facilitate discrimination of internal and external processes, it was predicted that the person who possessed more mood labels and who had greater facility in labelling events and objects would be likely to report more discrete mood states rather than conglomerates of many mood states.

Locus of Control

Individuals, as well as cultures, markedly differ in the tendency to perceive events as controlled by impersonal fate and chance as opposed to event control by personal skill and effort. Cantril (1965) felt that beliefs about the control of events were crucial variables which influence a person's sense of well-being. Cantril (1965, p. 316) stated "The fears, worries, and apprehensions people express are by definition that their desires will not be attainable or that conditions beyond their control will so upset the order of things that aspirations will not be realized." In Western culture, with its avowal of the Protestant Ethic (Weber, 1930), which emphasizes individual effort and competition, those who can comply with this ethic should feel rewarded while those who fail to meet its conditions should feel punished.

Investigations of correlates of individual expectancies of skill vs. chance control have been extensively conducted by Julian Rotter and his students (Rotter, 1966; Lefcourt, 1966). Rotter's construct "Internal vs. External Locus of Control" was defined by Lefcourt (1966, p. 207) as follows: "Internal control refers to the perception of positive and/or negative events as being the consequences of one's own actions and thereby under personal control; external control refers to the perception of positive and/or negative events as being unrelated to one's own behaviors in certain situations and therefore beyond personal control." Rotter developed a questionnaire

scale, the Internal-External Locus of Control Scale (I-E; Rotter, 1966) to measure these beliefs. Since its development in the 1950's, at least 200 studies have investigated the validity of the internal vs. external locus of control construct and its measure, the I-E scale, and have found this construct to be related to many socialization, attitudinal, achievement, and personality trait variables (Lefcourt, 1966; MacDonald, 1970, Rotter, 1966).

Previous studies of locus of control have suggested that this construct might be of value in investigating mood correlates. In a study of normal college students, Hersch and Scheibe (1967) found that external scorers on the I-E scale were likely to receive low scores on the California Personality Inventory Well-Being and Good Impression scales, low scores on the Gough Adjective Checklist scales Number of Favorable Adjectives and Self-Confidence, and high scores on the Gough Adjective Checklist scale Abasement. Abromowitz (1969) found that external control beliefs were correlated with high scores on the Depression scale of Guilford's STDCR inventory. Gorman (1968) gave the Rotter I-E scale to a group of Eugene McCarthy's supporters on the morning after the Democratic National Convention and found that these previously internally oriented disappointed subjects were significantly more externally oriented than any other group tested to date and suggested that a shift in locus of control might be accompanied by a shift in mood level.

In a study of manic and depressive patients, Harrow and Ferrante (1969) found that externality, or beliefs concerning control by luck, fate, or powerful others, was associated with depression while internality or the belief that events are controlled by the subject's own efforts, skills, and internal dispositions, was related to manic states. As in the Hersch and Scheibe (1967) study, Harrow and Ferrante found that ratings of self-confidence were positively related to internality and that feelings of frustration were related to externality. As depressive patients recovered, their I-E test scores shifted from external to internal control endorsements.

The specific predictions of the present study were that internal control beliefs, as measured by the I-E scale, would be positively correlated with avowals of higher levels of positive mood on the Wessman-Ricks PFS scales of Elation vs. Depression, Personal Freedom vs. External Constraint, and Self-Confidence vs. Feelings of Inadequacy. So that the more a person reported confidence in the control of his own destiny, the happier, freer, and more confident he would report himself to be. It was further predicted that the external scorer, who might have felt that he was buffeted about by forces beyond his control, would report greater mood variability.

Defensiveness

The modes and situations in which affects may be displayed are heavily sanctioned by most, if not all, societies (Goffman,

1963, 1967; Hall, 1959). Although differing in the degree to which affective behavior is actively regulated, it appears that most societies make a dichotomy between affective and cognitive task functions. In psychological theories, this separation appears in aspects of the psychoanalytic formulations of the defense mechanisms (Fenichel, 1945, pp. 141-157) and in Jung's discussions of the opposition between "thinking" and "feeling" functions. The separation of affective experience and cognitive experience seems to serve the cultural functions of allowing the relatively businesslike task functions to operate with impersonal efficiency without interruption from the more personal affective functions. In order to insure the efficiency of the cognitive task functions, displays of affect are permitted only in very carefully defined and regulated situations. Taboos against personal affective disclosure appear to be deeply ingrained within the personality structures of most people (Jourard, 1964; Tomkins, 1970).

Tomkins (1970, p. 107) explains that the self-disclosure taboo serves three functions: (1) it prevents the likelihood of affective contagion in others, (2) it prevents others from engaging in or enjoying a "promiscuous" affective involvement, and (3) by camouflaging affect from others, the taboo would prevent others from using affective cues for controlling the person's otherwise private feelings. Failure to obey these taboos would be accompanied by anxiety, shame, and guilt. Therefore, in mood avowals, defenses against anxiety and guilt

aroused by affective self-disclosure should be recognized as potentially important mood regulators. Similarly, the use of defensive tactics to shield the person from the stress producing aspects of unwanted cognitions, should be studied.

Crowne and Marlowe's studies of social desirability (Crowne and Marlowe, 1964) provide support for the contention that social approval may be gained by subduing tabooed affects in favor of socially sanctioned affects and task behavior. In their studies of social desirability, which they had considered to be a special manifestation of a need for social approval, Crowne and Marlowe found that subjects who received high scores on their social desirability measure also indicated a lack of revealingness and a high degree of defensiveness on the Rorschach, TAT, and Rotter Incomplete Sentence Blank tests. In questionnaire measures such as the MMPI, social desirability scale scores were positively correlated with the MMPI defensiveness scales K and L were negatively correlated with the MMPI pathology scales D, F, Pd, and Sc. High need for approval subjects were also found to be defensive in non-test behaviors. For example, these subjects were rated as more defensive in psychotherapy and were more likely to withhold taboo words and change responses in a perceptual defense experiment.

In a task which parallels Marlowe and Crowne's findings of a relationship between measures of trait defensiveness and defensive behavior, Lazarus (1966, 1970) showed subjects a stress-inducing film of subincision rites among Australian

aborigines. Those subjects who were classified as repressors tended to verbally report very little felt stress but displayed large autonomic reactions to stress while those subjects who were classified as sensitizers displayed the opposite pattern.

Wessman and Ricks (1966) found that the MMPI defensiveness scales, K and L, did not bear any significant correlations with mean levels of avowals of happiness (i.e. elation-depression) on the Personal Feeling Scales for their subjects. However, the L scale did bear a significant negative correlation with mood variability measures and suggested that mood stability might be accomplished, in some subjects, by repression and by conscious suppression. Although Wessman and Ricks (1966) did not find any significant correlations between happiness levels and the MMPI L and K scales, this finding may be due, in part, to the fact that their subjects were involved in a three-year assessment project in which unusual rapport between subjects and research staff members was established and presumably the tendency to be defensive in reporting moods was lessened.

It was predicted that defensiveness would relate to ratings of mood level and to ratings of mood variability. Specifically, the hypotheses were:

(1) Relatively more defensive subjects would tend to avow higher mood levels on the Wessman-Ricks Personal Feeling Scales, and would be likely to report

less anger and less anxiety than would relatively less defensive subjects.

(2) Defensive subjects would report less mood variability on the Personal Feeling Scales. As "moodiness" is often considered to be an undesirable trait, defensive subjects would be less likely to report and/or recognize mood variations.

Rigidity

Popular usage of the term "up tight" to describe the over-controlled, non-spontaneous, and antihedonic person bears a close resemblance to the term "rigidity" which has frequently appeared in cognitive, neuropsychological, and psychoanalytic literature. Unfortunately, very little convergent validity can be found among the tests and measures employed to measure rigidity (e.g. Chown, 1959; Leach, 1967). Various tests and measures of rigidity do not intercorrelate highly and, in a few cases (Breskin, Gorman, and Hochman, 1970) have been found to be negatively intercorrelated. At times, the term "rigidity" has appeared as more of a clinical invective and value judgment than as a behavioral construct. However, most concepts of rigidity refer to a person's attempts to maintain rather precariously balanced and closed personality or cognitive systems which resist the imbalancing forces of new information by acting in a stereotypical manner. Although little communality has been observed among existing measures

of rigidity, the particular measures themselves may be important components of other constructs yet to be established and may still provide valid information.

The rigid person should be rather limited in being able to find sources of gratification. By compartmentalizing his world into discrete, conventional units, the alternative plans for gratifying actions which might be found by unconventional and more flexible means would not be available. By keeping his feelings under tight control, he might lack the spontaneity with which he could profitably relate to the world. Some research and theoretical speculations point to the conclusion that rigid and flexible subjects tend to experience moods quite differently.

In a discussion of memories recovered through free association techniques, Schachtel (1959; p. 316) spoke of the limitations of the rigid person when he stated that "The more rigid, controlled, and automaton-like a person is, the more all his thinking is under the grip of the conventional schemata of thought, experience, and feeling, the more difficult it will be for him to recover any experience that does not fit into the conventional patterns that govern his life....The same is true if he cannot relax from the purposeful "useful" pursuit of some activity or thought and let his thoughts wander."

Gough and Sanford (1959) collected the self-descriptive statements of subjects who received high and low scores on the California Personality Inventory, Flexibility-Rigidity scale

and found that rigid subjects tend to describe themselves as less fickle, more independent, less spontaneous, less pleasure-seeking, less sharp-witted, less mischievous, and more serious than flexible subjects tended to describe themselves. In a discussion of mood variability, Wessman and Ricks (1966, pp. 186-187, 190-195, 239-241) observed that those subjects whose moods remained stable were cautious, non-spontaneous, isolated, insufficiently friendly, insufficiently warm, constrained, and lacking in originality. Wessman and Ricks' (1966) descriptions of stable men seem to share some communality with descriptions of the characteristics of rigid people and suggest that rigidity might be an important regulator of mood variability.

In the present study it was predicted that rigid subjects would be less variable in their moods than flexible subjects. By maintaining a closed cognitive system which would screen out discrepant information and by declining to participate in ventures that would provide new experiences, rigid subjects would be likely to maintain stability.

General Plan and Purpose of This Research

The previous empirical findings, clinical observations, and theoretical discussions have suggested that cognitive control and cognitive style variables would be important correlates of affective experiences and, specifically, should be

related to levels, variability, and differentiation of avowed moods. It was further proposed that cognitive controls and styles would affect the specific content and form of such mood reports.

In order to investigate these hypotheses concerning the relationship of cognitive controls and styles to mood, a multivariate factor analytic strategy will be employed. If the cognitive controls discussed in previous sections are meaningful constructs, then the underlying factor structure of a battery of such cognitive control measures should reveal factors bearing resemblance to the discussed factors. Then, by examining how mood level, mood variability, and mood differentiation measures produce factor loadings on the obtained cognitive control factors, evidence bearing on the hypotheses that cognitive control factors are related to these aspects of mood can be examined.

As a subsidiary analysis, the structure of mood ratings on the Personal Feeling Scales (Wessman and Ricks, 1966) will be examined by factor analytic techniques in order to discover possible ways of ordering and categorizing mood data. It is hoped that by the use of these techniques, partial answers could be obtained to such questions as: "How many dimensions are needed to describe mood experiences?"; "Are there different kinds of mood experiences?"; and "What are the cognitive controls that accompany different mood dimensions?".

The next chapter will describe the methodology of the

research and will present the tests and measures of cognitive controls, cognitive styles, and moods that are employed. The procedures and statistical techniques employed for investigating the relationship of cognitive control variables to reported mood experiences will be clarified.

CHAPTER II

METHOD

In this chapter, the procedures and methods employed in obtaining measures of cognitive styles, cognitive controls, and mood variables are discussed. Two strategies of data analysis were carried out.

In the first strategy, cognitive style measures were considered as "independent" variables and mood variables were considered as "dependent" variables. A factor analysis of cognitive style measures was performed and estimated factor loadings of mood variables onto the cognitive style dimensions were obtained by means of Dwyer's (1937) factor extension technique. In the second data analysis strategy, mood variables were considered to be "independent" variables and cognitive control variables were considered to be "dependent" variables. In this strategy, factor structures of mood data were obtained and estimated factor loadings of cognitive control and cognitive style measures on the resulting mood data structures were obtained.

Subjects

The subjects were 20 men and 47 women who were enrolled in the author's undergraduate abnormal psychology course at

Nassau Community College during the summer of 1970. In order to avoid a possible source of response bias which might have arisen if subjects had been heavily exposed to psychoanalytic theories, the abnormal psychology course was designed around a behavior modification approach and Ullman and Krasner's behavioristic textbook, A Psychological Approach to Abnormal Behavior (1969), was employed as the main textbook. Not until data collection was complete was there any elaborate discussion of the more "dynamic" approaches to abnormal psychology or of the purpose of this study. All subjects were volunteers who received additional laboratory/field work credit for their participation in the study.

The median age of the subjects was 20 years with a range of 18 years to 40 years of age. Eighty percent of the group were single, six per cent were divorced, and fourteen per cent were married at the time that the study was conducted. By examining the occupations of the fathers of the subjects, it could be seen that the subjects came from solidly middle-class backgrounds, with 21% of the fathers professionals, 35% proprietors or managers, and 44% either clerks or skilled workers. Thirty-five per cent of the subjects were Roman Catholics, 31% were Jewish, 19% were Protestants, and 15% reported no religious preference.

Recruitment of Subjects

All subjects were told that participation in the study

would be voluntary and that all data obtained from them would be confidential. It was explained to all subjects that if they did decide to participate in the study, their participation, which would take a considerable amount of time, could be considered as additional laboratory work and would be credited to course grades. It was further explained to them that although the study would not involve any deception, knowledge of the meanings of the tests and measures might contaminate results. Potential subjects were then told that a complete explanation of the design and findings of the study, as well as all individual scores, would be given to them when data collection was complete.

To further insure confidentiality and to decrease resistances concerning self-disclosure, all subjects chose pseudonyms for themselves which were paired with random subject identification numbers. Unless they chose to do otherwise, the identity of the subjects was known only to the subject himself. Out of 70 potential subjects, 68 volunteered to be subjects and of these 68 subjects, all but one completed all of the tests and measurements.

Mood Assessment

The Wessman-Ricks Personal Feeling Scales (PFS: Wessman and Ricks, 1966, pp. 26-28, 267-275) were employed as the instrument for mood measurement in the study as this instrument

was specifically designed for measuring day-to-day mood changes in long-term studies.

The PFS

The PFS consists of 16 rationally-derived 10-step mood scales. Each scale is a monotonic scale which describes a bipolar mood dimension such as elation vs. depression, harmony vs. anger, etc. Each step on each scale was designed to represent approximately subjectively equal intervals so that the responses, both within subjects and among subjects, would be comparable for all scales. The only changes from the original Wessman and Ricks (1966) form, was that the PFS form in the present study used 14 out of the original 16 scales, and the rating categories were numbered 0 to 9 rather than the original 1 to 10 in order to facilitate data analysis by IBM equipment (Appendix A contains the present PFS form).

Procedure

All subjects were asked to respond each night, before retiring, to each of the PFS scales by reporting their highest (peak), lowest (trough), and average point experienced during the day by recording the number which corresponded to the PFS scale steps on an answer sheet, the "Daily Record of Personal Feelings" (Appendix B). The daily record form contained additional scales in which the subject was asked to report his state of physical health, amount of sleep experienced on the

previous night, use of alcohol, marijuana, amphetamines, barbiturates, and LSD, and in the case of women, whether the woman was shortly expecting to menstruate or was menstruating.

In case subjects forgot to complete the scales at night, they were instructed to complete the scales on the next morning, but no later than then. All subjects reported a minimum of 25 days' moods and 86% of the subjects reported 28 days' moods.

Mood Data Collection

As the sections in which the subjects were enrolled met on Monday through Thursday mornings of each week, subjects returned their daily mood report forms in their next morning's class. Thursday, Friday, Saturday, and Sunday night reports were returned on Monday mornings. Each subject was given extra daily report forms so that he could continue the self-ratings in case he had to be absent from class for any reason. Data were then transcribed by an undergraduate student assistant onto IBM mark-sense sheets and were later converted to punch card information. In order to reduce clerical errors, all data were double checked when transcribed from daily report forms to mark-sense sheets and checked again when data were converted from mark-sense sheets to punch cards.

Analysis of PFS Mood Data

Each subject's daily mood reports for the 28 days of the study formed a 51 by 51 variable data matrix (consisting of 42 daily mood reports and 9 non-mood reports) with 28 observations in each cell. Data from this matrix was subjected to factor analysis by P-technique factor analysis (Cattell, 1963), and employed a principal components factor solution. The factor analysis employed unities in the diagonal as communality estimates. From the factor analysis and its by-products, mood level, mood variability, and mood differentiation scores were derived for each subject for the entire set of 14 scales. These scores were derived as follows:

(1) Mood level scores. This set of scores was derived by calculating the mean daily ratings of each subject's peak, average, and trough mood ratings on each of the 14 PFS scales and the nine non-mood daily report form scales taken over 25 to 28 days. In all, there were 51 scores of this type for each subject (14 mood scales, 3 ratings on each scale, and 9 non-mood scores). As in prior research using this method, it was assumed that the mean of the daily ratings on each mood scale would provide a highly reliable indicator of the general overall mood level on that mood for each subject during the rating period.

(2) Day-to-day mood variability scores. This set of scores was calculated by obtaining the standard deviation of each subject's peak, average, and trough ratings on each of the scales for the 25-28 days. By the use of this statistical index, the data across days from an extremely variable subject would generate a large standard deviation on the particular measure; while the data from an extremely stable subject would generate a small standard deviation.

(3) Within-day mood variability scores. The score employed for within-day variability was the mean daily range on the Elation vs. Depression scale of the PFS. This variability score was computed by subtracting the mean daily trough rating from the mean daily peak rating on the scale. It represented the average spread between the highest and lowest point reported on that scale within a single day. By the use of this statistic, a variable subject would produce a large mean daily range and a stable subject would produce a small mean daily range. Previous research (Wessman and Ricks, 1966, pp. 184-185) had indicated that the Elation vs. Depression scale of the PFS had the largest communality with all other scales and thus the mean daily range was computed only for this scale.

(4) Mood differentiation scores. Mood differentiation was defined in terms of the degree of differentiation and complexity vs. non-differentiation in the factor structure of each subject's set of reported feelings during the 28 days. Four indices of mood differentiation-nondifferentiation were derived from the P-technique factor analysis of each subject's 51 by 51 matrix of PFS ratings. Four measures were employed because no consensus has yet been reached as to which metric is the most appropriate measure of mood complexity or differentiation (Frank, 1967). It was also felt that each measure might assess different aspects of mood differentiation. The four measures were:

(a) Percentage of variance accounted for by the first factor. In principal axes factor analysis, the first factor to be extracted accounts for the largest proportion of variance of any factor in the factor matrix. Therefore, if the first factor of a S's matrix accounted for a relatively large proportion of the variance, then much of the mood ratings should be highly associated and tend to be interrelated in a rather global, undifferentiated pattern. Conversely, if the first factor accounted for a small proportion of variance, the set of mood ratings would be only

slightly correlated and would tend to be highly differentiated and complex.

(b) Average correlation among mood ratings. This index was derived from the factor analysis data by the use of the following formula:

$$\text{Average Correlation} = \frac{(\text{Sum of communalities}) - 1}{(\text{Number of variables}) - 1}$$

Large intercorrelations among the set of mood ratings would indicate a lack of differentiation while a small average intercorrelation would indicate higher complexity and differentiation.

(c) Number of factors which accounted for 90% of the variance of the factor matrix. With this measure, a large number of factors would tend to indicate greater differentiation and complexity while a smaller number of factors would describe a more compact matrix and, therefore, less differentiation and complexity.

(d) Number of factors accounting for more than 10% of the variance each. A count was made of the number of factors which accounted for more than 10% of the variance each. The purpose of the 10% criteria was to pick factors which each accounted for a substantial amount of variance. As with the 90% criterion, the more factors, the greater the mood complexity and differentiation.

Assessment of Cognitive Styles and Controls

On several occasions during the study, the subjects were given various group-administered measures of the cognitive styles and controls described earlier. Most of the test administrations were approximately 20 minutes in length and the total battery took about five hours to administer. In case subjects were absent when a particular test or measure was administered, efforts were made to re-administer the test in a group setting at a later time. The cognitive style variables and the tests employed to measure them will now be presented.

Field Articulation

Field articulation was assessed by two "flexibility of closure" tests included in the E.T.S. Kit of Reference Tests for Cognitive Factors (French et al., 1963; Jackson, Messick, and Meyers, 1964). The first test, the Hidden Figures Test - Cf-1 (Part 1), was a 16-item multiple choice test in which the subject's task was to find out which one of five simple figures was embedded in a given complex figure. The score on this test was the number of simple figures correctly identified within the 16 complex figures in a 10-minute time limit. A high score on this measure was indicative of field-independence. An additional score, designed to measure field-dependence and/or

impulsivity (in females) was the number of Cf-1 items which were attempted but which were incorrect (Messick, personal communication). (Appendix C)

The second test, the Hidden Patterns Test - Cf-2 (Part 1) (French et al., 1963) was a speeded test in which the subject was presented with a single simple figure and was asked to check the instances in which 200 complex figures contained the simple figure. The score on this test was the number of items correctly identified within a two-minute time limit. As in the Cf-1, a larger number of correctly identified figures was indicative of field-independence while a smaller number of figures correctly identified was indicative of field-dependence. (Appendix D)

Temporal Orientation and Future Expectation

Temporal orientation was measured by four of Calabresi and Cohen's (1968) factorially derived time attitude scales and by Cantril's (1965) Personal Ladder Scale.

(a) The Time Anxiety scale. This was a 16-item scale (Calabresi and Cohen, 1968) which contained items which referred to anxiety about the flow of time, fear of the future, and a longing for the past. (Appendix E)

(b) The Time Submissiveness scale (Calabresi and Cohen, 1968) was a nine-item scale which contained items referring to a conforming, pedantic attitude toward

punctuality. (Appendix E)

(c) The Time Possessiveness scale (Calabresi and Cohen, 1968) was a five-item scale containing items refering to a greedy and possessive attitude toward time. (Appendix E)

(d) Time Flexibility (Calabresi and Cohen, 1968) was an eight-item scale which contained items referring to an accepting and flexible attitude toward time. (Appendix E)

All of the Calabresi and Cohen (1968) time scale items were presented in six-point Likert-type formats and each scale score was obtained by summing ratings of each question in the scale.

The second time orientation measure to be employed was Cantril's Personal Ladder Scale (Cantril, 1965) which would appear to reflect future expectations and confidence. In this scale, Ss were presented with a diagram of a ladder with ten 1-cm. steps and were instructed:

> Above you'll see a numbered ladder. Consider the top of the ladder as the best possible life for you and the bottom of the ladder as the worst possible life for you. Please place an X to indicate where you feel that you are now. Please place a Y at the point where you were five years ago. Please place a Z at the point that you feel that you will be at five years from now.

Each subject's X, Y, and Z scores indicated his subjective satisfaction with his present and past and his expectations for the future. In order to obtain a set of estimates of subjective confidence and hope, absolute differences between

each subject's X, Y, and Z ratings were calculated. Absolute differences, rather than signed differences, were employed in order to reduce the possibility of the formation of artificial factors by linear dependencies among scores. Unfortunately, the use of this procedure also precluded the possibility of negative differences which would measure a kind of pessimism. (Appendix F)

Sensation-Seeking

Sensation-seeking was assessed by means of the Zuckerman et al. (1964) Sensation-Seeking Scale (SSS, Appendix G) and Pearson's Internal and External Sensation-Seeking Scales (Appendix H).

The Zuckerman et al. (1964) SSS is a forced-choice questionnaire in which one choice in each item pair mentions a novel, sensual, or active behavior while the other choice mentions a more prosaic, subdued activity. The score for this measure was the number of active choices endorsed by the subject.

The Pearson (1970) External Sensation-Seeking scale asked the subject to check those exteroceptive activities such as sports and exploration activities that he might prefer while the Internal Sensation-Seeking scale asked subjects to choose interoceptive activities such as fantasy and observation of bodily processes that they might prefer. The score for both of Pearson's (1970) scales was the number of activities chosen

from each scale.

Conceptual Differentiation and Categorization Styles

Conceptualization and categorization styles were assessed by the following instruments:

(a) Clayton and Jackson's (1961) Object Sorting Test. Subjects were presented with a list of 50 objects which they were instructed to sort "into any way that seems most natural, logical, and most comfortable to you." Subjects were further instructed to place any object into no more than one group and to place any left-over objects into groups by themselves. (Appendix I)

Two scores were obtained from this test. The first score was the number of object groups formed, and the second score was the number of miscellaneous objects left ungrouped. This procedure was followed because Messick and Kogan (1963) demonstrated that two factors might be present in the object sorting test. The first factor, which corresponded to the number of groups formed, appeared to measure "broad vs. narrow equivalence range" while the second factor, corresponding to the number of objects left ungrouped, appeared to measure a compartmentalization style.

(b) Scott's Nation Sorting Test. This test (Scott, 1962) employed the same instructions and scoring procedures

as the Clayton and Jackson (1961) Object Sorting Test but employed the names of 28 countries instead of object names. (Appendix J)

(c) Pettigrew's (1958) Category Width Test. This was a multiple-choice test (Appendix K) in which subjects are presented with an average value of a given object and are asked to choose estimates of the largest and smallest values of the object. A subject's score on this test was based on the degree to which he chose estimates close to or distant from the given average value, so that a large deviation from the average was indicative of broad category width.

(d) The Advanced Vocabulary Test V-4 (French et al., 1963) was employed as a measure of language facility. This test is an 18-item multiple-choice questionnaire which is scored for the number of words correctly matched. (Appendix L)

(e) Mood Word Fluency Test. This instrument was devised for the present study as a measure of each subject's mood label repertoire. In order to assess the subject's initial mood repertoire, this test was given at the very first class session so that the regular reporting of moods on the PFS would not give the subjects words that they did not already possess. The score was the number of words mentioned in three minutes. (Appendix M)

Locus of Control

Rotter's (1966) Internal vs. External Locus of Control Scale (I-E) was employed as a measure of the degree to which a subject tended to perceive events as impersonal fate or chance controlled as opposed to personal skill or effort controlled. The I-E scale is a 23-item forced-choice scale (in addition, there are 6 filler items) in which one item in each pair refers to internal control while the other item refers to external control. The score on this test was the number of external control choices that were endorsed by the subject. (Appendix N)

Mirels (1970) found that the I-E scale contained two factors: (1) a belief concerning felt mastery over the course of one's life and (2) a belief concerning the extent to which individual citizens are deemed capable of exerting an impact on political events. As Mirels' first factor was relevant to the hypotheses of the present study, a separate score was recorded for the subject's responses to Mirels' first factor items.

Defensiveness

Crowne and Marlowe's (1964) Social Desirability scale and the Repression, Shallow Affect, and Mood Fluctuation scales of Jackson and Messick's (1964) Differential Personality Inventory (DPI) were employed as measures of defensiveness.

The Marlowe-Crowne Social Desirability scale (MCSD,

Appendix O) is a 33-item questionnaire composed of items describing behaviors that are either socially desirable but infrequent, or socially undesirable but quite frequent. The subject's score was the number of items endorsed in the socially desirable direction.

The DPI Repression scale (Jackson and Messick, 1964; Appendix P) is a 20-item questionnaire containing items which measure such aspects of repression as denial of hostility toward significant others, avoidance of tension-producing activities, and avoidance of recall of past events.

The Shallow Affect scale of the DPI (Jackson and Messick, 1964; Appendix P) is a 20-item true-false questionnaire which refers to a general lack of feelings of involvement in activities and to avowed emotional insensitivity.

The DPI Mood Fluctuation scale (Jackson and Messick, 1964; Appendix P) presents the subject with 20 items referring to day-to-day as well as within-day mood fluctuations. The three DPI scales were scored in the direction of high preference for repression, shallow affect, and avowals of mood fluctuation.

Rigidity

Rigidity was assessed by three figural preference tests and by one self-report questionnaire. The first test to be employed, the nonverbal Breskin Rigidity Test (BRT; Breskin, 1968, Breskin and Gorman, 1969; Gorman and Breskin, 1969) is a 15-item

forced choice test in which each item pair contains one figure which meets the Gestalt criterion of "good fit", while the alternate figure contains the same number of elements as the first figure but violates "goodness of fit". On the assumption that more rigid subjects would tend to choose "better fitting" figures; choices of simple, symmetrical, "good fit" figures were credited toward rigidity. (Appendix Q)

The Barron-Welsh Art Scale (BWAS; Barron and Welsh, 1952) presents subjects with a set of figures which differ in complexity, shading, and symmetry. The score on this test was the number of unusual figures selected according to the key in the Barron-Welsh test manual. (Appendix R)

The Barron-Welsh scale, in its original form, asks subjects whether they like or dislike each figure in the test booklet presented to them. It was suspected that an acquiescent or negativistic response set might bias the test results and, thus, a forced-choice version of the scale, the Figure Choices Test, (BWASFC; Messick and Kogan, 1965) was also employed. In this new format, 20 simple, symmetrical, and unshaded figures were paired with figures displaying correspondingly opposite characteristics. In addition, 10 set-breaking item paids consisting of simple figures paired with simple figures or complex figures paired with complex figures, were included. The score on this test was the number of pairs out of the 20 pairs in which the more elaborate figure was chosen. (Appendix S)

The Gough-Sanford Rigidity Scale (Rokeach, 1960) is a 22-item scale now included in the California Personality Inventory. In this scale, subjects are asked to endorse items which refer to preferences for routinized activities, adherence to social conventions, compulsions, and obsessions. A high score on this scale is indicative of greater rigidity. (Appendix O)

Analysis of Mood and Cognitive Control Data

For the final overall data analysis, each subject's mood level, mood variability, and mood differentiation scores (the latter obtained by P-technique factor analysis) were combined with his cognitive control scale scores for analysis by R-technique factor analysis. Because the LSD usage scale of the Daily Report form was endorsed by only three of the subjects, and because the menstruation scale would obscure results when male and female data were combined, these variables were excluded from final analyses of the data. Thus, in all, there were 135 scores for each subject as follows: 33 cognitive control test scores, 42 mean scores on the peak, average, and trough daily mood levels, 42 standard deviation scores on peak, average, and trough mood variability, 7 non-mood daily report scores (health, drugs, sleep, academic work), 1 mean daily range score for elation-depression, 4 mood differentiation and complexity scores, and a dichotomous sex marker variable

(1 = male; 0 = female).

Because the large number of variables used in the present study was a great deal for the computer to handle and would tend to produce many unwanted and obscure factors, the full set of data was partitioned into two separate but related analyses which each employed Dwyer's (1937) factor extension technique. The common starting point for each analysis was a submatrix composed of the 33 cognitive control scores and the sex marker variable. This submatrix was then factor analyzed by the principal axes method and was rotated to approximate orthogonal simple structure by Kaiser's (1958) Varimax technique. Communalities were estimated by first placing unities in the diagonal and then, by iteration, final estimates were obtained. A factor was considered significant if it had a latent root greater than 1.0 and accounted for greater than 5% of the total variance. Then, in the further analysis, either (1) the mood level scores, combined with the seven non-mood scores, and the mean daily range score; or (2) the standard deviation variability scores, combined with the mood differentiation and mean daily range score were extended onto the initial cognitive factor submatrix by Dwyer's (1937) factor extension technique. By the use of this technique, the original 33 variable factor structure was not destroyed and least squares estimates of the factor loadings of the mood variables on the cognitive control factors were obtained. The findings from these interrelated analyses constitute the major

concern of this report.

However, in order to investigate the structure of the mood variables, two additional separate factor analyses of the mood level and mood variability data also were performed by employing a principal axes factor analysis technique and employing the same factor significance criteria. In this way, an alternate analysis of the data, that of examining how cognitive control variables fit into mood structures, was also performed.

Although it was doubted that there would be sex differences in the factor patterns of the present study, as a precautionary measure, separate analyses of male and female data were performed by the use of the previously mentioned techniques.

The techniquesof data collection and analysis that have been described make possible a complex and detailed investigation of the relationship of cognitive characteristics and affective experience in personality.

CHAPTER III

RESULTS

This chapter will report the empirical findings concerning the relationship of cognitive style measures and mood characteristics. The approach will be first through a factor analysis of the cognitive style variables to discover their basic structures and dimensions. Then these cognitive style dimensions will be systematically related to the mood characteristics measured during the four-week study of daily moods. To aid in understanding, some interpretations will be given to clarify the findings; but the main discussion of the interpretations and implications of the findings will be found in the next chapter.

Preliminary Analysis of the Effects of Sex Differences

Because the experimental sample included 20 male and 47 female subjects, and because the combined sample of 67 subjects would provide a greater opportunity to observe any significant correlations among variables; it was first deemed necessary to examine the effects of sex differences (both in the mean levels of the cognitive and mood variables and in their resulting factor structures) in order to decide whether pooling of male and female data would seriously distort the

interpretation of the data. In order to examine such sex differences, biserial correlations were computed between each of the cognitive control and mood variables and the subject sex marker variable. A search was also conducted to see if the sex marker variable entered into any of the cognitive factors obtained by factor analysis.

Slight sex differences were noted in three cognitive control scales: the Pearson (1970) External Sensation-Seeking scale (r_{bis} = .28, t = 2.13, df = 65, p < .05), the Pettigrew (1958) Category Width Test (r_{bis} = .27, t = 1.90, df = 65, p < .10), and the number of miscellaneous groups score on the Clayton and Jackson (1961) Object Sorting Test (r_{bis} = .30, t = 2.09, df = 65, p < .05). These findings indicate that men preferred more exteroceptive activities, employed wider category widths, and tended to leave more objects ungrouped in the object sorting task. On the PFS mood level scales, males tended to report slightly greater satisfaction on the peak and average Love and Sex scales (r_{bis} = .33, .25, respectively, p < .05) and reported greater self-confidence on the peak and average Self-Confidence vs. Feelings of Inadequacy scales (r_{bis} = .27; .25, respectively, p < .05) and somewhat greater satisfaction on the peak and average Thought Processes scales (r_{bis} = .29; .25, respectively p < .05). No significant correlations were observed between the sex marker variable and the mean daily range score, the standard deviation variability scores, or the mood differentiation scores.

A preliminary examination of the combined male and female factor analysis data indicated that the sex marker variable did not produce loadings on any of the obtained factors. An examination of the cognitive control factor analysis of the female data (Appendix T) and the cognitive control factor analysis of the combined sample indicated that the factors obtained in both analyses were quite similar.

Because the number of variables for which there were even any slightly significant correlations with sex differences were quite small, and because sex differences did not enter or interfere with any of the obtained factor structures, subsequent discussions of results will be based upon the data of the total sample of 20 men and 47 women.

Styles and Mood Characteristics

We may observe first that this analysis of intercorrelations of cognitive style measures with measures of mood level, variability, and differentiation confirmed the general expectation that a variety of cognitive control variables would be related to mood variables. A considerable number, but not all, of the specific hypotheses were supported. (See Appendix U for correlations of cognitive control scores with mood level scores; Appendix V for correlations of cognitive control scores with mood variability scores). Initially we will discuss the factor analysis of the domain of cognitive style measures,

and then consider how each of the cognitive style factors relates to the various mood characteristics.

As described in the preceding chapter, the basic submatrix of cognitive control measures was factor analyzed by the principal axes method. It yielded eight factors, accounting for 84% of the total variance, whose latent roots were greater than unity. These eight factors were then rotated to approximate orthogonal simple structure by Kaiser's (1958) Varimax technique. Mood variables were then extended onto the cognitive control factor structure by means of Dwyer's (1937) factor extension technique. Table 1 presents the factor analysis of the full cognitive style matrix. In order to clarify interpretations of the factors, only the loadings of variables whose factor loadings were ±.30 or above are displayed in Table 1.

In the sections that follow, the content of each cognitive style factor and its relationships to the mood measures revealed by the extension analyses will be discussed.

Factor I: Subjective Hope and Confidence

The first factor to emerge accounted for 16% of the total variance and was entirely composed of variables from Cantril's (1965) Personal Ladder Scale. Because variables which indicated large perceived discrepancies between the past, the present, and the future had high positive loadings

Table 1

Rotated Factor Analysis of Cognitive Control Variables (N = 67)

Variable	Factor								
	I	II	III	IV	V	VI	VII	VIII	h^2
Personal Ladder Scale: Present					89				100
Personal Ladder Scale: Past	-84								80
Personal Ladder Scale: Future	44				59				62
Personal Ladder Scale: Present-Past Range	73								64
Personal Ladder Scale: Present-Future Range	44				-37				67
Personal Ladder Scale: Past-Future Range	99								100
Zuckerman's Sensation-Seeking		70							58
External Sensation-Seeking		79							71
Internal Sensation-Seeking		43							48
Rotter Locus of Control			89						83
Mirels Locus of Control			90						84
DPI Repression Scale		-40		55					54
DPI Shallow Affect Scale				72					60
DPI Mood Fluctuation Scale			36	-65					64
Social Desirability		32		48					66
Time Anxiety			34	-30		51	-31		72

Table 1 (cont.)

Variable	Factor I	II	III	IV	V	VI	VII	VIII	h^2
Time Submissiveness								65	47
Time Possessiveness					-28	64			56
Time Flexibility									26
Object Sorting: No. of Groups						36			55
Object Sorting: No. of Miscellaneous Groups									61
Country Sorting: No. of Groups									74
Country Sorting: No.of Miscellaneous Groups									34
Category Width						-58			67
Hidden Figures: No. Right		-31							37
Hidden Figures: No. Wrong							-72		63
Hidden Patterns: No. Right							71		61
Advanced Vocabulary Test							41		46
Gough-Sanford Rigidity Scale								76	66
Breskin Rigidity Test		-61							58
Barron-Welsh Art Scale (Forced Choice Form)		30						-36	61
Latent Root	3.4	3.1	2.8	2.5	1.9	1.6	1.4	1.1	
% of Total Variance	16	15	13	11	9	8	7	6	85

on this factor and because of the negative loading of rated past happiness and the positive loading of rated anticipations of future happiness; this factor was tentatively labelled "Subjective Hope and Confidence". It probably represents optimistic expectations and possibly fantasies of future wish-fulfillment contrasted with a less favorable view of the past. The inclusion of the three difference scores from the Personal Ladder Scale may have created a linear dependency among these scores and, therefore, the factor may be somewhat artificial. Table 2 presents loadings above ±.30 on this factor in order of magnitude.

The lack of any significant extended factor loadings on any of the mood variables on this factor fails to confirm the hypothesis that anticipated future happiness would be related to relatively higher mood level scores. However, Factor V does present some partial support for this hypothesis.

Factor II: Sensation-Seeking and Openness

The second factor to emerge, accounting for 15% of the total variance, was highly loaded with Zuckerman's and Pearson's Sensation-Seeking scales (Pearson, 1970; Zuckerman et al., 1964). Subjects with high scores on this factor appeared to be more sensation-seeking, cognitively more complex, less rigid, and less likely to employ repression than low scorers. Apparently it describes a pattern of greater openness and

Table 2

Factor I: Subjective Hope and Confidence

Domain	Variable	Factor Loading[a]
Cognitive Controls	Personal Ladder Scale: Past-Future Range	99
	Personal Ladder Scale: Past	-84
	Personal Ladder Scale: Present-Past Range	73
	Personal Ladder Scale: Present-Future Range	44
	Personal Ladder Scale: Future	44
Mood Level	No Significant Loadings	--
Mood Variability	No Significant Loadings	--
Mean Daily Range	No Significant Loading	--
Mood Differentiation	No Significant Loadings	--

a. Decimals Omitted

and responsiveness to situations as opposed to constriction. The pattern of loadings on this factor was in accord with Zuckerman and Link's (1969) discussion of the construct validity of sensation-seeking and clearly supported naming this factor "Sensation-Seeking and Openness". Table 3 presents, in descending order, the loadings above ±.30 on this factor and the extensions of mood variables on this factor.

The positive factor loadings of many mood level variables (particularly averages and peaks) on this cognitive factor confirms the hypothesis that sensation-seeking and openness would be associated with greater avowals of positive feelings. The high loadings of the peak and average mood level ratings of the PFS scale Impulse Expression vs. Feelings of Restraint and the moderate loadings of the peak and average mood level ratings of the PFS scale Receptivity toward the World confirm the hypotheses that these specific scales would be associated with sensation-seeking. Of interest is the predominance of loadings of peak mood level ratings on this factor, suggesting that sensation-seekers differ from sensation-reducers in being able to experience extremely gratifying moods more frequently and more intensely than sensation-reducers.

Only one mood variability measure had any extended loading above .30 on the sensation-seeking factor. This loading, which was a loading of .31 on the trough day-to-day Elation vs. Depression scale was quite small and suggested that mood variability is relatively independent of sensation-seeking.

Table 3

Factor II: Sensation-Seeking and Openness

Domain	Variable	Factor Loading[a]
Cognitive Controls	External Sensation-Seeking	79
	Sensation-Seeking (Zuckerman)	70
	Breskin Rigidity Test	-61
	Internal Sensation-Seeking	43
	DPI Repression Scale	-40
	Social Desirability	32
	Hidden Figures Test: No. Correct	31
	Barron-Welsh Art Scale (Forced Choice)	30
Mood Level	Impulse-Expression vs. Self-Restraint H[b]	58
	Impulse-Expression vs. Self-Restraint A	57
	Elation vs. Depression H	53
	Tranquility vs. Anxiety H	52
	Sociability vs. Withdrawal H	51
	Companionship vs. Being Isolated H	51
	Love and Sex H	51
	Personal Freedom vs. Constraint H	48
	Love and Sex A	47
	Thought Processes H	47
	Tranquility vs. Anxiety A	47
	Energy vs. Fatigue H	46
	Receptivity towards World H	45

Table 3 (cont.)

Domain	Variable	Factor Loading[a]
Mood Level	Elation vs. Depression	44
	Sociability vs. Withdrawal A	43
	Thought Processes A	43
	Confidence vs. Feelings of Inadequacy H	43
	Energy vs. Fatigue A	43
	Companionship vs. Being Isolated A	42
	Personal Freedom vs. Constraint A	41
	Receptivity towards World A	39
	Confidence vs. Feelings of Inadequacy A	39
	Harmony vs. Anger A	34
	Tranquility vs. Anxiety L	33
	Personal Moral Judgment H	31
Mood Variability	Elation vs. Depression L	31
Mean Daily Range	No Significant Loading	--
Mood Differentiation	Average Intercorrelation	36
	No. of Factors with More Than 10% of the Variance	-36
	Percentage of Variance of the First Factor	33

a. Decimals omitted
b. H = High (Peak) Rating; A = Average Rating; L = Low (Trough) Rating.

This finding was a lack of confirmation for the hypothesis made earlier.

Two mood differentiation indices, the average intercorrelation between mood ratings, and the proportion of total variance accounted for by the first principal axis factor (both indicating low differentiation), had positive extended factor loadings on this factor. A third mood differentiation index, the number of factors accounting for more than 10% of the total variance each (indicating high differentiation) had a negative loading on this factor. These findings suggest that sensation-seekers tended to be less complex in their affective experiences even though they show some indications of being cognitively more complex.

Factor III: External vs. Internal Locus of Control

The highest loadings on the third factor were clearly locus of control measures and justified naming this factor "External vs. Internal Locus of Control". This factor, which is presented in Table 4, accounted for 13% of the total variance. To some degree, the inclusion of the Mirels (1970) factor scale, which is a subscale of the Rotter (1966) I-E scale, may have inflated the magnitude of this factor.

The negative extended factor loadings on some trough mood level scores confirmed in certain respects the general expectation that external control beliefs would be associated with

Table 4

Factor III: External vs. Internal Locus of Control

Domain	Variable	Factor Loading[a]
Cognitive Controls	Mirels' Locus of Control Scale	90
	Rotter's Locus of Control Scale	89
	DPI Mood Fluctuation Scale	36
	Time Anxiety	34
Mood Level	Energy vs. Fatigue L[b]	-40
	Harmony vs. Anger L	-37
	Receptivity towards World L	-37
	Receptivity towards World A	-36
	Companionship vs. Being Isolated L	-32
	Companionship vs. Being Isolated A	-30
Mood Variability	No Significant Loadings	--
Mean Daily Range	No Significant Loading	--
Mood Differentiation	No Significant Loadings	--

a. Decimals Omitted
b. H = High (Peak) Rating; A = Average Rating; L = Low (Trough) Rating.

lower mood levels; but did not support the specific hypotheses that internal control beliefs would be associated with higher mood levels on the PFS Elation vs. Depression, Personal Freedom vs. External Constraint, and Self-Confidence vs. Feelings of Inadequacy scales. No leadings above .30 were produced by the mood variability measures and thus failed to confirm the hypothesis that external control beliefs would be associated with increased mood variability.

Factor IV: Defensiveness vs. Admissions of Affective Involvement

The fourth factor, accounting for 11% of the total variance, was a bipolar factor which was marked by positive loadings of the DPI Shallow Affect and Repression scales (Jackson and Messick, 1964) and the Marlowe-Crowne Social Desirability scale (Crowne and Marlowe, 1964) and negative loadings of the DPI Mood Fluctuation scale (Jackson and Messick, 1964) and the Calabresi and Cohen (1968) Time Anxiety scale. This factor is presented in Table 5 and was named "Defensiveness vs. Admissionsof Affective Involvement".

As predicted, more defensive subjects avowed higher mood levels on the PFS scales: Tranquility vs. Anxiety and Harmony vs. Anger. Of interest is the finding that avowals of higher mood levels by defensive subjects were more likely to be made in descriptions of trough mood experiences. The hypothesis

that defensive subjects would display less mood variability was also confirmed. However, in this case, only the peak mood scales were associated with defensiveness.

Factor V: Satisfaction with the Present

The fifth factor, with 9% of the total variance, was highly loaded with the Cantril (1965) Personal Ladder Scale present and future ratings. Thus, high scorers on the factor presented the picture of being satisfied with the present, optimistic about the future, less likely to wish they had more time to do things, and less likely to anticipate more satisfaction in the future than they had obtained in the present. Unlike Factor I, which represented dissatisfaction with the past, disregard of the present, and anticipations of greater satisfaction in the future, Factor V reflects contentment with the present. Table 6 presents the loadings of the cognitive variables and the extended loadings of the mood variables on this factor.

An examination of the loadings of the mood level variables on this factor confirms the hypothesis that higher anticipations of success in the future would be associated with higher mood levels. However, this finding must be tempered by the further observation that those subjects who tended to expect future happiness did not expect to experience very much greater happiness than they were experiencing in the present.

Table 5

Factor IV: Defensiveness vs. Admissions of Affective Involvement

Domain	Variable	Factor Loading[a]
Cognitive Controls	DPI Shallow Affect Scale	72
	DPI Mood Fluctuation Scale	-65
	DPI Repression Scale	55
	Social Desirability	48
	Time Anxiety	-30
Mood Level	Personal Freedom vs. Constraint A[b]	37
	Confidence vs. Feeling of Inadequacy L	37
	Tranquility vs. Anxiety L	34
	Confidence vs. Feeling of Inadequacy A	35
	Present Work Satisfaction L	32
	Harmony vs. Anger L	30
	Personal Freedom vs. Constraint L	30
	Elation vs. Depression L	30
Mood Variability	Tranquility vs. Anxiety H	-36
	Love and Sex H	-36
	Harmony vs. Anger	-35
	Confidence vs. Feeling of Inadequacy H	-33
	Companionship vs. Being Isolated	-32
Mean Daily Range	No Significant Loading	--
Mood Differentiation	No Significant Loadings	--

a. Decimals Omitted
b. H = High (Peak) Rating; A = Average Rating; L = Low (Trough) Rating.

Table 6

Factor V: Satisfaction with the Present

Domain	Variable	Factor Loading[a]
Cognitive Controls	Personal Ladder Scale: Present	89
	Personal Ladder Scale: Future	59
	Personal Ladder Scale: Present-Future Range	-37
	Time Possessiveness	(-28)
Mood Level	Personal Moral Judgment H[b]	51
	Impulse-Expression vs. Self Restraint H	43
	Personal Moral Judgment A	41
	Impulse-Expression vs. Self-Restraint A	40
	Confidence vs. Feeling of Inadequacy H	39
	Personal Freedom vs. Constraint H	37
	Present Work Satisfaction H	37
	Energy vs. Fatigue H	35
	Confidence vs. Feeling of Inadequacy H	35
	Barbiturate Usage	-33
	Sociability vs. Withdrawal H	33
	Receptivity towards World A	31
	Companionship vs. Being Isolated H	31
	Personal Moral Judgment L	31
Mood Variability	No Significant Loadings	--
Mean Daily Range	No Significant Loading	--
Mood Differentiation	No Significant Loadings	--

a. Decimals Omitted
b. H = High (Peak) Rating; A = Average Rating; L = Low (Trough) Rating.

Factor VI: Narrow vs. Broad Conceptual Bandwidth

Factor VI, accounting for 7.5% of the total variance, was marked by positive loadings by the number of group scores of the Objective Sorting Test (Clayton and Jackson, 1961) and by low scores on the Pettigrew Category Width Test (Pettigrew, 1958). This factor bears a similarity to a factor named "Narrow vs. Broad Equivalence Range" by Sloane, Gorlow, and Jackson (1963). The loadings of Time Anxiety and Time Possessiveness on this factor indicated a fear of venturing into the future, a wish to remain in the present, and a wish to rigidly remain within the narrow confines of the past and present. Because the two categorization test loadings indicated a narrowness in dealing with objects and because the two time scale loadings represented a constriction in temporal perspective, this factor was tentatively named "Narrow vs. Broad Conceptual Bandwidth".

An examination of the factor loadings of this factor, which are presented in Table 7, reveal no significant relationships between this factor and any of the mood variables. Therefore, the hypotheses that equivalence range or categorization styles would be associated with mood variability and mood differentiation were not confirmed.

Factor VII: Field Articulation

The seventh factor, with 7% of the total variance, had its

Table 7

Factor VI: Narrow vs. Broad Conceptual Bandwidth

Domain	Variable	Factor Loading[a]
Cognitive Controls	Time Possessiveness	64
	Pettigrew's Category Width Scale	-58
	Time Anxiety	51
	Object Sorting: No. of Groups	36
Mood Level	No Significant Loadings	--
Mood Variability	No Significant Loadings	--
Mean Daily Range	No Significant Loading	--
Mood Differen-tiation	No Significant Loadings	--

a. Decimals Omitted

highest loadings on the number of figures accurately identified on the Cf-2 Hidden Patterns Test (French et al., 1963) and the number of figures attempted but incorrect on the Cf-1 Hidden Figures Test (Jackson, Messick, and Meyers, 1964). Thus it is clearly identified as a field articulation factor. Table 8 presents the pattern of original factor loadings and the extensions of mood variables onto this factor.

The hypothesis that a high level of field articulation (field independence) would be associated with higher mood levels was confirmed with respect to a number of mean trough daily mood ratings. The hypothesis that greater field articulation would be associated with greater mood stability was confirmed by the significant negative loadings of peak, average, and trough day-to-day mood variability indices on this factor. However, the lack of an appreciable loading of the mean daily range on the Elation vs. Depression scale indicated that field articulation was not related to within-day mood variability in the present study.

None of the mood differentiation or complexity measures had any appreciable extension loadings on the present field articulation factor. Thus, the hypothesis that field articulation would be positively related to mood differentiation and complexity was not confirmed.

Table 8

Factor VII: Field Articulation

Domain	Variable	Factor Loading[a]
Cognitive Controls	Hidden Figure Test: No. Wrong	-72
	Hidden Patterns Test: No. Correct	71
	Advanced Vocabulary Test V-4	41
	Time Anxiety	-31
Mood Level	Present Work Satisfaction L[b]	47
	Pressure of Academic Work	46
	Impulse-Expression vs. Self-Restraint L	40
	Present Work Satisfaction A	37
	Companionship vs. Being Isolated L	35
	Confidence vs. Feeling of Inadequacy L	35
	Elation vs. Depression L	34
	Energy vs. Fatigue L	31
Mood Variability	Receptivity towards World L	-55
	Receptivity towards World A	-53
	Confidence vs. Feeling of Inadequacy A	-48
	Thought Processes H	-48
	Thought Processes L	-48
	Thought Processes A	-46
	Personal Freedom vs. Constraint A	-44
	Companionship vs. Being Isolated A	-43
	Present Work Satisfaction A	-43
	Harmony vs. Anger H	-43

Table 8 (cont.)

Domain	Variable	Factor Loading[a]
	Harmony vs. Anger A	-43
	Present Work Satisfaction H	-42
	Impulse-Expression vs. Self-Restraint L	-41
	Energy vs. Fatigue A	-41
	Sociability vs. Withdrawal A	-41
	Personal Freedom vs. Constraint L	-40
	Confidence vs. Feeling of Inadequacy H	-38
	Personal Moral Judgment A	-38
	Energy vs. Fatigue L	-38
	Personal Moral Judgment L	-37
	Tranquility vs. Anxiety A	-35
	Present Work Satisfaction L	-34
	Companionship vs. Being Isolated L	-34
	Personal Freedom vs. Constraint H	-34
	Sociability vs. Withdrawal H	-31
	Love and Sex H	-31
	Energy vs. Fatigue H	-31
	Elation vs. Depression A	-30
Mean Daily Range	No Significant Loading	--
Mood Differentiation	No Significant Loadings	--

a. Decimals omitted
b. H = High (Peak) Rating; A = Average Rating; L = Low (Trough) Rating

Factor VIII: Rigid Conventionality

Factor VIII was a small factor which accounted for 5.5% of the total variance. High factor scores on this factor are indicative of a rigid, conventional approach to social behavior and rather conventional aesthetic preferences. Table 9 presents the loadings of this factor.

An examination of Table 9 indicates that this factor was associated with slightly higher satisfaction in work situations and less frequent avowals of usage of marijuana on the non-mood scales of the daily report form. The aspect of rigidity demonstrated by this factor did not support the hypothesis that rigidity would be associated with mood stability.

Factor Structures of the Personal Feeling Scales

Factor analysis of mood level measures

A principal components analysis of the 42 mood level variables of the Personal Feeling Scales (PFS; Wessman & Ricks, 1966) revealed two major factors which accounted for 50% and 15% of the total variance respectively. These factors were then rotated to orthogonal simple structure by means of Kaiser's (1958) Varimax technique. The first factor, which is presented in Table 10, was most highly loaded with mean daily peak mood ratings on all of the PFS scales. An extension of cognitive control variables onto this factor revealed that

Table 9

Factor VIII: Rigid Conventionality

Domain	Variable	Factor Loading[a]
Cognitive Controls	Gough-Sanford Rigidity Scale	76
	Time Submissiveness	65
	Barron-Welsh Art Scale (Forced Choice)	-36
Mood Level	Present Work Satisfaction H[b]	30
	Marijuana Usage	-42
Mood Variability	No Significant Loadings	--
Mean Daily Range	No Significant Loading	--
Mood Differentiation	No Significant Loadings	--

a. Decimals Omitted

b. H = High (Peak) Rating; A = Average Rating; L = Low (Trough) Rating.

Table 10

Factor Analysis of Mood Level Measures

Factor I: Peaking

Domain	Variable	Factor Loading[a]
Mood Level	Energy vs. Fatigue H[b]	92
	Elation vs. Depression H	91
	Thought Processes H	87
	Tranquility vs. Anxiety H	87
	Sociability vs. Withdrawal H	86
	Receptivity towards the World H	86
	Confidence vs. Feeling of Inadequacy H	84
	Impulse-Expression vs. Self-Restraint H	83
	Harmony vs. Anger H	81
	Companionship vs. Being Isolated H	76
	Energy vs. Fatigue A	75
	Personal Freedom vs. Constraint H	71
	Thought Processes A	70
	Personal Moral Judgment H	69
	Elation vs. Depression A	68
	Tranquility vs. Anxiety A	67
	Impulse Expression vs. Self-Restraint A	64
	Sociability vs. Withdrawal A	63
	Receptivity towards World A	63
	Companionship vs. Being Isolated A	56
	Harmony vs. Anger A	55

Table 10 (cont.)

Domain	Variable	Factor Loading[a]
Mood Level	Present Work Satisfaction H	52
	Personal Freedom vs. Constraint A	50
	Personal Moral Judgment A	50
	Love and Sex H	46
	Health	46
	Love and Sex A	39
	Present Work Satisfaction A	36
	Confidence vs. Feeling of Inadequacy A	35
Cognitive Controls	DPI Repression Scale	-67
	Breskin Nonverbal Rigidity Test	-45
	External Sensation-Seeking	41
	Sensation-Seeking (Zuckerman)	34
	Personal Ladder Scale: Future	33
	Personal Ladder Scale: Present	31
	Time Anxiety	-30
Mean Daily Range	Elation vs. Depression	53

a. Decimals Omitted

b. H = High (Peak) Rating; A = Average Rating; l = Low (Trough) Rating.

high scorers on this factor were less repressed, less rigid, less anxious about the future, more likely to be sensation-seekers, and were more likely to experience large within-mood variations.

The second orthogonal factor was highly loaded with all of the mean daily trough mood ratings. The small extension factor loadings of the cognitive control measures onto this factor suggested that there was a slight tendency for high scorers on this factor to be less likely to report or experience much within-day mood variation. In addition, there was evidence of a slight tendency for high scorers on this factor to view events as internally controlled. Table 11 presents the factor loadings on this factor.

A comparison of the two factors suggests that there are two distinct patterns operating in avowals of mood levels. The first factor can be called a "peaking" pattern in which extreme gratification avowals are accompanied by indications of a non-defensive, adventurous, future oriented, open stance to experience. The second pattern, which can be called "Avoidance of Dissatisfaction" is accompanied by a constrictive behavioral and cognitive mode.

As these factor patterns were rather striking and were quite unexpected, a search for previous supporting data was undertaken. A graphic rotation of the original PFS factor loadings, reported by Wessman and Ricks (1966, pp. 64-67; 284-285) for their group of 17 Harvard men in a six-week mood study,

Table 11

Factor Analysis of Mood Level Measures

Factor II: Avoidance of Dissatisfaction

Domain	Variable	Factor Loading[a]
Mood Level	Elation vs. Depression L[b]	91
	Sociability vs. Withdrawal L	90
	Harmony vs. Anger L	86
	Receptivity towards World L	84
	Thought Processes L	83
	Companionship vs. Being Isolated L	82
	Tranquility vs. Anxiety L	81
	Personal Freedom vs. Constraint L	80
	Confidence vs. Feeling of Inadequacy L	77
	Energy vs. Fatigue L	74
	Impulse-Expression vs. Self-Restraint L	69
	Sociability vs. Withdrawal A	64
	Harmony vs. Anger A	61
	Companionship vs. Being Isolated A	59
	Personal Freedom vs. Constraint A	56
	Tranquility vs. Anxiety A	56
	Receptivity towards World A	55
	Love and Sex L	55
	Confidence vs. Feeling of Inadequacy A	47
	Personal Moral Judgment L	47

Table 11 (cont.)

Domain	Variable	Factor Loading[a]
Mood Level	Present Work Satisfaction L	47
	Thought Processes A	47
	Elation vs. Depression A	41
	Energy vs. Fatigue A	38
	Impulse-Expression vs. Self-Restraint A	37
Cognitive Controls	DPI Mood Fluctuation Scale	-34
	Rotter's Locus of Control Scale	-33
	Time Anxiety	-32
Mean Daily Range	Elation vs. Depression	-74

a. Decimals Omitted

b. H = High (Peak Rating; A = Average Rating;
L = Low (Trough) Rating.

revealed that two factors, similar to the present factors, were also present in their data. In both sets of data, peak mood level scores were clearly orthogonal to trough mood level scores. Furthermore, in both cases, the mean daily ratings of "average" mood levels emerged as a fusion factor which could be located on a diagonal which was equidistant from the peak and trough rating's factor axes. Also, in some of their more speculative interpretations of the individual patterns of mood dynamics revealed by P-technique factor analysis of data from individual subjects, Wessman and Ricks (1966, pp. 86-89) observed such "peaking" and "constrictive" patterns.

Factor analysis of mood variability measures.

A factor analysis of the day-to-day mood-variability scores (i.e. standard deviations) revealed two factors accounting for 71% and 8% of the total variance respectively. The first factor, which is presented in Table 12, is most highly loaded with trough mood variability ratings on all of the PFS scales. Most of the higher loadings on this factor came from the more personal scales of the PFS such as Impulse Expression vs. Self Restraint, Tranquility vs. Anxiety, Self-Confidence vs. Feelings of Inadequacy, and Harmony vs. Anger. Conversely, most of the low loadings came from the more interpersonal scales of the PFS. Although this factor is somewhat difficult

Table 12

Factor Analysis of Mood Standard Deviations

Factor I: Personal Trough Variability

Domain	Variable	Factor-Loading[a]
Mood Variability	Sociability vs. Withdrawal L[b]	84
	Impulse-Expression vs. Self-Restraint L	83
	Personal Freedom vs. Constraint L	81
	Tranquility vs. Anxiety L	81
	Impulse-Expression vs. Self-Restraint A	80
	Energy vs. Fatigue A	80
	Energy vs. Fatigue L	78
	Confidence vs. Feelin of Inadequacy L	77
	Harmony vs. Anger L	76
	Elation vs. Depression L	76
	Sociability vs. Withdrawal A	74
	Impulse-Expression vs. Self-Restraint H	74
	Tranquility vs. Anxiety A	73
	Personal Freedom vs. Constraint A	73
	Thought Processes L	72
	Receptivity towards World A	71
	Companionship vs. Being Isolated L	71
	Elation vs. Depression L	71
	Harmony vs. Anger A	70
	Thought Processes A	70
	Receptivity towards World L	69

Table 12 (cont.)

Domain	Variable	Factor Loading[a]
Mood Variability	Energy vs. Fatigue H	69
	Thought Processes H	67
	Present Work Satisfaction L	65
	Receptivity towards World H	63
	Sociability vs. Withdrawal H	62
	Present Work Satisfaction A	61
	Personal Freedom vs. Constraint H	58
	Love and Sex L	57
	Tranquility vs. Anxiety H	57
	Personal Moral Judgment L	55
	Companionship vs. Being Isolated A	51
	Personal Moral Judgment A	51
	Love and Sex A	45
	Harmony vs. Anger H	41
	Health	40
	Love and Sex H	37
	Pressure of Academic Work	32
Cognitive Controls	Social Desirability	32
Mean Daily Range	Elation vs. Depression	36

a. Decimals Omitted

b. H = High (Peak) Rating; A = Average Rating;
L = Low (Trough) Rating.

to name, it might be tentatively labelled "Variability in Trough Personal Moods". No appreciable factor extension loadings of the cognitive control measures were noted for this factor.

The second factor, a small one, presented in Table 13, is marked by high loadings of the peak variability ratings of the more interpersonal PFS scales, and is tentatively labelled "Interpersonal Peak Variability". Extensions of cognitive style measures onto this factor reveal that high scorers on this factor are more likely to admit emotional involvement, are more field-dependent, are more anxious about the flow of time, and are more likely to notice mood fluctuations.

Although not as definite as the mood level factors, the two mood variability factors suggest that in mood variability data, as in mood level data, two sets of processes, one regulating peak feelings and one regulating trough feelings, may be operating.

Factor analysis of mood differentiation measures.

As the mood differentiation measures were included in the factor analyses of the mood level and mood variability measures, there was an opportunity to examine whether the mood differentiation measures were independent of mood level and mood variability measures. In each analysis, a mood differentiation factor emerged that eas clearly orthogonal to both

Table 13

Factor Analysis of Mood Standard Deviations

Factor II: Interpersonal Peak Variability

Domain	Variable	Factor Loading[a]
Mood Variability	Companionship vs. Being Isolated H[b]	84
	Confidence vs. Feeling of Inadequacy H	73
	Harmony vs. Anger H	68
	Companionship vs. Being Isolated H	66
	Love and Sex H	65
	Elation vs. Depression H	65
	Sociability vs. Withdrawal H	60
	Tranquility vs. Anxiety H	60
	Love and Sex A	55
	Elation vs. Depression A	50
	Energy vs. Fatigue H	48
	Sociability vs. Withdrawal A	47
	Thought Processes H	45
	Receptivity towards World H	42
	Harmony vs. Anger A	42
	Personal Freedom vs. Constraint H	41
	Companionship vs. Being Isolated L	41
	Present Work Satisfaction A	36
	Tranquility vs. Anxiety A	36
	Confidence vs. Feeling of Inadequacy A	35
	Thought Processes A	33

Table 13 (cont.)

Domain	Variable	Factor Loading
Mood Variability	Thought Processes L	33
	Love and Sex L	32
	Personal Freedom vs. Constraint A	31
	Receptivity towards World A	30
	Receptivity towards World L	30
Cognitive Controls	DPI Mood Fluctuation Scale	50
	Time Anxiety	42
	DPI Shallow Affect Scale	-36
	Hidden Figures Test: No. Wrong	33

a. Decimals Omitted

b. H = High (Peak) Rating; A = Average Rating;
L = Low (Trough) Rating.

of the mood level factors and both of the mood variability factors. The loadings on this factor, in descending order, are: Percentage of Variance Accounted for the the First Factor (.98); Average Intercorrelation Among Mood Ratings (.98), Number of Factors which Accounted for 90% of the Variance of the Factor Matrix (-.74), Number of Factors Accounting for More Than 10% of the Variance Each (-.58). This factor, which appears unitary, may be somewhat artificial because in principal axes factor analysis, depending upon the communality estimates employed, the first two measures may be proportional. However, this factor could provide evidence of the relative equivalence of the four mood differentiation measures.

Cognitive Control Correlates of Mood Level and Mood Variability on the PFS Elation vs. Depression Scale

Earlier research using the Personal Feeling Scales in extended mood studies (Wessman and Ricks, 1966) was particularly focussed upon personality correlates of "happiness and unhappiness" and "mood variability-stability" as measured by the mean scores and standard deviation of the daily "average" report on the Elation vs. Depression scale. In that research, a meaningful set of personality correlates appeared to emerge characterizing happy and unhappy, and stable and variable subjects. In order to relate to and extend that work with a new sample of subjects and with the additional personality measures re-

presenting cognitive styles, it seemed appropriate to investigate how such hedonic level and variability measures correlated with the cognitive style measures in the present study.

An examination of Table 14 indicates that several cognitive style measures were significantly correlated with the mean daily "average" and its variability on the Elation-Depression scale. On the basis of these findings, it would appear that the happier subjects are sensation seekers positively oriented toward a variety of external and internal experiences, that they are not particularly vulnerable to distressing situations, that they see events as personally controlled, that they are not pressured by time, and that they are satisfied with the present. Conversely, the less happy subjects appear to be more closed to vivid experiences, feel themselves more vulnerable, see events as controlled by external forces, are pressured by time, and are dissatisfied with the present. The results appear congruent with findings of the earlier study (Wessman and Ricks, 1966) regarding personality characteristics related to relative happiness-unhappiness.

The happier subjects were also more likely to employ repression in a rather interesting way. Avowals of peak happiness were accompanied by a relative lack of repression but avowals of trough happiness were accompanied by relatively high levels of repression. As in the factor analysis of all of the mood level scores in which Elation vs. Depression loaded .91 on both factors, it would appear that for peak

Table 14

Cognitive Control Correlates of Mood Level and Mood Variability on the PFS Elation vs. Depression Scale

Variable	Mood Level			Mood Variability		
	H[a]	A	L	H	A	L
Mood Word Fluency	10[b]	12	13	-15	-10	-03
Hidden Figures: No. Right	12	14	11	11	12	13
Hidden Figures: No. Wrong	-10	-17	-17	27	28	14
Personal Ladder Scale: Present	29[c]	26	16	-03	08	24
Personal Ladder Scale: Past	17	00	-11	-05	-03	00
Personal Ladder Scale: Future	25	23	15	-01	12	14
Personal Ladder Scale: Present-Past Range	-02	03	-07	24	27	28
Personal Ladder Scale: Present-Future Range	-14	-11	-06	07	05	-11
Personal Ladder Scale: Past-Future Range	-02	11	14	04	07	05
Breskin Rigidity Test	-42	-24	-47	00	-06	-18
Barron-Welsh Art Scale	08	08	05	17	17	05
Advanced Vocabulary Test	04	16	19	-28	-29	-28
Internal Sensation-Seeking	40	33	07	02	00	-12
External Sensation-Seeking	43	35	19	-07	01	24
Hidden Patterns: No. Right	14	23	22	-01	-04	-06
Category Width	15	11	04	-15	22	09
Social Desirability	16	14	11	04	16	32
Gough-Sanford Rigidity Test	-03	-04	-02	-02	-05	04
Object Sorting: No. of Groups	15	16	04	-12	-12	-06

Table 14 (cont.)

Variable	Mood Level			Mood Variability		
	H[a]	A	L	H	A	L
Object Sorting: No. of Miscellaneous Groups	16	07	00	05	04	-01
Time Anxiety	-25	-31	-30	29	23	05
Time Submissiveness	-01	-03	-02	-01	-08	-06
Time Possessiveness	-07	-15	-20	-02	-01	-04
Time Flexibility	13	24	28	-01	-05	10
Zuckerman's Sensation-Seeking	33	28	18	-16	-15	05
Rotter Locus of Control	-24	-31	-30	16	11	-17
Mirels Locus of Control	-18	-23	-20	15	13	-12
Country Sortings: No. of Groups	-13	06	01	06	01	03
Country Sorting: No. of Miscellaneous Groups	-07	-01	-04	02	04	-15
Barron-Welsh Art Scale (Forced Choice)	18	16	08	19	18	15
DPI Mood Fluctuation Scale	-16	-32	-36	26	10	-04
DPI Shallow Affect Scale	-06	-04	01	-20	-14	-13
DPI Repression Scale	-26	-05	25	-28	-18	-19

a. H = High (Peak); A = Average; L = Low (Trough) Mood Levels

b. Decimals omitted

c. Single underlining $p < .05$; Double underlining $p < .01$

happiness, an open non-defensive orientation is needed while for avoidance of extreme unhappiness a more controlled and constricted orientation appears to be useful. Further evidence for the contention that constrictive control would be useful for avoiding unhappiness in trough experiences can be seen in the significant negative correlations of the locus of control and the DPI Mood Fluctuation scale (Jackson and Messick, 1964) measures with the trough and average Elation-Depression scale scores but not with the peak Elation-Depression scale scores.

Fewer and somewhat more ambiguous correlations were found for variability of the average on the Elation-Depression scale. The more variable subjects had more limited vocabularies, made more mistakes on the Hidden Figures Test, and tended to see greater discrepancies between the past and present on the Personal Ladder Scale. The more steady subjects had more extensive vocabularies, made fewer mistakes on hidden figures, and tended to see less discrepancies between past and present. Some interpretations of these findings will be made in the next chapter.

The presentation of the basic findings of this investigation is now complete. In the next chapter, the implications of these findings will be discussed.

CHAPTER IV

DISCUSSION

The findings in the preceding chapter have made it clear that the general expectation that there would be interesting and important relationships between cognitive styles and affective characteristics of personality was correct. This chapter will review and attempt to interpret the meaning of those findings. We will systematically reconsider the general cognitive style dimensions discussed in the first chapter and attempt to state how they are related to various mood characteristics. Then, as the findings are rather detailed and complex, we will summarize the main relationships between cognitive style and moods found in this investigation.

The order in which the cognitive style dimension will be discussed will follow the presentation of the original theoretical discussion in the first chapter. However, the related cognitive style factors that emerged in the data analysis in the last chapter will also be noted.

Field A ticulation - (Factor VII)

The hypothesis that a high degree of field articulation would be related to higher levels of avowed moods was confirmed for several of the mood scales, especially Present Work, Impulse

Expression vs. Self-Restraint, and Self-Confidence vs. Feeling of Inadequacy. The relationships, however, were confined to the faily trough mood scores, suggesting that high field articulation or field-independence may protect the person against feeling extremely depressed by providing greater autonomy from disturbing external occurrences, while continuing to allow him to function in his areas of individual competence and control. It may be, however, that the relationship of field articulation to mood levels observed in this study might be confined to problems centering around work pressure. The field-independent person, with his relatively greater resources and relatively greater autonomy from environmental pressure, might be able to cope effectively with difficulty which would arise in working situations while the field dependent person could not cope as well and would experience relatively lower mood levels.

The hypothesis that field-independence would be associated with mood stability was very strongly confirmed. The present finding is in accord with the findings of several previous studies which had employed quite different mood assessment techniques and somewhat different techniques for assessing field articulation. Crutchfield and Starkweather (1953, in Witkin et al., 1962) found that field-dependent subjects tended to be undercontrolled, somewhat impulsive, and likely to act with insufficient thinking and deliberation. Field-independent subjects, however, were more likely to be either

highly controlled or overcontrolled and appeared to be extremely directed in their activities. Block (1957) found that field-dependent subjects demonstrated significantly more GSR lability than field-independent subjects and were characterized by their extreme suggestibility. Wessman and Ricks (1966) noted from clinical studies that their mood stable subjects were likely to show evidence of early differentiation from parents and were more likely to appear to be fixated at Erikson's Autonomy stage. Conversely, Wessman and Ricks (1966) noted that men who displayed high variability in trough and peak moods also received high ratings on "oral incorporation" and appeared to have more problems with personal "identity". Thus, the more field-independent subject who, in perceptual situations, can actively and easily isolate objects from their surroundings, appears also to be able to control and isolate his moods from the emotion activating impact of interpersonal, intrapersonal, and impersonal situations and can, therefore, report extremely stable moods. The field dependent subject with his more passive, outward orientation to his environment, apparently receives the full impact of the environment.

The hypothesis that greater field articulation would be related to greater mood differentiation was not supported by the data of the present study. Frank (1967) noted marginally significant ($r = .24; .27$, $df = 48$, $p<.05$) correlations between field articulation and two measures of mood differentiation. Recognizing that these correlations accounted for

less than six per cent of the mood differentiation variance, Frank (1967) suggested that larger correlations might have been obtained with better measures of field articulation and, more importantly, with better measures of mood differentiation. Of the two problems mentioned by Frank, the present investigation was most affected by the lack of an appropriate mood differentiation or complexity index. In the present investigation, the four mood differentiation measures demonstrated relative restrictions in range. For example, the average number of factors accounting for greater than 10% each was 1.89, with a standard deviation of only .69 and a total range of one to four factors. In addition, the number of factors which accounted for 90% of each person's mood variance was 12.56 with a standard deviation of only 1.57. Thus, the restricted range of mood differentiation scores probably limited the possibility for significant correlations between field articulation and mood complexity to appear. Further studies of mood complexity and differentiation should devise or employ other measures of dimensionality. Scott (1969) devised a series of articulation measures for examining cognitive structures which might, perhaps, provide better indices of differentiation and complexity if applied to mood data. Unfortunately, the format and data collection procedure of the present study precluded the use of Scott's (1969) articulation measures.

Temporal Orientation and Future Expectations (Factors I and V)

Two time orientation factors emerged from the data of the present study. Factor I, which was called "Subjective Hope and Confidence" had no appreciable loadings with any of the mood variables. But the second, Factor V, "Satisfaction with the Present", was positively associated with higher avowals of peak mood experiences. The second factor suggested a style in which the person felt quite contented in the present, optimistic about the future, and did not see the future as being much better than the present. It certainly suggests a "contentment" dimension. The style identified by this factor ties in with Maslow's (1970) discussion of one of the "Being-values" which he had associated with peak experience phenomena. Maslow described this value as "Completeness" and lists its components as: "....Nothing missing or lacking; totality; fulfillment of destiny;....consummation; closure;.... total gratification with no more gratification possible; no movement toward any goal because already there (Maslow, 1970, p. 93). The fortuitous finding of this factor provides some confirmation of Maslow's notion of peak experiences. Evidently the person who is contented with the present and is equally optimistic about the future,is an individual who is experiencing a variety of peak feelings.

The Calabresi and Cohen (1968) time attitude scales: Time Anxiety, Time Submissiveness, Time Possessiveness, and

Time Flexibility did not form a separate factor but had loadings on several factors and provided many significant zero-order correlations with the mood variables. The Time Anxiety scale (Calabresi and Cohen, 1968), which included items referring to a fear of the future and a fear of the flow of time, was negatively correlated with levels of mood avowals on all of the PFS scales except Impulse Expression vs. Self-Restraint. The Time Possessiveness scale (Calabresi and Cohen, 1968), containing items measuring a possessive and greedy attitude toward time, was negatively correlated with mood levels. The Time Flexibility scale, however, was positively correlated with mood levels. Thus, the correlations of these scales with the mood level measures supported the hypothesis that happier subjects would be more future-oriented, less afraid of the flow of time, and more able to act flexibly within a temporal context.

Sensation-Seeking and Openness (Factor II)

The hypothesis that subjects who tended to actively seek novel and sensual situations would be happier and would experience more positive moods than subjects who avoided such situations, was confirmed by the appearance of a sensation-seeking factor that was positively related to high peak and average mood level reports. This finding is consistent with Schachtel's (1959) contention that the non-defensive person who can actively

involve himself in novel activities tends to be happy. An alternative explanation of the relationship between sensation-seeking and affect was also considered by Schachtel (1959). According to his explanation, the sensation-seeker might not necessarily be an active and zestful person, but rather might be a chronically bored individual. Of this viewpoint, Schachtel (1959) stated: "Even where the restless search of the chronically bored for stimulation seems successful, their temporary feeling of relief has the character of distraction from emptiness, rather than of overcoming it by the resumption of active contact with the world." Further research should attempt to discriminate between a possible dispositional sensation-seeking, which might be a long-term preferred mode of actively contacting the world, and a state of sensation-seeking which might arise from boredom, arousal disorders, or sensory deprivation. Both types of sensation-seeking might be related to greater avowals of happiness, but the quality of happiness and the duration of happiness might be different in each case. For example, it has been shown that the Zuckerman et al. (1964) Sensation-Seeking scale, which does not discriminate between state and trait sensation-seeking, correlates positively with measures of an impulsive, active style in normal subjects but is also positively correlated with measures that discriminate between sociopaths and other clinical groups (Blackburn, 1969; Farley and Farley, 1970; Gorman, 1970). But in this study, at any rate, it appears that the "sensation-

seekers" were enjoying themselves.

The hypothesis that sensation-seekers would tend to report large amounts of mood variability was not confirmed. It may be that sensation-seeking is simply unrelated to mood variability. However, another explanation may be possible. If sensation-seeking is viewed as a process which seeks to establish an optimal level of arousal, then it may be possible that for some people an optimal and stable level of arousal might be achieved with sensation-seeking while for others, an optimal and stable level of arousal might be achieved with sensation-reduction. It might be that the relationship between mood stability and sensation-seeking is a complex non-linear relationship. If so, the future studies should go beyond the linear correlational technique of the present study to find this relationship.

The finding that the extension loadings of the mood differentiation measures were negative on the sensation-seeking factor is somewhat puzzling. One would expect that sensation-seeking is related to high cognitive differentiation and complexity and, therefore, is possibly related to affective differentiation and complexity. It may be that the negative factor loadings of the differentiation measures, which would indicate low differentiation, might be due to a lack of selectivity on the part of the sensation-seekers. These subjects, who are characteristically rather impulsive, might have dashed through the mood rating task in an unreflective

fashion, and thus produced rather global mood records by adopting a response set. Further research should also include some measures of reponse style as well as cognitive styles in order to assess this tendency.

Conceptual Differentiation and Categorization Styles (Factor VI)

A cognitive factor which represented a "Narrow vs. Broad Conceptual Bandwidth" dimension appeared in the factor analysis of cognitive variables but did not bear any relationship with the mood variables. Therefore, the hypothesis that narrow equivalence range would be associated with mood differentiation and complexity was not confirmed.

Weinberg (1968) asked subjects to write essays describing ten emotional experiences. She then tabulated each of the emotional descriptions under an elaborate classification scheme. If a descriptive statement was employed for only one emotion and not for descriptions of other emotions, it was considered to be a unique statement. By dividing the number of unique statements by the total number of descriptive statements employed by the subject, Weinberg (1968) was able to obtain an index of emotional differentiation. A moderate (.32) correlation was obtained between Weinberg's differentiation measure and object sorting test narrow equivalence range scores. The present study did not support Weinberg's findings but differend from Weinberg's study in several important ways:

(1) In Weinberg's study, subjects were asked to write fairly organized essays about their emotions, while in the present study, subjects were asked to fill in a checklist. Therefore, in Weinberg's study, subjects were asked to employ their own categorization styles in describing moods, while in the present study the subjects were asked to employ the experimenter's classification scheme in reporting their moods. By employing the preconstructed Personal Feeling Scales (Wessman and Ricks, 1966), the opportunity to observe each subject's natural categorization style was severely limited.

(2) Weinberg's emotion description task appeared to share some common method as well as common trait variance with her object sorting task as both tasks required the subject's own verbalizations. However, in the present study, mood differentiation was assessed by four factor analytic mood indices which share, little if any, method variance with the object sorting task. Therefore, possibly spurious correlations due to common method variance appear less likely in the present study.

The hypothesis that language ability, assessed by vocabulary and mood-word fluency tests, would be possibly associated with mood differentiation was not confirmed. It was assumed that language ability would facilitate finer discrimination among mood descriptors, so that the more mood descriptors that a person could draw upon, the more complex the person's

moods would appear to be. The procedure of the present study, however, probably militated against finding any relationship between verbal ability and mood complexity as the items of the Personal Feeling Scales were easily understood by most of the subjects. In case subjects did not understand the meaning of the wording of any of the PFS items, they were explicitly instructed to ask the investigator to further define each item for them. It is reasonable to assume that the greater majority of the subjects clearly understood the wording of the Personal Feeling Scales and, therefore, were not likely to produce undifferentiated matrices because of a lack of ability to verbally differentiate among the meanings of the scales. If, however, the wording of the Personal Feeling Scales was more ambiguous or if there was a wide range of verbal abilities among the subjects, then one might confirm the hypothesis that language abilities and mood complexity would be positively related.

The prediction that narrow equivalence range and narrow category width would be negatively correlated with mood variability was not confirmed. It was assumed that those subjects who tended to perceive objects as fitting within rather narrowly bounded categories, would also tend to construe their affective experiences as belonging within narrow boundaries and, therefore, would show smaller within-day and day-to-day mood variability. Although the correlations of the mood variability scores with the Object Sorting Test (Clayton and Jackson, 1961)

and the Category Width Test (Pettigrew, 1958) were, as predicted, negative; none of the correlation coefficients were significantly different from zero. The lack of significant correlations can perhaps be accounted for by the fact that although there are many points that can be checked on the Personal Feeling Scales (Wessman and Ricks, 1966), the subjects in the present study used only a few scale points in reporting their moods. This restriction in the subject's use of the PFS scale points possibly attenuated the possibility of obtaining larger correlations which would have reached statistical significance.

Locus of Control (Factor III)

As predicted, an external vs. internal locus of control factor emerged from the data and was negatively related to ratings of mood level; though only to a limited number of mood level scales, particularly in the area of interpersonal affects and moods. It was originally predicted that this locus of control factor would be negatively correlated with the PFS scales of Elation vs. Depression, Personal Freedom vs. External Constraint, and Self-Confidence vs. Feelings of Inadequacy. The prediction that these scales would be related to locus of control was based upon the premise the subjects who held external control beliefs would experience less freedom, less self-confidence, and by lacking a sense of personal efficacy,

would also experience depression. Although some of the zero-order correlations of the Rotter (1966) I-E scale are significantly correlated with the predicted PFS scales, the composite factor does not contain large loadings from these scales.

The mood level scales that were loaded on this factor were the PFS scales of Energy vs. Fatigue, Harmony vs. Anger, Receptivity towards the World, and Companionship vs. Being Isolated and present the picture of the person who holds external control beliefs as a "beat", "tuned out", and alienated individual. Therefore, it appears that in the present study that locus of control is not as related to problems of personal efficacy as much as it is related to problems of interpersonal efficacy. A recent study by Davis and Phares (1969) seems also to indicate that external scoring subjects tend to feel less competent in interpersonal situations.

In their study, Davis and Phares (1969) asked selected college students to recall their parents' childrearing practices on the Children's Report of Parental Behavior (Schaefer, 1965). Subjects who believed in internal control reported their parents to show more positive involvement and less rejection, hostile control, inconsistent discipline, and withdrawal of relations than parents of subjects who believed in external control. In addition, external scorers reported their parents to be somewhat lax in discipline and somewhat less accepting of them. It would appear that the parents of external scoring subjects behave in a manner which does not

easily foster a sense of interpersonal competence in their children.

As the construct of Internal vs. External Control seems to be related to some features of mood level phenomena, further research, such as experimental manipulation of internal and external control expectancies and developmental research such as the research conducted by Davis and Phares (1969) should be directed at finding further relationships between this control principle and mood.

Defensiveness - (Factor IV)

The general hypothesis that defensive subjects would be more likely to report higher mood levels and would show lower degrees of mood variability was confirmed to some extent. The defensiveness scores were more related to trough mood levels than to peak and average mood levels so that the more defensive subjects tended not to avow highly negative feelings of inadequacy, anxiety, work dissatisfaction, anger, and depression. Defensive subjects were also less variable in their peak reports of tranquility, love, harmony, confidence, and companionship. It would appear that by being repressed and by avoiding trough experiences, these more defensive subjects were less able to reach and enjoy peak mood experiences.

The specific nature of the possible defenses employed by the more defensive subjects merits further examination. One serious question which arises is whether the observed re-

lationships between mood phenomena and defensiveness were brought about by a conscious supression of possibly deviant and undesirable self-statements or whether these relationships were due to some unconscious repressive process, or whether a combination of conscious supression and unconscious defenses was operating to produce these relationships.

An examination of the data reveals that the defensiveness factor that was obtained in the present study was strongly related to avowals of higher mood levels in mood areas that the lay public considers to be "healthy": confidence, tranquility, satisfaction with love and work, and lack of anger (Anderson, 1968). Terms relating to mood variability, however, are often considered as undesirable. Anderson (1968) found that the words "moody", "fickly", and "changeable" were rated as undesirable by many subjects. Therefore, if a subject wished to present a favorable image, he might report that he is quite satisfied in areas that have been traditionally considered to be healthy by the lay public and he might suppress any indications of being "moody".

Of further interest, is the finding that the DPI Mood Fluctuation scale (Jackson and Messick, 1964), which asks the subject to admit that his moods fluctuate and is, by definition, a measure of mood variability, correlates negatively with mood level scores on most of the PFS scales. These negative correlations would be congruent with the previously mentioned notion that "moodiness" and "ffeling low" are con-

sidered to be deviant and the person who wishes to appear non-deviant would consciously suppress both sets of information. But again, he might be reporting accurately on both sets of measures.

However, there is also some evidence that the observed "defensiveness" factor might have influenced mood reports in an unconscious fashion. Most of the present subjects were unsophisticated regarding statistics and it is highly unlikely that they would have planned strategies for influencing measures of day-to-day mood variability; i.e. the standard deviations. As day-to-day mood variability measures were computed over at least 25 days, it would also be highly unlikely that subjects remembered each previous day's set of 51 ratings so that they could have influenced the final standard deviation scores.

The DPI scales, Repression, Shallow Affect, and Mood Fluctuation (Jackson and Messick, 1964),which were included in the "defensiveness" factor, were constructed by a procedure designed to minimize social desirability effects. Each scale was constructed so that items in each scale were maximally correlated with the items of that scale, minimally correlated with items in other scales, and minimally correlated with social desirability estimates. Each item in the scale had to have a greater correlation with the other items in the scale than with social desirability items. Therefore, the possibility that the relationship between the present defensiveness

factor and mood ratings was due merely to conscious social desirability response sets was somewhat minimized.

A possible eventual solution to the problem of whether the lower mood variability of the "defensive" subjects is due to conscious or unconscious factors might be achieved through long-term mood and psychophysiological studies. If reliable physiological indices of mood (perhaps, skin conductance, urinary and plasma catecholamine assays, EEG, and salivary measures) also produced the same pattern of relationships with defensiveness measures as the verbal PFS reports, then the possibility that conscious suppression had influenced mood variability would become quite remote. Cattell (1965, pp. 152-157), among others, has reported work in this direction.

A final consideration of the relationship between defensiveness and mood variables might consider that possibility that the present defensiveness factor might contain two clusters. One cluster might represent conscious suppression of information while another cluster might represent repression and less conscious dynamics. Some components of mood, such as mood level scores, might be related to a conscious suppression cluster while the more covert variability measures might be influenced by unconscious processes.

Rigidity - (Factor VIII)

A small factor in this data matrix, which was labelled

"Rigid Conventionality", was positively related to mood level measures of work satisfaction and was negatively related to admissions of marijuana usage. The prediction that rigid subjects would be less variable in their moods was not confirmed in these data.

A number of methodological and theoretical problems plague investigations of the relationship of "rigidity" to any behavioral or cognitive phenomena. The most serious problem lies in the inability to demonstrate that rigidity is a unitary factor or concept. In the past, rigidity has been identified with such variables as anality, authoritarianism, compulsiveness, concretism, conservatism, defensive behavior, figural aftereffect susceptibility, preferences for closure, motor and ideational perseveration, and many other variables (Chown, 1959, Leach, 1967; Scott, 1966). Few of the rigidity measures are intercorrelated highly with each other and the possibility that there are many rigidity factors appears to be quite plausible. Therefore, a prediction that some variable "X" will be correlated with rigidity disregards the type of rigidity involved. To paraphrase a dictum of General Semantics (Hayakawa, 1962): $\text{rigidity}_1 \neq \text{rigidity}_2 \neq \text{rigidity}_3 \ldots$.

The need to carefully define rigidity can be seen in discrepancies that have been seen in mood research. Although both Becker and Nichol's (1964) study and Wessman and Rick's (1966) study employed the Personal Feeling Scales, Becker and Nichols found that mood variability was positively correlated

with measures of authoritarianism and conventionality while Wessman and Ricks found that mood variability was a characteristic of open, flexible, and unconventional subjects. The results of the two studies are not necessarily incompatible if one realizes that the assessment of rigidity in each study employed quite different techniques and might have been measuring different types of rigidity. Also, two rather different student populations in rather different environments were being studied.

A final problem of searching for relationships between mood variability and rigidity might be found in the measurement techniques employed in assessing mood variability in the present study. The day-to-day mood variability measure was the standard deviation of each subject's daily mood ratings on any given scale. This measure indicated the degree to which a subject's mood ratings had deviated from his own mean daily mood ratings. Thus, a person who produced large standard deviations was said to have displayed mood variability and, conversely, a small standard deviation was indicative of mood stability. An ignored type of mood variability, which is not measured by the standard deviation alone, is rhythmic variability of moods over time. A subject whose mood ratings are distributed in a wide array around his own daily mean score is said to be quite variable but his mood variations might also be predictably cyclic or quite erratic.

Wessman and Ricks (1966, p. 63) found that although some

of their subjects produced rhythmic mood patterns, in most cases, attempts to find regular patterns of rhythmic mood variation was not possible as the records of most subjects were markedly irregular. It may be that the six weeks of mood measurement in the Wessman and Ricks (1966) study and the four weeks of measurement in the present study was too brief a period to observe regular rhythmic trends. In further studies which might employ the PFS, measures of cyclic change such as the mean-square successive difference statistic or other statistics borrowed from time-series analysis techniques, should be employed to investigate whether personality and cognitive style measures are lreated to cyclic, temporal mood variability. In this way, it might be shown that rigid subjects might be predictably cyclic in their moods while flexible subjects would fail to produce predictable rhythmic variations. In order to obtain reliable cyclic change measures, however, new studies would have to obtain many more days' ratings than any of the other PFS studies had obtained.

The Structure of Mood Measures

A surprising divident of the present study was found in the factor analyses of the daily mean mood measures and of the standard deviation variability measures. One important observation concerns the finding that although within-subject correlation matrices and P-technique factor matrices show

that apects of an individual's various mood ratings may be positively correlated, negatively correlated, or not correlated at all, data from mood ratings across subjects are almost always highly positively intercorrelated. Unlike studies and theoretical models of emotion which speak of a bipolarity of emotions and moods such as anger vs. fear, acceptance vs. disgust, joy vs. sorrow, etc. (Plutchik, 1962; Wellek, 1970); the present study of the factor structure of mood ratings across subjects is more in accord with Nowlis' factor analyses of R-technique short-term mood data which reports findings of unipolarity of mood factors (Nowlis, 1963, 1965, 1970). Bradburn and Caplowitz (1965) obtained mood ratings as part of an opinion survey project and also found that there was little evidence of bipolarity of mood ratings in their across-individual data. Instead, these authors found two independent clusters of mood ratings: positive and negative mood ratings and suggested that happiness might be the resultant of a non-arithmetic balance between positive and negative feelings.

The problem of monopolar vs. bipolar mood factor structures might lie in the factorization techniques employed. In across-subject factorizations (R-technique), mood ratings appear to be monopolar but in within-subject factorizations (P-technique) there is considerable evidence of mood polarity. It might be possible that mood polarity is an aspect of within-subject mood structure but not of the structure of mood measures

taken across subjects. Alternatively, it might be possible that mood polarity is an individual trait rather than a structural characteristic of moods *per se*. Further mood studies might include an index of relative polarization among an individual's moods. An appropriate polarization index might be derived from the percentage of negative mood correlations relative to the total possible number of mood intercorrelations.

The factor analysis of mood *level* ratings (Tables 10 and 11) uncovered two orthogonal factors. The first factor represents a tendency for a high association of scores on various *peak* feelings while the second factor appeared to represent a tendency for high association of scores on various *trough* feelings. Two different sets of cognitive control principles are related to each dimension. The tendency to experience high peak moods had positive extension loadings on sensation-seeking, future-orientation, large within-day mood variability, and had negative loadings on the *DPI Repression* scale (Jackson and Messick, 1964), the non-verbal *Breskin Rigidity Test* (Breskin, 1968), and the Calabresi and Cohen (1968) *Time Anxiety* scale. Standing high on this dimension seems to be regulated by an open, non-defensive, adventurous stance toward experience.

The second dimension, which represented a tendency for the association of *trough* mood reports, was associated with a tendency to report less mood fluctuations, a tendency to dis-

play a small amount of within-day mood variability, and a tendency to endorse more internal locus of control beliefs. The second dimension appears to represent a strategy by which the individual can avoid depression and other dissatisfactions by adopting a constrictive internal control style in which the person keeps a "tight grip" upon himself.

Maslow's (1962, 1970) distinction between Being (B) needs and Deficiency (D) needs and their associated cognitions seems to bear a strong relationship to the two mood dimensions obtained in the present study. According to Maslow, D-needs and D-cognitions serve to provide relief from aversive states and are similar to the homeostatic and tension-reduction processes seen in lower organisms as well as in humans. The type of happiness shown on the second mood level dimension seems to be very much like D-needs in that the main goal seems to be more of an escape from displeasure than an enjoyment of pleasure. The cognitive control correlates of this dimension seems to be like Maslow's D-cognitions which are oriented toward providing safety and security. The first dimension, in which there are reports of higher peak mood levels, seems to be similar to Maslow's B-needs in which there is a tendency to surpass and transcend the safety and security needs of the D-needs and in which the person seeks pleasure by being open to experience, especially peak experiences. The cognitive controls accompanying this latter mood dimension seems to resemble the B-cognitions in that they are non-defensive and

are more oriented toward augmenting rather than reducing experiences.

An examination of Wessman and Rick's (1966, pp. 284-285) earlier unrotated centroid factor analysis of mood level measures suggested to the present author that these data, if rotated, would provide dimensions similar to the present dimensions. When the author performed a graphic orthogonal rotation on the Wessman and Ricks (1966) data, a "peaking" dimension and a "constrictive" dimension, with factor loadings similar to the present dimensions, were found. Before concluding, however, that identical factors were found in both studies, a note of caution must be inserted. Wessman and Ricks (1966) employed centroid factor analysis while the present study employed principal axes analysis. In addition, the two studies were conducted more than a decade apart and drew subjects from quite different populations. However, the appearance of these similar and potentially important dimensions is encouraging and should be pursued in further studies.

A factor analysis of the standard deviation mood <u>variability</u> indices provided a two-dimensional factor structure (Tables 12 and 13) that bore some resemblances to the mood level factor structure. However, the standard deviation factor structure was not as clear as the mood level factor structure. But it was clear that the first factor was very large (with 71% of the variance) and was loaded with a great many of the standard deviation scores of <u>trough</u> and <u>average</u>

daily moods. The smaller second factor (with 8% of the variance) was loaded with many of the standard deviation scores of peak and average daily moods, and some cognitive style measures.

Ratings of mood complexity or differentiation formed a single factor which was related only to sensation-seeking. Wessman and Ricks (1966) found mood complexity to be inversely related to mood variability. In a book review of Wessman and Rick's Mood and Personality, Nowlis (1967) suggested that mood complexity scores might be statistical artifacts created by an attenuation in the range of ratings of the more stable subjects. As these subjects' data produced small standard deviations, the possibility that intercorrelations between moods would be small was increased and, therefore, the possibility that a large number of factors would be found was also increased. An examination of the zero-order correlations among mood variability measures and mood differentiation measures of the present study also indicated that mood differentiation was inversely related to mood variability. The median correlation coefficient among mood differentiation and mood variability measures was -.35. However, when mood complexity ratings were included in factor analyses of both the mood level and mood variability data, a clear mood differentiation factor emerged in each case and indicated that this factor was orthogonal to both sets of data. Nowlis (1967) may be partly correct in stating that an attenuation

in the range of stable subjects' ratings might have contributed to an inverse relationship of mood differentiation to mood variability; but a conclusion that mood differentiation is entirely determined by mood variability is clearly unwarranted as the mood differentiation scores shared only about 10% of their variance with mood variability scores and formed a factor which was orthogonal to mood variability scores. As mood differentiation ratings appear to measure something different from other mood ratings, further studies should retain the present mood differentiation measures and should also develop new mood differentiation measures so that correlates of affective differentiation may be found.

Cognitive Control and Cognitive Style Characteristics of Happy and Unhappy Subjects

The cognitive control correlates of the mean daily mood levels on the peak, average, and trough Elation vs. Depression scales (hedonic level; Wessman and Ricks, 1966) were quite similar to the relationships of the cognitive style factors to the entire set of PFS scales. The findings of cognitive control correlates of Elation vs. Depression in the present study parallel the findings of clinical rating and personality test correlates of happiness-unhappiness in the earlier Wessman and Ricks (1966) study.

Wessman and Ricks (1966, p. 248) described their happier

subjects as well-adjusted social extroverts. In the present study, although there was no direct evidence that the happier subjects were social extroverts, there is evidence that these subjects were somewhat more extroverted in the more general sense of the term "extroversion" as discussed by Eysenck (1965, pp. 52-95) and by Cattell (1965, p. 38). The present happier subjects demonstrated such extroversion related behaviors as higher sensation-seeking (Farley and Farley, 1970; Gorman, 1970), preferences for unusual figures on the Breskin (1968) Rigidity Test, and greater time flexibility (Calabresi and Cohen, 1968). Wessman and Ricks (1966) also described their happier men as optimistic individuals who demonstrated a well-developed sense of competence. In the present study, evidence of the optimistic outlook of the happier subjects can be seen in the lower scores of these subjects on the Calabresi and Cohen (1968) Time Anxiety scale and relatively higher ratings of anticipated future happiness on Cantril's (1965) Personal Ladder Scale. The internal locus of control orientation of the present happier subjects also provides some evidence that these subjects tended to have a more well-developed sense of self-confidence and efficacy. In general, the cognitive control correlates of elation-depression in the present study are similar to Wessman and Rick's (1966) findings of personality correlates of happiness-unhappiness.

Cognitive Control Characteristics of Variability and Stability in Hedonic Levels

An examination of the cognitive control correlates of day-to-day variability in elation-depression (hedonic variability) indicated that the more field-independent subjects demonstrated relatively greater mood stability. Field-independence has been shown to be related to greater autonomy and greater use of isolation (Witkin, 1965) and these traits, in turn, were characteristic of Wessman and Ricks (1966, pp. 190-191) more stable men. Wessman and Ricks (1966, pp. 302-304) also found that their variable subjects tended to receive high scores on a questionnaire measure of "oral incorporation". If the relative field-dependence of the present variable subjects can be considered to be an aspect of "orality", then the present data is congruent with Wessman and Ricks' (1966) earlier findings.

The relative lack of defensive tactics and the greater avowals of affective involvement of the present variable subjects, as evidenced by their higher scores on the Time Anxiety scale (Calabresi and Cohen, 1968), higher scores on the DPI Mood Fluctuation scale (Jackson and Messick, 1964), and lower scores on the DPI Repression scale (Jackson and Messick, 1964) is in accord with Wessman and Ricks' (1966, pp. 302-303) general findings that variable subjects were relatively more open to emotional experiences.

In the Wessman and Ricks study (1966, pp. 184-185, 302-304), the mean daily range of Elation vs. Depression, the measure of within-day mood variability, provided many more significant correlations with personality and interview scores and ratings than the standard deviation measures of day-to-day mood variability. In the present study, however, the mean daily range was correlated with only two cognitive style measures. An examination of these correlations reveals that those subjects who were most likely to display large amounts of within-day variability were also more likely to receive high scores on the Pearson Internal Sensation-Seeking scale (Pearson, 1970) and were more likely to receive low scores on the DPI Repression scale (Jackson and Messick, 1964); suggesting that these variable subjects actively enjoyed fantasy, imagination, and daydreaming activities. It may be that mean daily range scores on PFS scales other than Elation vs. Depression (Wessman and Ricks, 1966) might provide other important relationships with cognitive control and cognitive style variables and future research will attempt to find these correlates.

In the next chapter, a final summary of the major findings of cognitive control and cognitive style factor relationships to mood characteristics will be made and directions for new cognitive style and mood studies will be discussed.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study has indicated that there is a complex set of relationships between cognitive controls, cognitive styles, and mood characteristics. Table 15 summarizes the major findings of this study. It can be seen that of all of the cognitive control factors that appeared in this study, the Sensation-Seeking factor (Factor II) was most strongly related to mood levels, so that those subjects who preferred temporarily tension-producing and novel activities and who approached situations in a non-defensive, open manner, were the most satisfied subjects. The factor, Satisfaction with the Present (Factor V), also provided a number of positive relationships with mood level and indicated that those subjects who were contented with their present situations, were optimistic about their futures, and yet did not anticipate much more future happiness than present happiness were likely to report generally high peak mood levels. A somewhat weaker relationship to mood level was provided by the External vs. Internal Locus of Control factor (Factor III), in which subjects who endorsed relatively more external control beliefs tended to report lower trough mood levels. Subjects who received high scores on the Defensiveness factor (Factor IV) tended to report somewhat higher trough mood levels on PFS

Table 15

Summary of the Major Findings on the Relationship of Cognitive Style and Mood Measures[a]

Cognitive Style Factors	Mood Level	Mood Variability	Mood Differentiation
Field Articulation	+lo	-LO, -AVE	0
Temporal Orientation			
Subjective Hope and Confidence	0	0	0
Satisfaction w. Present	+hi	0	0
Sensation-Seeking	+HI, +AVE	0	- slight
Conceptual Differentiation and Narrow Conceptual Bandwidth	0	0	0
Locus of Control (External)	-lo	0	0
Defensiveness	+lo	-hi	0
Rigidity	0	0	0

a. Upper case capitals (i.e. HI, AVE, LO) indicates that at least 5 of the 14 Personal Feeling Scales loaded at .40 or higher on the given cognitive style factor. HI = Peak, AVE = Average, LO = Trough moods. Lower case letters (i.e. hi, ave, lo) indicate some loadings for the Personal Feeling Scale scores at .30 or higher on the given cognitive style factor. The sign (+ or -) indicates whether the mood loading was positively or negatively associated with the cognitive style factor.

scales that the lay public often associates with "sickness vs. health".

Of all of the cognitive control factors, the Field Articulation factor (Factor VII) was most strongly related to mood variability and indicated that more field-independent subjects tended to display relatively greater degrees of mood stability. The "defensiveness" factor (Factor IV) was negatively related to peak mood variability so that subjects who employed repression, blunted affect, and denial of socially undesirable traits was likely to give an impression of mood stability.

With the exception of some slight loadings on the Sensation-Seeking factor (Factor II), there were no appreciable loadings of any of the mood differentiation measures on the cognitive style factors.

Suggestions for Further Research

Although the present study investigated the intercorrelations and factor structures of 135 mood and cognitive style variables, many more research possibilities lie ahead. In the following sections, a number of implications of the present study for future research will be discussed.

In the present study, five out of eight cognitive style factors were shown to be sppreciably related to mood variables. The cognitive control principles that were investigated in

this study do not, by any means, exhaust the full range of cognitive control research. The present cognitive control measures were chosen because administration time was a prime consideration and, therefore, measures of cognitive controls that could be obtained in fairly brief administration were highly desired. However, a number of cognitive control principles require fairly elaborate measurement procedures and would have consumed more time than was available. Among these control principles were: levelling vs. sharpening, scanning, tolerance vs. resistance to the unstable, and flexible vs. constricted control (Klein, 1970). If measures of these control principles also provide relationships to mood variables, then a firmer basis for establishing the importance of cognitive control functions in affective experiences could be achieved.

The cognitive control and mood factors were isolated in the present study by factor analysis techniques. These techniques, however, could not give very strong evidence concerning the relative importance of each factor in the battery. It would be advisable to find configurations of cognitive controls or cognitive control typologies that would be differentially related to mood phenomena. In this way, the relative importance of each control principle or the necessity of examining patterns of cognitive control factors could be explored. In order to achieve these further objectives, new studies should employ alternate multivariate techniques such as cannonical correlation, hierarchical group analysis, multiple

discriminant analysis, and path analysis techniques.

No special provisions were made in the present study to control the ongoing life experiences of any of the subjects and, therefore, the effects of differential situational presses upon the subjects were largely uncontrolled. In some situations, however, reductions in the uncertainty of environmental effects can be accomplished. As the PFS (Wessman and Ricks, 1966) has been designed for use in long-term mood studies, the use of this instrument in more definite situations would provide a great deal of information. Such situations might be found in long-term psychotherapy, military training, pregnancy, hospitalization periods, sleep deprivation (Wessman, personal communication), and pre-examination periods. By correlating mood variables with known situational events and with cognitive control measures, a very broad perspective on mood can be gained. That the cognitive style variables were as strongly related to mood variables, even when situational factors were relatively uncontrolled, attests to the strength of the cognitive style variables.

It was originally hoped that, in the present study, there would be a large amount of demographic diversity in such variables as ethnic background, religious affiliation, age, and socioeconomic background. However, as the present sample was fairly homogeneous and was limited in the number of subjects on whom comparisons could be made, no meaningful analysis of the relationships of demographic variables to cognitive

and mood variables could be made. Such analyses would be extremely useful in being able to trace cultural and social antecedents of both cognitive and affective styles.

As cognitive controls and affects are both, as yet, related to motivational variables in fairly indefinite ways, further examinations of the relationship of salient individual motivational patterns to mood and cognitive styles should be undertaken. Wessman and Ricks (1966) were able to find some important and interesting motivational correlates of moods in their study, but larger studies, which will be primarily concerned with motivation, will be needed to clarify these issues.

The present correlational study was not designed to reach conclusions about causal effects of cognitive controls on mood phenomena but was designed to map out directions in which further mood-cognition research may look for causal relationships. Further experimental studies, in which cognitive and motivational processes will be manipulated, will be needed to affirm any conclusions about the causes of moods. Such manipulations might include hypnotic and role-playing alterations of cognitions and motives, reductions in available information so that subjects will be forced to employ certain cognitive moods, and deprivation or satiation manipulations of motivational patterns.

Some clarification of the effects of cognitive controls on moods might also be achieved in short-term rather than

long-term mood studies. Nowlis (1970) has developed a brief mood checklist that has been employed almost exclusively in fairly short-term mood studies. As of yet, few studies have been designed to measure the effects of cognitive controls in short-term mood studies. As short-term mood studies would allow more experimental control and would reduce the problems of subject attrition, the use of brief mood inventories and brief measures of cognitive controls might provide valuable information in short-term studies.

The previous suggestions were not designed to detract from the importance of the present research. It is felt that the present study had, as had Wessman and Ricks' previous study, been able to map out pathways into mood research and had been able to ascertain conclusions that further research will be able to employ. It has shown that mood states can profitably be studied in relation to other aspects of behavior and that some predictions drawn, although not exclusively, from psychoanalytic ego psychology and cognitive control research could be of value in predicting individual and group mood behaviors. It is hoped that the multivariate nature of the present study will underscore the importance of searching for multiple influences of many factors on experience and behavior so that the goal of previous ventures, that of understanding the complexity of human behavior and experience, may someday be achieved.

Recent theoretical discussions of the nature of human

emotions and feelings have emphasized the need for a comprehensive formulation uniting the complex interrelations of cognition and affect (e.g. Arnold, 1960, 1969, 1970; Lazarus, 1966; Schachter, 1970; Tomkins, 1963, 1970). The aim of this research has been to advance such understanding by an exploration of the relation of cognitive styles and the significant aspect of affective experience represented by moods. This research was based upon the assumption, supported by the present findings, that the intimate relation of cognition and affect is a significant and rewarding field for personality research.

APPENDIX A

THE PERSONAL FEELING SCALES

Personal Feeling Scales: Scale Categories and Use of the Scales

Please complete the present list of personal feelings each night before you go to sleep. It is extremely crucial, for the purposes of this study, that you do this! If, for any reason, you have forgotten to fill out the scales on a given night (hopefully, you won't) fill them out on the next morning, but no later.

Three numbers are required for each of the categories:

(1) The highest point on each category that you reached that day

(2) The point which corresponded to your average feeling that day

(3) The point that described your lowest feeling that day.

Although the statements in each category will probably not correspond exactly with what you felt, regard them as approximations, and select those points which are closest to your own experiences. If you are unsure of your exact feelings, give your best estimate, as full records are necessary for this study.

Record your feelings on the Daily Record of Personal Feelings. Remember, these records will be completely confidential; the only information needed is your pen-name and code number. Hand in your Daily Records for Monday, Tuesday, and Wednesday on the morning of the next class day. Hand in your Thursday, Friday, Saturday, and Sunday records on Monday morning. It is very important that you include the date of the record. If you must be absent from class, fill in the records each night and hand them in when you come back.

You will probably find that it will take you quite a bit of time, at first, to fill out the Personal Feeling Scales. However, as you become more familiar with the scales, you will find that they will require only about five minutes of your time.

PERSONAL FEELING SCALES

I. Receptivity towards and Stimulation by the World (how interested and responsive you felt to what was going on around you).

9. Passionately absorbed in the world's excitement. My sensations and feelings incredibly intensified.
8. Tremendously stimulated. Enormously receptive.
7. Senses lively. Great interest and delight in everything around me.
6. Open and responsive to my world and its happenings.
5. Moderately interested and fairly responsive.
4. Slightly disinterested and unresponsive.
3. Bored. Life pretty monotonous and uninteresting.
2. Dull and apathetic. Almost no interest or desire for anything.
1. Mired down in apathy. My only desire is to shut out the world.
0. Life is too much trouble. Sick of everything, want only oblivion.

II. Personal Freedom vs. External Constraint (how much you felt you were free or not free to do as you wanted).

9. Absolutely free to consider and try any new and adventuresome prospect.
8. Independent and free to do as I like.
7. Ample scope to go my own way.
6. Free, within broad limits, to act much as I want to.
5. Can do a good deal on my own initiative and in my own fashion. No particularly restrictive limitations.
4. Somewhat constrained and hampered. Not free to do things my own way.
3. Checked and hindered by too many demands and constraints.
2. Hemmed in, cooped up. Forced to do things I don't want to do.
1. Trapped, oppressed.
0. Overwhelmed, smothered. Can't draw a free breath.

III. Harmony vs. Anger (how well you got along with, or how angry you felt toward, other people).

9. Boundless good will and complete harmony
8. Enormous good will and great harmony
7. Considerable good will
6. Get along well and rather smoothly
5. Get along pretty well, more or less good feeling
4. A little bit annoyed, somewhat "put out." Minor irritations.
3. Annoyed, irritated, provoked.
2. Very angry. Ill will.
1. Enraged. Seething with anger and hostility.
0. Violent hate and fury. Desire to attack, destroy.

IV. Own Sociability vs. Withdrawl (how socially outgoing or withdrawn you felt today)

9. Immensely sociable and outgoing
8. Highly outgoing, congenial, and friendly
7. Very sociable and involved in things
6. Companionable. Ready to mix with others.
5. Fairly sociable. More or less accessible.
4. Not particularly outgoing. Feel a little bit unsociable
3. Retiring, would like to avoid people
2. Feel detached and withdrawn. A great distance between myself and others.
1. Self-contained and solitary.
0. Completely withdrawn. Want no human contact.

V. Companionship vs. Being Isolated (the extent to which you felt emotionally accepted by, or isolated from other people).

9. Complete participation in warm, intimate friendship
8. Enjoy the warmth of close companionship
7. Thoroughly and genuinely liked.
6. Feel accepted and liked
5. More or less accepted
4. Feel a little bit left out
3. Feel somewhat neglected and lonely
2. Very lonely. No one seems to care much about me.
1. Tremendously lonely. Friendless and forlorn.
0. Completely isolated and forsaken. Abandoned. Ache with loneliness.

VI. Love and Sex (the extent to which you felt loving and tender, or sexually frustrated and unloving).

9. Feel the rapture of full, joyous, and complete love.
8. Tremendous gratification, delight, love, and trust.
7. Warm sharing of intimacy and affection
6. Pleasant companionship and some affection. Sharing interests and good times.
5. Fairly satisfying experiences or expectations. Some mutual interest and understanding.
4. Not much feeling of mutual understanding. Some lack of interest. Slightly frustrated.
3. Little feeling of relationship. Considerable indifference. Moderately frustrated.
2. Feel unable to maintain good relationships. Unloved. Much frustration.
1. Hurt, bewildered, incapable of loving or being loved. Vast amount of frustration.
0. Hopeless, cold, unloved, and unloving.

VII Present Work (how satisfied or dissatisfied you were with your work)

9. Tremendous, intense delight in my work. Proud of my purpose, skill, and accomplishment.
8. Great pleasure and enjoyment in my work. Much fulfillment through work.
7. Considerable satisfaction with my work. Eager to continue.
6. Satisfied with my work. Encouraged to go on with it.
5. More or less satisfied with my work. Keep plugging along.
4. Somewhat dissatisfied with my work. Not much enjoyment doing it.
3. Dissatisfied with my work. Can't see much good in it. Moderately frustrated.
2. Greatly dissatisfied with my work. Not doing a good job. Markedly frustrated.
1. Tremendously dissatisfied and frustrated in my work. Befuddled, Disorganized.
0/ Completely dissatisfied and frustrated in my work. Hopeless, useless chaos.

VIII Thought Processes (how readily your ideas came and how valuable they seemed)

9. I am a surging torrent of spectacular insights
8. Brilliant penetrating ideas emerging spontaneously and with great rapidity.
7. Ideas coming quickly and effortlessly.
6. Clever and keen.
5. Quite alert. Thoughts fairly quick and clear.
4. Not particularly alert. My ideas trivial and commonplace.
3. My mind feels ponderous and dull/ My thoughts are slow and monotonous.
2. My thoughts seem weary, stale, flat, and unprofitable.
1. My mind is stagnant. Almost nothing freshens it.
0. My mind is cold, dead. Nothing moves.

IX Tranquility vs. Anxiety (how calm or troubled you felt)

9. Perfect and complete tranquility. Unshakably secure.
8. Exceptional calm, wonderfully secure and carefree.
7. Great sense of well-being. Essentially secure, and very much at ease.
6. Pretty generally secure and free from care.
5. Nothing particularly troubling me. More or less at ease.
4. Somewhat concerned with minor worries or problems. Slightly ill at ease, a bit troubled.
3. Experiencing some worry, fear, trouble, or uncertainty. Nervous, jittery, on edge.
2. Considerable insecurity. Very troubled by significant worries, fears, uncertainties.
1. Tremendous anxiety and concern. Harassed by major worries and fears.
0. Completely beside myself with dread, worry, fear. Overwhelmed, distraught, and apprehensive. Obsessed or terrified by insolubie problems and fears.

IX. Impulse Expression vs. Self-Restraint (how expressive and impulsive or internally restrained and controlled, you felt).

9. Wild and complete abandon. No impulse denied.
8. Exhilarating sense of release. Say whatever I feel, and do just as I want.
7. Quick to act on every immediate desire.
6. Allowing my impulses and desires a pretty free rein.
5. Moderate acceptance and expression of my own needs and desires.
4. Keep a check on most whims and impulses.
3. On the straight and narrow path. Keeping myself within strong bounds.
2. Obeying rigorous standards. Strict with myself.
1. Refuse to permit the slightest self-indulgence or impulsive action.
0. Complete renunciation of all desires. Needs and impulses totally conquered.

XIX Personal Moral Judgement (how self-approving, or how guilty, you felt)

9. Have a transcendent feeling of moral perfection and virtue
8. I have a sense of extraordinary worth and goodness.
7. In high favor with myself. Well up to my own best standards.
6. Consider myself pretty close to my own best self.
5. By and large, measuring up to most of my moral standards
4. Somewhat short of what I ought to be.
3. I have a sense of having done wrong.
2. Feel that I have failed morally.
1. Heavy laden with my own moral worthlessness.
0. In anguish. Tormented by guilt and self-loathing.

XII. Self-Confidence vs. Feeling of Inadequacy (how self-assured and adequate, or helpless and inadequate you felt).

9. Nothing is impossible to me. Can do anything I want.
8. Feel remarkable self-assurance. Sure of my superior powers.
7. Highly confident of my capabilities.
6. Feel my abilities sufficient and my prospects good
5. Feel fairly adequate.
4. Feel my performance and capabilities somewhat limited
3. Feel rather inadequate.
2. Distressed by my weakness and lack of ability
1. Wretched and miserable. Sick of my own incompetence.
0. Crushing sense of weakness and futility. I can do nothing

XIII. Energy vs. Fatigue (how energetic, or tired and weary, you felt)

9. Limitless zeal. Surging with energy. Vitality spilling over.
8. Exuberant vitality, tremendous energy, great zest for activity.
7. Great energy and drive.
6. Very fresh, considerable energy.
5. Fairly fresh. Adequate energy.
4. Slightly tired, Indolent, Somewhat lacking in energy.
3. Rather tired. Lethargic. Not much energy.
2. Great fatigue. Sluggish. Can hardly keep going. Meager resources.
1. Tremendously weary. Nearly worn out and practically at a standstill.
0. Utterly exhausted. Entirely worn out. Completely incapable of even the slightest effort.

XIV. Elation vs. Depression (how elated or depressed, happy or unhappy, you felt today).

9. Complete elation. Rapturous joy and soaring ecstasy
8. Very elated and in very high spirits. Tremendous delight and buoyancy.
7. Elated and in high spirits.
6. Feeling very good and cheerful
5. Feeling pretty good, "O.K."
4. Feeling a little bit low. Just so-so.
3. Spirits low and somewhat "blue".
2. Depressed and feeling very low. Definitely "blue."
1. Tremendously depressed. Feeling terrible, miserable, "just awful."
0. Utter depression and gloom. Completely down. All is black and leaden.

APPENDIX B

DAILY REPORT FORM

Pen-Name_____ Code No._____ Date_____

Day of Week_____

Daily Record of Personal Feelings

Please fill in completely, 3 ratings on each scale, before retiring every day. Remember to record the "highest" and "lowest" you felt even though they may have been experienced for only a brief moment. The "average" represents your overall summary of the day.

I. Receptivity towards World
10. highest_____
11. average_____
12. lowest _____

II. Personal Freedom vs. Constraint
13. highest_____
14. average_____
15. lowest _____

III. Harmony vs. Anger
16. highest_____
17. average_____
18. lowest _____

IV. Own Sociability vs. Withdrawal
19. highest_____
20. average_____
21. lowest _____

V. Companionship vs. Being Isolated
22. highest_____
23. average_____
24. lowest _____

VI. Love and Sex
25. highest_____
26. average_____
27. lowest _____

VII. Present Work
28. highest_____
29. average_____
30. lowest _____

VIII. Thought Processes
31. highest_____
32. average_____
33. lowest _____

IX. Tranquility vs. Anxiety
34. highest_____
35. average_____
36. lowest _____

X. Impulse-Expression
37. highest_____
38. average_____
39. lowest _____

XI. Personal Moral Judgemen
40. highest_____
41. average_____
42. lowest _____

XII. Confidence
43. highest_____
44. average_____
45. lowest _____

XIII. Energy vs. Fatigue
46. highest_____
47. average_____
48. lowest _____

XIV. Elation vs. Depression
49. highest_____
50. average_____
51. lowest _____

XV (52) Physical Health (check one) 6. Excellent ____ 5. Good _____ 4. Fair _____ 3. Rather Poor _____ 2. Sick _____ 1. Very Sick _____

XVI(53) Sleep (check one) 5. Much more than average _____ 4. More than average _____ 3. Average amount _____ 2. Less than average _____ 1. Much less than average _____

XVII.(54) Pressure of Immediate Academic Work 6. None _____ 5. Rather light _____ 4. Moderate _____ 3. Fairly heavy _____ 2. Very Heavy _____ 1. Extremely heavy._____

XVIII.(55) Have you used alcohol in the past day? 0. No_____ 1. Yes _____

XIX.(56) Have you used marijuana in the past day? 0. No____ 1. Yes _____

XX.(57) Have you used amphetamines in the past day? 0. No_____ 1. Yes _____

XXI.(58) Have you used barbiturates in the past day? 0. No_____ 1. Yes _____

XXII.(59) Women Only Are you menstruating now or expecting your period in the next two days? 0. No. _____ 1. Yes _____

APPENDIX C

HIDDEN FIGURES TEST (Cf-1)

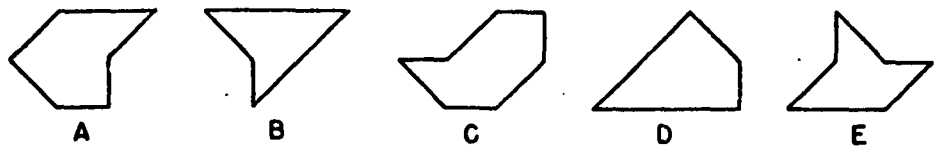
Name: _____

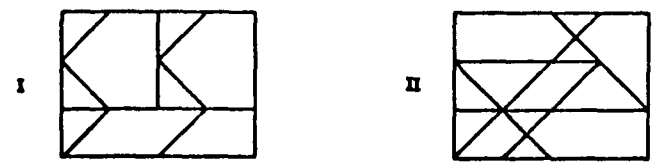
HIDDEN FIGURES TEST — Cf-1

This is a test of your ability to tell which one of five simple figures can be found in a more complex pattern. At the top of each page in this test are five simple figures lettered A, B, C, D, and E. Beneath each row of figures is a page of patterns. Each pattern has a row of letters beneath it. Indicate your answer by putting an X through the letter of the figure which you find in the pattern.

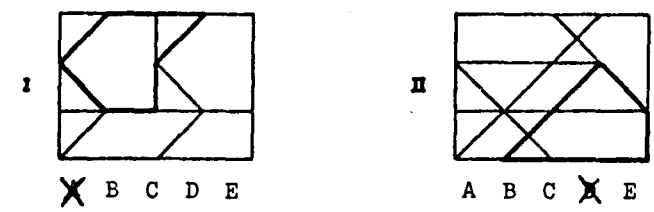
NOTE: There is only one of these figures in each pattern, and this figure will always be right side up and exactly the same size as one of the five lettered figures.

Now try these 2 examples.





The figures below show how the figures are included in the problems. Figure A is in the first problem and figure D in the second.



Your score on this test will be the number marked correctly minus a fraction of the number marked incorrectly. Therefore, it will not be to your advantage to guess unless you are able to eliminate one or more of the answer choices as wrong.

You will have 10 minutes for each of the two parts of this test. Each part has 2 pages. When you have finished Part 1, STOP. Please do not go on to Part 2 until you are asked to do so.

DO NOT TURN THIS PAGE UNTIL ASKED TO DO SO.

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APPENDIX D

HIDDEN PATTERNS TEST (Cf-2)

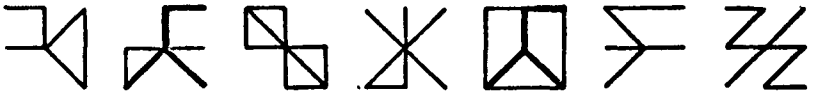
Name: _____

HIDDEN PATTERNS TEST — Cf-2

How quickly can you recognize a figure that is hidden among other lines? This test contains many rows of patterns. In each pattern you are to look for the model shown below:

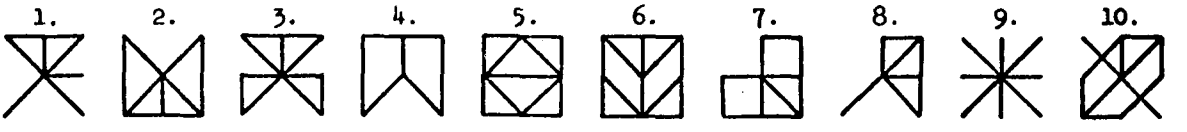
The model must always be in this position, not on its side or upside down.

In the next row, when the model appears, it is shown by heavy lines:



( ) (X) ( ) ( ) (X) ( ) ( )

Your task will be to place an X in the space below each pattern in which the model appears. Now, try this row:



1. ( ) 2. ( ) 3. ( ) 4. ( ) 5. ( ) 6. ( ) 7. ( ) 8. ( ) 9. ( ) 10. ( )

You should have marked patterns 1, 3, 4, 8, and 10, because they contain the model.

Your score on this test will be the number marked correctly minus the number marked incorrectly. Work as quickly as you can without sacrificing accuracy.

You will have 2 minutes for each of the two parts of this test. Each part has two pages. When you have finished Part 1, STOP. Please do not go on to Part 2 until you are asked to do so.

DO NOT TURN THIS PAGE UNTIL ASKED TO DO SO.

APPENDIX E

CALABRESI AND COHEN'S TIME ATTITUDE SCALES

Key: TA = Time Anxiety; TP = Time Possessiveness;

TS = Time Submissiveness; TF = Time Flexibility

minus sign = item reversal

Experiential Questionnaire

Below you will find a number of statements which refer to experiences. For each of the questions please state whether you agree or disagree with the statement. Use the following categories:

6. Strongly Agree
5. Agree
4. Not sure but probably disagree
3. Not sure but probably disagree
2. Disagree
1. Strongly Disagree

1. I often just feel like killing time TS -

2. I avoid people who make demands on my time TA

3. I envy people who can do things on the spur of the moment without a lot of planning. TA

4. It is often hard to keep track of whether something happened a week ago or a few weeks ago TA

5. I work at my best when I have to meet a deadline TF

6. When I was a child many more things seemed to happen in a year than happen in a year now. TA

7. I can spend hours working at a problem, like a puzzle or a workshop project, and lose track of time. TF

8. I get almost panicky when I don't have enough time. TA

9. It bothers me to think how fast time goes. TP

10. It upsets me when I have to postpone things I planned TA

11. When I am on vacation I like the luxury of forgetting about time. TF

12. I try to fill a time for more things than I can do. TF

13. It is fun to plan to plan for the future, even though the plans may not work out TF

14. I hate to make any sort of definite plans weeks or months in advance TA

15. I am almost never late for work or an appointment TS

16. I find waiting in line, even for a short time, very annoying TA

17. I would rather read a TV play about the cities than a play that takes place now. TA

18. When I am by myself, my thoughts often drift back to the past. TA

19. I find it difficult to keep track of time when I can't keep my usual routine. TA

20. It is fun to talk over your younger years with old friends. TF

21. It makes me a little uncomfortable to think about my future TA

22. There are days that go so fast it's hard to figure out WHAT where all the time went. TA

23. Looking back at my life I don't know where all the years went. TA

24. Twice a year, the change to and from daylight saving time throws me off and it takes a while for me to get used to it. TA

25. I wish I would live long enough to see what the world will be like 100 years from now. TP

26. The moments I feel most like my true self are when my mind is full of thoughts of my past and future. TA

27. I would be lost without a watch TS

28. If the only way I can get to an appointment is by rushing, I'd rather be late. TS-

29. Time spent sleeping is wasted time. TP

30. When you are waiting, time seems to just drag on and on. TA

31. I often put things off to the last minute and then rush to get them done on time. TS-

32. Intervals of happiness make up for months and years of drudgery TF

33. I would like the kind of job that I could make my own schedule. TP

34. I would rather come early and wait rather than be late for an appointment. TS

35. I like to have a definite schedule and stick to it. TS

36. I try to save minutes during the day by rushing TP

37. When one single thought lingers on my mind, I lose all sense of time. TF

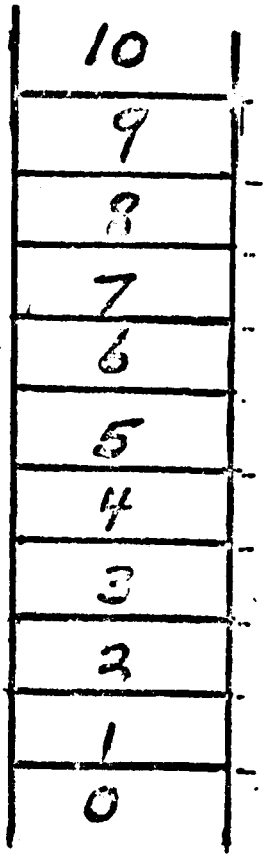
38. It is important to make good use of your time. TS

39. People who talk about the "good old days" are a nuisance. TP

APPENDIX F

CANTRIL'S PERSONAL LADDER SCALE

AGE _____ SEX _____



Above you'll see a numbered ladder. Consider the top of the ladder as the best possible life for you and the bottom as the worst possible life for you. Please place an X to indicate where you feel that you are now. Please place a Y at the point that you were at 5 years ago. Please place a Z at the point that you feel that you will be at 5 years from now.

APPENDIX G

ZUCKERMAN'S SENSATION-SEEKING SCALE

Key: Items scored for Sensation-Seeking are underlined

1. A. I would like a job which would require a lot of traveling
   B. I would prefer a job in one location

2. A. I am invigorated by a brisk, cold day
   B. I can't wait to get into the indoors on a cold day

3. A. I find a certain pleasure in routine kinds of work
   B. Although it is sometimes necessary I usually dislike routine kinds of work

4. A. I often wish I could be a mountain climber
   B. I can't understand people who risk their necks climbing mountains

5. A. I dislike all body odors
   B. I like some of the earthy body smells

6. A. I get bored seeing the same old faces
   B. I like the comfortable familiarity of everyday friends

7. A. I like to explore a strange city or section of town by myself, even if it means getting lost
   B. I prefer a guide when I am in a place I don't know well

8. A. I find the quickest and easiest route to a place and stick to it
   B. I sometimes take different routes to a place I often go, just for variety's sake

9. A. I would not like to try any drug which might produce strange and dangerous effects on me
   B. I would like to try some of the new drugs that produce hallucinations

10. A. I would prefer living in an ideal society where everyone is safe, secure, and happy.
    B. I would have preferred living in the unsettled days of our history

11. A. I sometimes like to do things that are a little frightening
    B. A sensible person avoids activities that are dangerous

12. A. I order the dishes with which I am familiar, so as to avoid disappointment and unpleasantness
    B. I like to try new foods that I have never tasted before

13. A. I can't stand sitting with a person who likes speed
    B. I sometimes like to drive very fast because I find it exciting

14. A. If I were a salesman I would prefer a straight salary, rather than the risk of making little or nothing on a commission basis
    B. If I were a salesman I would prefer working on a commission if I had a chance to make more money than I could on a salary

15. A. I would like to take up the sport of water skiing
B. I would not like to take up water skiing.

16. A. I don't like to argue with people whose beliefs are sharply divergent from mine, since arguments are never resolved
B. I find people that disagree with my beliefs more stimulating than people who agree with me

17. A. When I go on a trip I like to plan my route and timetable fairly carefully
B. I would like to take off on a trip with no preplanned or definite routes or timetables

18. A. I enjoy the thrills of watching car races
B. I find car races unpleasant

19. A. Most people spend entirely too much money on life insurance
B. Life insurance is something that no man can afford to be without

20. A. I would like to learn to fly an airplane
B. I would not like to learn to fly an airplane

21. A. I would not like to be hypnotized
B. I would like to have the experience of being hypnotized

22. A. The most important goal of life is to live it to the fullest and experience as much of it as you can
B. The most important goal of life is to find peace and happiness

23. A. I would like to try parachute jumping
B. I would never want to try jumping out of a plane with or without a parachute

24. A. I enter cold water gradually giving myself time to get used to it.
B. I like to dive or jump right into the ocean or a cold pool

25. A. I do not like the irregularity and discord of most modern music
B. I like to listen to new and unusual kinds of music

26. A. I prefer friends who are excitingly unpredictable
B. I prefer friends who are reliable and predictable

27. A. When I go on a vacation I prefer the comfort of a good room and bed.
B. When I go on a vacation I would prefer the change of camping out

28. A. The essence of good art is in its clarity, symmetry of form, and harmony of colors
B. I often find beauty in the "clashing" colors and forms of modern paintings

29. A. The worst social sin is to be rude
B. The worst social sin is to be a bore

30. A. I look forward to a good night of rest after a long day
B. I wish I didn't have to waste so much of a day sleeping

31. A. I prefer people who are emotionally expressive even if they are a bit unstable
B. I prefer people who are calm and even tempered

32. A. A good painting should shock or jolt the senses
B. A good painting should give one a feeling of peace and security

33. A. When I feel discouraged I recover by relaxing and having some soothing diversion
B. When I feel discouraged I recover by going out and doing something new and exciting

34. A. People who ride motorcycles must have some kind of unconscious need to hurt themselves
B. I would like to drive or ride on a motorcycle

APPENDIX H

PEARSON'S INTERNAL AND EXTERNAL SENSATION-SEEKING SCALES

Activities Preference Inventory

Instructions: Listed below are a series of statements that describe things you might do or experiences you might have. If you like the activity, check A. If you dislike the activity check B. Work rapidly and give your first impression.

1. Letting myself experience new and unusual feelings.
2. Being at the top of a roller coaster ready to go down.
3. Driving a sports car in the Indianapolis 500.
4. Focusing inside on the flow of my feelings.
5. Climbing to the top of a rugged mountain.
6. Experiencing abrupt changes in my moods.
7. Watching a colorful bullfight in Spain.
8. Dreaming that I was lying on the beach with the waves washing over me.
9. Orbiting the Earth in a spaceship.
10. Looking through a blue bottle and seeing people in a dark restaurant.
11. Skiing down a high slope in the Alps.
12. Experiencing my feelings intensely.
13. Suddenly feeling happy for no reason at all.
14. Letting my body totally relax and seeing what I feel.
15. Riding a wild horse in a rodeo.
16. Steering a sled down a steep hill covered with trees.
17. Going on a safari in Africa to hunt Lions.
18. Diving from a board 50 feet above the water.
19. Being on a raft in the middle of the Colorado River.
20. Scuba diving in the Bahamas.
21. Having a dream in which I seem to be flying.
22. Exploring the ruins of an old city in Mexico.
23. Feeling chills run all over my body.
24. Riding on a sled in Alaska pulled by huskies.
25. Sleeping out under pine trees and stars.
26. Having a vivid dream with strange colors and sounds.
27. Walking into an old deserted house at midnight.
28. Watching a red rose turn blue before my eyes.
29. Swimming on a vine in a river filled with snakes.
30. Having a vivid and unusual daydream as I am riding along.
31. Having an unusual dream in which I swam underwater for hours.
32. Riding the waves in a swift moving stream.
33. Losing myself in daydreams when I am bored with what is going on.
34. Having a strange new feeling as I awake in the morning.
35. Seeing a duck with the head of a cat.
36. Walking across a swinging bridge over a deep canyon.
37. Camping out in a wilderness location.
38. Having a dream in which I lived in England in an old haunted castle.
39. Having my feelings change from moment to moment.
40. Letting myself go in fantasy before I go to sleep.

Key: All underlined items are internal sensation-seeking items; all others are external sensation-seeking items

APPENDIX I

CLAYTON AND JACKSON'S OBJECT SORTING TEST

FORM I

3818

OBJECT SORTING

Instructions

In this task you are to put together into groups the names of the objects listed below which seem to you to belong together. There is no one right answer. Everyone does it in his own way. You should do it in the way that seems most natural, most logical, and most comfortable to you.

Look over the list of objects below and decide which ones may be grouped together for a particular reason. Write these groups down on the forms provided, labeling the categories A, B, C, etc., in the column headed Group Designation. Write the names of the objects in each group in the column headed Objects in Group, and draw a line across the page under each group. For example, in category A you would place those objects which seem to belong together in one group, in category B those objects which seem to belong in a second group, and so on for as many or as few groups as you feel is necessary. You may have as many or as few objects in a group as you like, so long as the objects in each group belong together for one particular reason.

However, no object may be placed in more than one group. If, after you have thought about all the objects, a few do not seem to belong with any of the others, you may put each of those objects into groups by themselves.

Beside each group -- in the column headed Reasons -- briefly state your reason for placing the objects together in each of the groups.

So that you will be sure to sort all of the objects it is suggested that you place a check mark next to each object when you place it in a category. There are 50 objects in the list. After you have finished the task, please count the objects you have written down to make sure you have not skipped any. To make any changes, please erase rather than cross out. Begin work immediately.

OBJECTS

lamp post	rope	measuring cup	chair
television set	a tire	cigarette	band aid
rock	pistol	radio	milk bottle cap
hammer	arrow	a match	window shade
ruler	hat	dictionary	a bolt
gloves	golf club	a pot	shoe
sweater	picture	nail scissors	daffodil
aspirin	wallet	shovel	a baseball
canoe	spoon	towel	handkerchief
coat	telephone	a watch	comb
pencil	pillow	tree	toboggan
book-end	rug	postage stamp	dime
lamp	screw driver		

Group Designation (A, B, etc.)	Objects in Group	Reasons

APPENDIX J

SCOTT'S NATION SORTING TEST

Nation Grouping

Instructions

In this task you are to put together into groups the names of the countries listed below which seem to you to belong together. There is no one right answer. Everyone does it in his own way. You should do it in the way that seems most natural, most logical, and most comfotable to you.

Look over the list of countries below and decide which ones may be grouped together for a particular reason. Write these groups down on the forms provided, labelling the categories A, B, C, etc., in the column headed Group Designation. Write the names of the countries in each group in the column headed Countries in Group, and draw a line across the page under each group. For example, in category A you would place those countries which seem to belong together in one group, in category B those countries which seem to belong in a second group, and so on for as many or as few groups as you feel is necessary. You may have as many or as few countries in a group as you like, so long as the countries in each group belong together for some reason.

However, no country may be placed in more than one group. If, after you have thought about all the countries, a few do not seem to belong with any of the others, you may put each of these countries into groups by themselves.

Beside each group -- in the column headed Reasons -- briefly state your reason for placing the countries together in each of the groups.

So that you will be sure to sort all of the countries it is suggested that you place a check mark next to the country when you place it in a category. There are 38 countries in the list. After you have finished the task, please count the countries you have written down to make sure that you have not skipped any. Begin to work immediately.

Countries

Algeria	Ghana	Poland
Australia	Great Britain	Saudi Arabia
Brazil	India	Tunisia
China (Mainland)	Indonesia	Turkey
Congo	Israel	Union of South Africa
Cuba	Italy	USSR (Russia)
Czechslovokia	Japan	United Arab Republic (Egypt
Dominican Republic	Laos	United States of America
France	Mexico	
Germany	Pakisten	

APPENDIX K

PETTIGREW'S CATEGORY WIDTH TEST

PASSAIC [illegible]
Stewart Avenue
Garden City, New York

Prof. Gorman

1. It has been estimated that the average width of windows is 31 inches. What do you think?
   is the width of the widest window....
   1. 1,363 inches
   2. 341 inches
   3. 18 inches
   4. 81 inches

2. Is the width of the narrowest window.....
   1. 3 inches
   2. 18 inches
   3. 11 inches
   4. 1 inch

3. Ornithologists tell us that the best guess of the average speed of birds in flight would be about 47 m.p.h. What do you think:
   is the speed in flight of the fastest bird....
   1. 45 m.p.h.
   2. 105 m.p.h.
   3. 73 m.p.h.
   4. 84 m.p.h.

4. Is the speed in flight of the slowest bird....
   1. 0 m.p.h.
   2. 2 m.p.h.
   3. 12 m.p.h.
   4. 5 m.p.h.

5. The average length of whales in the Atlantic Ocean has been estimated by zoologists to be roughly 65 feet. What do you think:
   is the length of the longest whale in the Atlantic Ocean....
   1. 120 feet
   2. 190 feet
   3. 86 feet
   4. 75 feet

6. Is the length of the shortest whale in the Atlantic Ocean....
   1. 6 feet
   2. 43 feet
   3. 52 feet
   4. 27 feet

7. Shipping authorities have calculated that the average weight per ship registered with the U.S. Maritime Commission in 1946 was 9,705 tons. What do you think:
   is the weight of the heaviest ship registered with the commission....
   1. 10,500 tons
   2. 62,000 tons
   3. 23,000 tons
   4. 7,500 tons

8. is the weight of the lightest ship registered with the commission....
1. 3,900 tons
2. 1,100 tons
3. 2,700 tons
4. 2 tons

9. Weather officials report that during this century Washington, D.C. has received an average rainfall of 41.7 inches annually. What do you think:
is the largest amount of rain that Washington has received in a single year during this century....
1. 82.4 inches
2. 45.8 inches
3. 62.7 inches
4. 51.2 inches

10. is the smallest amount of rain that Washington has received in a single year during this century....
1. 20.2 inches
2. 36.3 inches
3. 9.9 inches
4. 29.7 inches

11. An average of 58 ships entered or left New York harbor daily during the period from 1950 through 1955. What do you think:
was the largest number of ships to enter or leave New York in a single day during this period....
1. 69 ships
2. 153 ships
3. 76 ships
4. 102 ships

12. was the smallest number of ships to enter or leave New York in a single day during this period....
1. 34 ships
2. 3 ships
3. 16 ships
4. 43 ships

13. For the past twenty years, Alaska's population has increased an average 3,270 people per year. What do you think:
was the greatest increase in Alaska's population in a single year during these twenty years....
1. 6,300
2. 21,500
3. 3,900
4. 4,800

14. was the smallest increase in Alaska's population in a single year during these twenty years....
1. 470
2. 1,960
3. 980
4. 2,520

15. Boating experts estimate that the average speed of all sailing craft in America is around 4.1 knots. What do you think:
is the speed of the fastest sailing boat in America....
1. 8.2 knots 3. 5.9 knots
2. 30.7 knots 4. 21.3 knots

16. is the speed of the slowest sailing boat in America....
1. 3.3 knots 3. 2.2 knots
2. 0.6 knots 4. 1.2 knots

17. Book review editors guess that around 300 new American novels have appeared annually since World War II. What do you think....
is the largest number of novels to be published in America in a single year during this period....
1. 380 novels 3. 670 novels
2. 455 novels 4. 620 novels

18. is the smallest number of novels to be published in America in a single year during this period....
1. 185 novels 3. 90 novels
2. 265 novels 4. 260 novels

19. Between 1900 and 1940 there was an average of 48 lynchings per year in the United States. What do you think:
was the largest number of lynchings in any one year during this period in the United States....
1. 70 3. 53
2. 62 4. 135

20. was the smallest number of lynchings in any one year during this period in the United States.....
1. 1 3. 23
2. 11 4. 19

21. It has been calculated that the average time for all trains in 1953 from New York City to Washington, D.C. was 205 minutes (3 hours and 45 minutes). What do you think:
was the time of the slowest train from New York City to Washington in 1953....
1. 327 min. 3. 396 min.
2. 304 min. 4. 483 min.

22. was the time of the fastest train from New York City to Washington in 1953....
1. 235 min. 3. 268 min.
2. 202 min. 4. 145 min.

23. The average number of births in the world per day during 1953 has been estimated to be 24,140. What do you think:
was the largest number of births in the world in any one day during 1953....
1. 36,490 3. 49,376
2. 28,207 4. 30,043

24. was the smallest number of births in the world in any one day during 1953....
1. 26,340
2. 24,725 3. 14,370
4. 19,704

25. When all of the world's written languages are considered, linguists tell us that the average number of verbs per language must be somewhere around 15,000. What do you think:
is the largest number of verbs in any single language...
1. 21,000 3. 50,000
2. 16,000 4. 30,000

26. is the smallest number of verbs in any single language...
1. 1,000 3. 5,000
2. 12,000 4. 10,000

27. The average muzzle to tail length of a sample of 1,000 German Shepherd dogs is 40.3 inches. What do you think:
is the length of the longest Shepherd dog in the sample...
1. 60.4 inches 3. 44.[illegible] inches
2. 47.8 inches 4. [illegible].2 inches

28. is the length of the shortest Shepherd dog in the sample...
1. [illegible].5 inches 3. 39.7 inches
2. 26.4 inches 4. 36.9 inches

29. The average population of South American countries is approximately 8.6 million people each. What do you think:
is the population of the most populated country in South America...
1. 11.2 million 3. 23.5 million
2. 54.7 million 4. 129.1 million

30. is the population of the least populated country in South America...
1. 7,000 3. [illegible] million
2. 6.[illegible] million 4. 29,000

31. A Stanford University home economist has estimated that the average American spends around 55 minutes of his day eating. What do you think:
is the longest eating time of any single American....
1. 16[illegible] minutes 3. 245 minutes
2. 125 minutes 4. 90 minutes

32. is the shortest eating time of any single American....
1. 16 minutes 3. [illegible] minutes
2. 4 minutes 4. 27 minutes

33. In 1946 the average number of births per state was 68,000. What do you think:
was the highest number of births in a single state....
1. [illegible],000 3. 71,000
2. 12[illegible],000 4. 2[illegible],000

34. was the lowest number of births in a single state....
1. 29,000 3. 14,000
2. 53,000 4. 900

35. Immediately after World War II, the average number of submarines owned by the largest seven navies in the world was 58. What do you think:
was the largest number of submarines owned by one of these navies...

1. 159
2. 91
3. 118
4. 69

36. was the smallest number of submarines owned by one of these navies....

1. 22
2. 9
3. 36
4. 47

37. The average number of churches per religious denomination in the United States estimated to be 5[illegible]. What do you think:
is the largest number of churches of a single religious denomination in the U.S.A.......

1. 4,[illegible]
2. 757
3. 1,219
4. 39,[illegible]01

38. is the smallest number of churches of a single religious denomination in the U.S.A.....

1. 313
2. 146
3. 1
4. 23

39. In the years 1936 through 19[illegible], according to the U.S. [illegible] Bureau, there [illegible] average of [illegible] tornadoes a year in the United States. What do you think:
was the largest number of [illegible] in a single year in the United States during this period.....

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]

40. was the smallest number of [illegible] in a single year in the United States during this period.....

1. [illegible]
2. 122
3. 6[illegible]
4. 23

APPENDIX L

ADVANCED VOCABULARY TEST (V-4)

Name: _____

ADVANCED VOCABULARY TEST — V-4

This is a test of your knowledge of word meanings. Look at the sample below. One of the five numbered words has the same meaning or nearly the same meaning as the word above the numbered words. Mark your answer by putting an X through the number in front of the word that you select.

jovial

1-refreshing
2-scare
3-thickset
4-wise
X-jolly

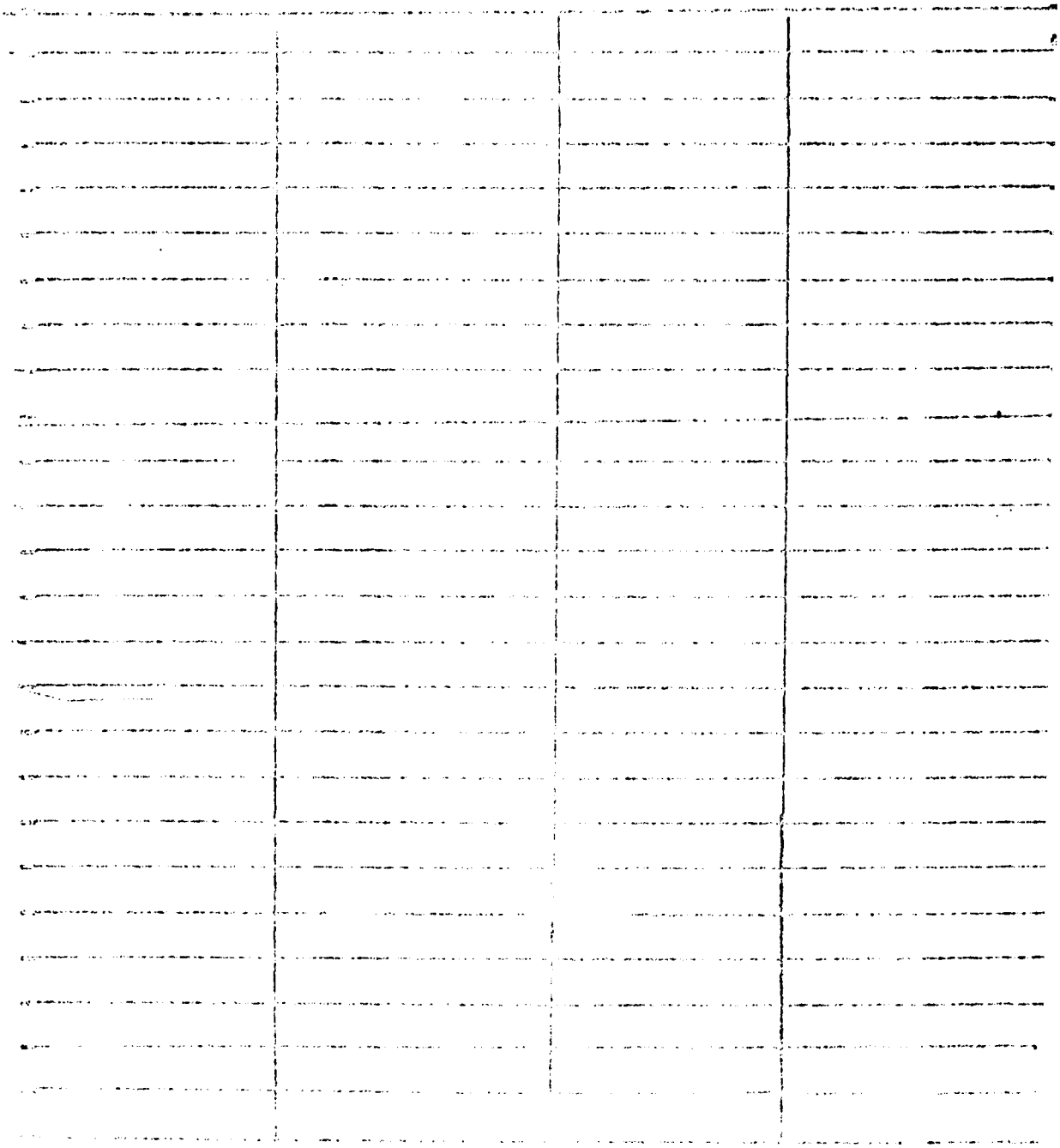
The answer to the sample item is number 5; therefore, an X has been put through number 5.

Your score will be the number marked correctly minus a fraction of the number marked incorrectly. Therefore, it will not be to your advantage to guess unless you are able to eliminate one or more of the answer choices as wrong.

You will have 4 minutes for each of the two parts of this test. Each part has one page. When you have finished Part 1, STOP. Please do not go on to Part 2 until you are asked to do so.

APPENDIX M

MOOD WORD FLUENCY TEST



APPENDIX N

ROTTER AND MIRELS LOCUS OF CONTROL SCALES

Instructions

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered A or B. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. REMOVE THIS ANSWER SHEET NOW. Print you name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the booklet until you are told to do so.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and black-in the space under the number 1 or 2 which you choose as the statement more true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

KEY: Underlined items are scored as External.

NASSAU COMMUNITY COLLEGE
Stewart Avenue
Garden City, New York

M = Mirels items

Psychology — Prof. Gorman

1. A. Children get into trouble because their parents punish them too much.
   B. The trouble with most children nowadays is that their parents are too easy with them.

2. A. Many of the unhappy things in people's lives are partly due to bad luck.
   B. People's misfortunes result from the mistakes they make.

3. A. One of the major reasons why we have wars is because people don't take enough interest in politics.
   B. There will always be wars, no matter how hard people try to prevent them.

4. A. In the long run people get the respect they deserve in this world.
   B. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. A. The idea that teachers are unfair to students is nonsense.
   M B. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. A. Without the right breaks one cannot be an effective leader.
   B. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. A. No matter how hard you try some people just don't like you.
   B. People who can't get others to like them don't understand how to get along with others.

8. A. Heredity plays the major role in determining one's personality.
   B. It is one's experiences in life which determine what they are like.

9. A. I have often found that what is going to happen will happen.
   B. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. A. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
    M B. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. A. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
    M B. Getting a good job depends mainly on being in the right place at the right time.

12. A. The average citizen can have an influence in government decisions.
B. This world is run by the few people in power, and there is not much the little guy can do about it.

13. A. When I make plans, I am almost certain that I can make them work.
B. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. A. There are certain people who are just no good.
B. There is some good in everybody.

15. A. In my case getting what I want has little or nothing to do with luck.
M B. Many times we might just as well decide what to do by flipping a coin.

16. A. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
M B. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. A. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, not control.
B. By taking an active part in political and social affairs the people can control world events.

18. A. Most people don't realize the extent to which their lives are controlled by accidental happenings.
M B. There really is no such thing as "luck".

19. A. One should always be willing to admit mistakes.
B. It is usually best to cover up one's mistakes.

20. A. It is hard to know whether or not a person really likes you.
B. How many friends you have depends upon how nice a person you are.

21. A. In the long run the bad things that happen to us are balanced by the good ones.
B. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. A. With enough effort we can wipe out political corruption.
B. It is difficult for people to have much control over the things politicians do in office.

23. A. Sometimes I can't understand how teachers arrive at the grades they give.
M B. There is a direct connection between how hard I study and the grades I get

24. A. A good leader expects people to decide for themselves what they should do.
B. A good leader makes it clear to everybody what their jobs are.

25. A. Many times I feel that I have little influence over the things that happen to me.
M B. It is impossible for me to believe that chance or luck plays an important role in my life.

26. A. People are lonely because they don't try to be friendly.
B. There's not much use in trying too hard to please people, if they like you, they like you.

27. A. There is too much emphasis on athletics in high school.
B. Team sports are an excellent way to build character.

28. A. What happens to me is my own doing.
M B. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. A. Most of the time I can't understand why politicians behave the way they do.
B. In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX O

MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE

AND GOUGH-SANFORD RIGIDITY SCALE

Personal Reaction Inventory

Listed below are a number of statements concerning personal attitudes and traits. Read each item and state whether the statement is true or false as it pertains to you personally. If true, check A. If false, check B.

KEY: GS = Gough-Sanford ; MC= Marlowe-Crowne Scale

MC (A) 1. I have never felt that I was punished without cause.

MC (A) 2. I have never disliked anyone.

GS (A) 3. I find it easy to stick to a certain schedule, once I have started i

MC (B) 4. On a few occasions, I have given up doing something because I thought too little of my ability.

MC (B) 5. I am sometimes irritated by people who ask favors of me.

GS (A) 6. I dislike to change my plans in the midst of an undertaking.

MC (B) 7. I sometimes feel resentful when I don't get my way.

MC (A) 8. No matter who I'm talking to, I'm always a good listener.

MC (B) 9. On occasion I have had doubts about my ability to succeed in life.

GS (A) 10. I believe that promptness is a very important personality characteri

MC (A) 11. I always try to practice what I preach.

MC (A) 12. I don't find it particularly difficult to get along with loud-mouthe obnoxious people.

MC (A) 13. Before voting, I thoroughly investigate the qualifications of all th candidates.

GS (A) 14. I am often the last one to give up trying to do a thing.

GS (A) 15. I often get so wrapped up in something I am doing that I found it difficult to turn my attention to other matters.

GS (A) 16. I often think it is usually wise to do things in conventional ways.

GS (A) 17. I am always careful about my manner of dress.

MC (A) 18. I have never been irked when people expressed ideas different from my own.

GS (A) 29. I never miss going to church (or synagogue).

GS (A) 30. I am a methodological person in whatever I do.

MC (A) 31. I have almost never felt the urge to tell someone off.

MC (A) 32. I have never deliberately said something that hurt someone's feelings.

MC (B) 33. I sometimes try to get even rather than forgive and forget.

GS (A) 34. I usually check twice time to be sure that I have locked a door, put out the lights, or something of the sort.

MC (B) 35. I like to gossip at times.

GS (A) 36. I try to follow a program of life based on duty.

MC (A) 37. I am always worried about my number of dates.

MC (B) 38. If I could get into a movie without paying and be sure I was not seen I would do it.

MC (A) 39. I never resent being asked to return a favor.

MC (B) 40. There have been times when I felt like rebelling against people in authority even though I knew they were right.

GS (A) 41. I prefer to stop and think before I act even on trifling matters.

GS (A) 42. I have a very definite routine which I follow carefully.

MC (A) 43. When I don't know something, I don't at all mind admitting it.

MC (A) 44. I'm always willing to admit when I make a mistake.

GS (A) 45. I do not enjoy having to adapt myself to new and unusual situations.

MC (A) 46. I would never think of letting someone else be punished for my wrongdoings.

GS (A) 47. I always finish tasks I start, even if they are not very important.

MC (A) 48. My table manners at home are as good as when I eat out in a restaurant.

MC (B) 49. There have been occasions when I took advantage of someone.

GS (A) 50. I always put on and take off my clothes in the same order.

GS (A) 51. I prefer work that requires a great deal of attention to details.

GS (A) 52. There is usually only one best way to solve most problems.

MC (A) 53. I never hesitate to go out of my way to help someone in trouble.

GS (A) 44. I often find myself thinking of the same tunes or phrases for days at a time.

GS (A) 45. I usually find that my own way of attacking a problem is best, even though it doesn't always seem to work in the beginning.

GS (A) 46. I have never done anything dangerous for the thrill of it.

MC (B) 47. I sometimes feel that when people have a misfortune they only got what they deserved.

MC (B) 48. There have been occasions when I felt like smashing things.

MC (B) 49. There have been times when I was quite jealous of the good fortune of others.

MC (B) 50. I can remember "playing sick" to get out of something.

MC (B) 51. It is sometimes hard for me to go on with my work if I am not encouraged.

MC (B) 52. At times I have really insisted on having things my own way.

MC (A) 53. I am always courteous, even to people who are disagreeable.

MC (A) 54. I never make a long trip without checking the safety of my car.

APPENDIX P

DPI REPRESSION, SHALLOW AFFECT, AND MOOD FLUCTUATION SCALES

Assessment Inventory IV

Please answer the questions below in the following way:
1. If the statement is true of yourself, check A
2. If the statement is false as it concerns youself, check B.

1. The way I feel depends a great deal on how people around me feel.
2. At times I feel angry with people I really love.
3. When I am playing a game, I don't care if I win or lose.
4. It takes a great deal to change my mood from happy to sad.
5. I don't like tense, dramatic TV shows.
6. Some things cause me to become quite excited.
7. On some days nothing bothers me, but at other times I am very touchy.
8. I enjoy discussing important things such as love or death.
9. Accidents, even if serious, never bother me.
10. Few things that happen to me have a strong effect on my mood.
11. Since I go to the movies for relaxation, I only like to see happy films.
12. I usually am in favor of one side in a sports event.
13. I often change from feeling wonderful one moment to feeling sad the next
14. I would like to read over a childhood diary of mine to find out how I felt and thought.
15. I don't particularly like pets.
16. I do not get bored one minute and excited about something the next.
17. I was very happy when I was in school.
18. There have been times when I wasashamed of something I have done.
19. The way I feel about my life changes quite often.
20. I sometimes enjoy being noisy.
21. What people say about me behind my back doesn't bother me.
22. Little changes in the weather do not affect my mood.
23. At night I rarely think over what has happened to me during the day.

24. I don't think I could watch an animal suffer without becoming upset.

25. My feelings change more often than most people's.

26. I like to think about difficult questions even if I can't find answers to them.

27. I don't either like or dislike people.

28. The way I feel about people does not change very much.

29. I am quite careful to think about anything evil.

30. Some motion pictures cause me to become quite emotional.

31. My surroundings can easily make me happy or sad.

32. When something upsets me, I usually spend some time thinking about the reason.

33. I am hardly ever embarrassed.

34. People usually know how I ~~XXXXX~~ will react to things.

35. I don't like much excitement.

36. I enjoy going to parties.

37. A small event can change my outlook for the whole day.

38. Parts of my childhood were difficult for me.

39. Rarely, if ever, have I cried or felt like crying.

40. My mood rarely changes.

41. I have always felt equally close to both my parents.

42. I would be quite upset if I saw someone die.

43. I sometimes feel like crying right in the middle of having a good time.

44. I would like to go back to my childhood home.

45. I have never beenash ashamed of anything I have done.

46. I am not excitable.

47. I think it is childish to "let yourself go."

48. I am a sensitive person.

49. My life is full of ups and downs.

50. At times I thought one or both of my parents were being quite unfair to me.

51. It is very hard for me to get excited over anything.

52. My mood in the morning, when I get up, remains the same from one day to the next.

53. I don't see much point in travelling around when home is quite comfortable.

54. I usually form opinions about the things that I see or hear.

55. Sometimes I begin to feel sad for no real reason.

56. At these times it is important for me to keep informed of recent political events.

57. I am not very emotional.

58. The way I feel stays about the same from day to day.

59. I don't like to think about the troubles in the world today because there is nothing I can do about them.

60. I have done some things in my life that make me quite proud.

APPENDIX Q

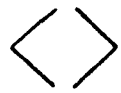
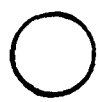
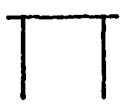
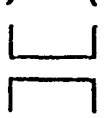
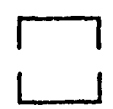
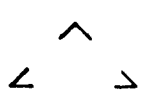
BRESKIN RIGIDITY SCALE

BRT

Name: _____ Age: _____ Sex: _____

Instructions: There are 15 pairs of items on this test. For each pair, place a check, (✓), in the space provided, next to the symbol you like better. You will have 3 minutes.

KEY: X indicates choice scored in direction of rigidity

1.		X	___	
2.		___	X	
3.		___	X	
4.	2 + 2 = 4	X	___	1 + 3 = 4
5.		X	___	
6.		X	___	
7.		X	___	
8.		X	___	
9.		X	___	
10.		X	___	
11.		___	X	
12.		___	X	
13.		___	X	
14.		X	___	
15.		___	X	

APPENDIX R

BARRON-WELSH ART SCALE (SAMPLE ITEMS)

[redacted]

DEVISED BY
[redacted]
AND
[redacted]

A Part of the
[redacted]

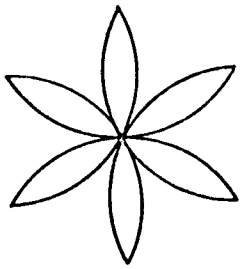
DIRECTIONS

(1) You are asked to decide whether you like or don't like each of the drawings on the following pages.

(2) Record your answers on the separate answer sheet by making a heavy mark opposite "L" (for Like) or "D" (for Don't Like). On some answer sheets the labels may be "T" (or True) for Like, and "F" (or False) for Don't Like. Be sure the number of the drawing you are considering is the same as the number you mark on the answer sheet.

If you can't decide, guess. Do not skip any drawings. Try to work as fast as you can.

Published by [redacted], PALO ALTO, CALIF.



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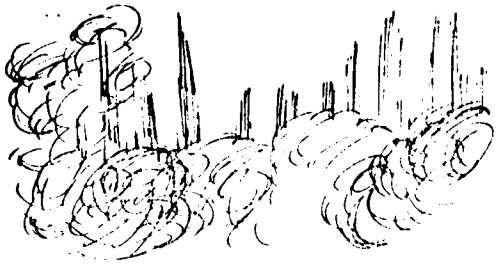

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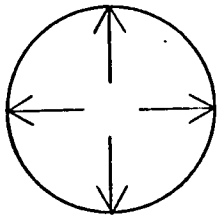

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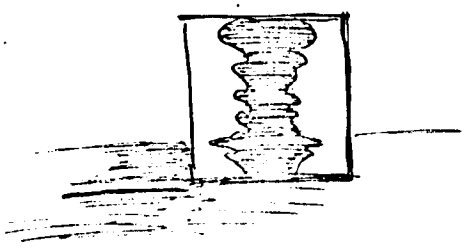

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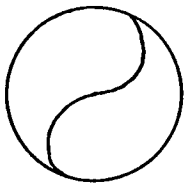

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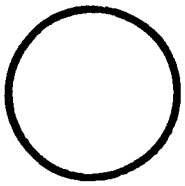

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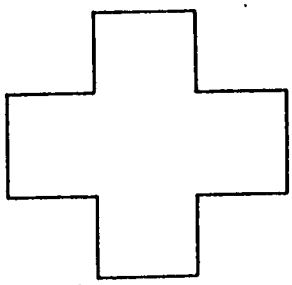

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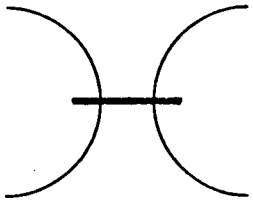

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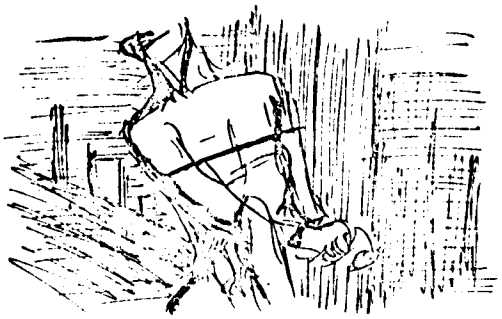

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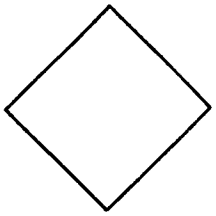

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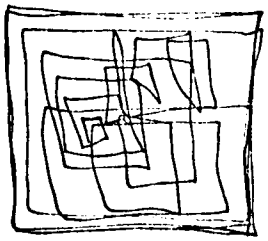

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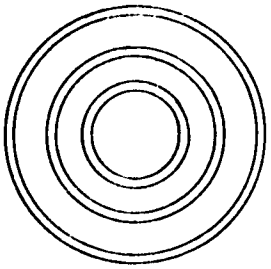

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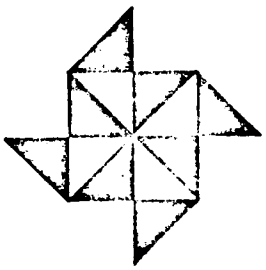

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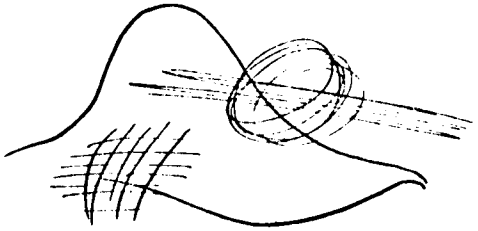


24

APPENDIX S

BARRON-WELSH ART SCALE

(FORCED CHOICE FORM; SAMPLE ITEMS)

FIGURE CHOICES

Directions

Each item on the following pages consists of a pair of drawings. You are to decide which drawing in each pair you like or prefer most.

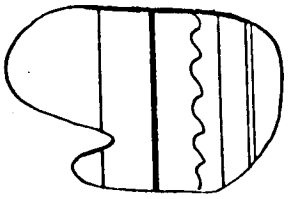
The letter X is printed under the left-hand drawing in each pair and the letter Y under the right-hand drawing. For each pair, you are to indicate which drawing you like most by circling the corresponding X or Y on the enclosed answer sheet.

For some pairs you may find it difficult to decide which drawing you like most. Do the best you can in such cases, but please indicate a choice for each item.

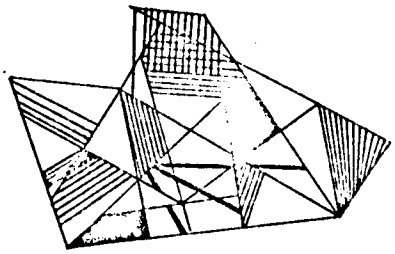
Please do not skip any pairs, and for each item, make sure you circle either X or Y , and not both.

TURN THE PAGE AND BEGIN IMMEDIATELY.

1

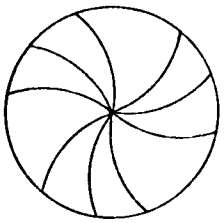


X



Y

2



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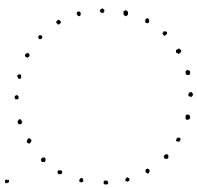

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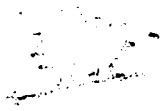

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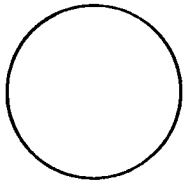

Y

GO ON TO THE NEXT PAGE.

APPENDIX T

COGNITIVE CONTROL FACTOR ANALYSIS OF FEMALE DATA (N = 47)

Glossary of Computer Abbreviations of Labels of Measures

No.	Label	Measure
1.	[illegible]	Mood Word Fluency
2.	[illegible]	Hidden Figures Test, No. Correct
3.	CFHWR	Hidden Figures Test, No. Wrong
4.	PLSX	Personal Ladder Scale: Present
5.	[illegible]	" " Past
6.	PLSY	" " Future
7.	PLSXY	" " Present-Past Range
8.	PLSXZ	" " Present-Future Range
9.	[illegible]	" " Past-Future Range
10.	[illegible]	Brechin Rigidity Test
11.	[illegible]	Barron-Welsh Art Scale
12.	V-4	Advanced Vocabulary Test
13.	[illegible]	Pearson Internal Sensation-Seeking Scale
14.	[illegible]	Pearson External Sensation-Seeking Scale
15.	[illegible]	Hidden Patterns Test, No. Correct
16.	[illegible]	Pettigrew's Category Width Test
17.	[illegible]	Marlowe-Crowne Social Desirability Scale
18.	[illegible]	Gough-Sanford Rigidity Scale
19.	[illegible]	Object Sorting Test, No. of Groups Formed
20.	[illegible]	" " No. of Miscellaneous Groups
21.	[illegible]	Calabresi & Cohen Time Anxiety Scale
22.	[illegible]	" " Submissiveness Scale
23.	[illegible]	" " Possessiveness Scale
24.	[illegible]	" " Flexibility Scale

25. ZSSS Zuckerman Sensation-Seeking Scale

26. IELC Rotter's Internal-External Locus of Control Scale

27. NELC Nowicki's Locus of Control Scale

28. GSNG Scott's Gough Sorting Test, No. of Groups Formed

29. GSMG " ", No. of Miscellaneous Groups

30. BMASFC Barron-Welsh Art Scale, Forced Choice Form

31. DPIMFL Differential Personality Inventory: Mood Fluctuation Scale

32. DPISA " ": Shallow Affect Scale

33. DPIREP " ": Repression Scale

34. SEX Subject Sex Marker Dichotomy (1= male, 0 = female)

VERIMAX FACTORS OF B ***PAGE 1 OF MATRIX VFAC *** BLANK IF ABS VALUE LESS

POSITION		1	2	3	4	5	6	7	8	9	10	11
	LABEL	L1		L3		L5		L7		L9		L11
			L2		L4		L6		L8		L10	
1	MCCDWC							23			20	46
2	CFIRT			63					-27			
3	CFIWR					-74				-30		23
4	PLSX						-91				-34	
5	PLSY	-90					-22					
6	PLSZ	37					-21			26	-62	
7	PLSXY	76										
8	PLSXZ	24					78					
9	PLSYZ	94										
10	BRT		30	-51					-49			
11	BWAS											63
12	V4					63						
13	PPIS			45	53	24						
14	PPES			79		21	-26					
15	CF2R					66						
16	PCWS				32			30		-53		
17	MCSE		-32	36	-51		23					-22
18	CSRS							82				
19	CSCR									73		
20	CSMC								74			
21	CCTA		60		23	-32			22	23		
22	CCTS							68				
23	CCTF										73	20
24	CCTF			31		28			50			21
25	ZSSS			60	21					-25		
26	IELC		89									
27	MILC		92									
28	CSNC									44	-22	
29	CSMC	26			21			-24	24			-21
30	BWASFC			31	33			-37				53
31	CPIMFL		34		64					21		
32	CPISA				-64							
33	CPIREF			-30	-61						33	

APPENDIX U

INTERCORRELATIONS OF COGNITIVE CONTROL VARIABLES AND MOOD LEVEL MEASURES (N = 67)

$\underline{r} = .242$; $\underline{p} < .05$

$\underline{r} = .315$; $\underline{p} < .01$

Glossary of Computer Abbreviations of Labels of Measures

No.	Label	Measure
1.	MOODWD	Mood Word Fluency
2.	CF1RT	Hidden Figures Test, No. Correct
3.	CF1WR	Hidden Figures Test, No. Wrong
4.	PLSX	Personal Ladder Scale: Present
5.	PLSY	" " Past
6.	PLSY	" " Future
7.	PLSXY	" " Present-Past Range
8.	PLSXZ	" " Present-Future Range
9.	PLSYZ	" " Past-Future Range
10.	BRT	Breskin Rigidity Test
11.	BWAS	Barron-Welsh Art Scale
12.	V-4	Advanced Vocabulary Test
13.	PPIS	Pearson Internal Sensation-Seeking Scale
14.	PPES	Pearson External Sensation-Seeking Scale
15.	CF2RT	Hidden Patterns Test, No. Correct
16.	PCWS	Pettigrew's Category Width Test
17.	MCSD	Marlowe-Crowne Social Desirability Scale
18.	GSRS	Gough-Sanford Rigidity Scale
19.	OSGR	Object Sorting Test, No. of Groups Formed
20.	OSMG	" " No. of Miscellaneous Groups
21.	CCTA	Calabresi & Cohen Time Anxiety Scale
22.	CCTS	" " Submissiveness Scale
23.	CCTP	" " Posessiveness Scale
24.	CCTF	" " Flexibility Scale

25. ZSSS Zuckerman Sensation-Seeking Scale

26. IELC Rotter's Internal- External Locus of Control Scale

27. MILC Mirels' Locus of Control Scale

28. CSNG Scott's Country Sorting Test, No. of Groups Formed

29. CSMG " ", No. of miscellaneous Groups

30. BWASFC Barron-Welsh Art Scale, Forced Choice Form

31. DPIMFL Differential Personality Inventory: Mood Fluctuation Scale

32. DPISA " ": Shallow Affect Scale

33. DPIREP " ": Repression Scale

34. SEX Subject Sex Marker Dichotomy (1= male, 0 = female)

Mood Variables

Nos.	Label[a]	Mood Measure
35, 36, 37	RECEPT H,A,L,	Receptivity towards the World
38, 39, 40	FREEDM H, A, L	Personal Freedom vs. Constraint
41, 42, 43,	HARMNY H, A, L	Harmony vs. Anger
44, 45, 46	SOCBLE H, A, L	Own Sociability vs. Withdrawal
47, 48, 49	COMPAN H, A, L	Companionship vs. Being Isolated
50, 51, 52	LOVESX H, A, L	Love and Sex
53, 54, 55	WORKST H, A, L	Present Work
56, 57, 58	THOUGT H, A, L	Thought Processes
59, 60, 61	TRANQL H, A, L	Tranquillity vs. Anxiety
62, 63, 64	IMPLSE H, A, L	Impulse-Expression vs. Self-Restraint
65, 66, 67	MORALS H, A, L	Personal Moral Judgement
68, 69, 70	CONFDN H, A, L	Confidence vs. Feeling of Inadequacy
71, 72, 73	ENERGY H, A, L	Energy vs. Fatigue

74, 75, 76	ELATED H, A, L	Elation vs. Depression
77.	HEALTH	Physical Health
78.	SLEEP	Amount of Sleep
79.	ACDWORK	Pressure of Academic Work
80.	ALCOHOL	Alcohol Usage
81.	MARIJNA	Marijuana Usage
82.	AMPHETAM	Ampetamine Usage
83.	BARBITU	Barbiturate Usage
84.	AVCORR	Average Correlation between Variables
85.	PVAR	Percentage of Variance of First Factor
86.	#FACT90%	No. of Factors Accounting for 90% of Variance
87.	#FACT10%	No. of Factors Accounting for More Than 10% of the Variance apiece.

a. H= High (Peak), A = Average, L = Low (Trough) Mood Measure

CORRELATIONS: PRODUCT-MOMENT VERSION OF 9/1/68

COGNITIVE VARIABLES,MOOD MEANS,AFFECTIVE COMPLEXITY
(4X,15(1X,F2.0),1X,F3.0,8(1X,F2.0)/4X,10(1X,F2.0)/2X,7(F5.3,6X)/2X,7(F5.3,6X)/2X,7(F5.3,6X)/2X,7(F5.3,6X)/2X,7(F5.3,6X)/2X,7(F5.3,6X)/2X,7(F5.3,6X)/4X,4(1X,F2.0))

26.000	5.000	.000	7.000	3.000	10.000	4.000	3.000	7.000	3.000
34.000	9.000	14.000	11.000	32.000	59.000	7.000	12.000	12.000	2.000
59.000	31.000	21.000	46.000	9.000	14.000	4.000	7.000	1.000	17.000
16.000	.000	5.000	.000	7.214	6.179	5.607	7.986	6.214	5.036
7.179	5.643	4.000	6.893	5.714	4.714	7.786	6.857	5.286	6.429
5.821	5.214	6.286	5.429	4.857	7.357	6.286	5.250	6.786	5.571
4.143	6.821	5.536	4.536	7.214	6.429	5.000	7.929	6.286	5.286
7.107	5.857	4.964	7.143	5.679	4.464	4.893	3.907	3.714	.179
.000	.000	.000	28.000	32.000	13.000	2.000			

NO. OF OBSERVATIONS = 67 NO. OF VARIABLES = 87

VARIABLE	MEAN	STD. DEVIATION
MODWD	21.791	7.307
CF1RT	4.731	2.889
CF1WR	1.836	2.404
PLSX	6.373	1.665
PLSY	4.821	2.116
PLSZ	8.776	1.104
PLSXY	2.269	1.608
PLSXZ	2.478	1.500
PLSYZ	3.940	2.437
SRT	7.119	4.279
SWAS	25.791	9.661
V-4	8.761	2.563
PPIS	12.030	3.871
PPES	10.851	3.990
CF2RT	29.896	10.542
PCWS	66.119	16.614
MCSD	11.209	4.827
GSRS	9.000	3.200
GS#GR	9.493	2.723
GS#MG	2.791	2.945
CCTA	54.896	8.254
CCTS	29.806	5.689
CCTP	20.597	3.940
CCTF	37.328	5.329
ZSSS	12.328	4.403
IELC	11.134	4.263
MILC	4.000	2.192

CSNG	6.179	1.820
CSMG	2.164	3.518
ENASEC	11.940	4.037
OPIMFL	11.701	3.260
OPISA	2.896	2.286
OPIREP	4.612	2.137
SEX	.299	.458
RECEPT H	6.691	.698
RECEPT A	5.611	.565
RECEPT L	4.532	.817
FNEEDM H	6.665	.953
FREEDM A	5.798	.828
FREEDM L	4.657	1.027
HARMNY H	7.094	.823
HARMNY A	5.906	.712
HARMNY L	4.520	.929
SOCBLE H	6.815	.884
SOCBLE A	5.715	.800
SOCBLE L	4.965	1.038
COMPAN H	7.189	.967
COMPAN A	6.063	.891
COMPAN L	5.061	1.089
LOVESX H	6.602	1.254
LOVESX A	5.599	1.059
LOVESX L	4.664	1.148
WORKST H	6.282	1.115
WORKST A	5.433	1.048
WORKST L	4.672	1.153
THRUST H	6.448	.855
THRUST A	5.449	.673
THRUST L	4.553	.809
TRANSL H	6.547	1.041
TRANSL A	5.322	.869
TRANSL L	4.035	1.025
IMPLSE H	6.395	.946
IMPLSE A	5.342	.742
IMPLSE L	4.394	.873
MORALS H	6.564	1.021
MORALS A	5.680	.921
MORALS L	4.883	1.139
CONFDN H	6.831	.926
CONFDN A	5.809	.818
CONFDN L	4.759	.998
ENERGY H	6.443	.896
ENERGY A	5.265	.695
ENERGY L	3.821	.809
ELATED H	6.686	.933
ELATED A	5.407	.768
ELATED L	4.070	1.009
HEALTH	5.115	.597
SLEEP	2.524	.425
ACDWORK	4.357	.944
ALCOHOL	.239	.250

MARIJNA	.085	.182
AMPHETAM	.012	.063
BARBITU	.021	.092
AVCORR.	28.672	10.253
%VAR.	32.746	10.719
#FACT90%	12.567	1.567
#FACT>10	1.896	.694

CORRELATIONS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
MSROWD	1.000														
CF1RT	-.063	1.000													
CF1#R	.007	-.206	1.000												
PLSX	.013	.092	-.190	1.000											
PLSY	-.047	.051	.106	.273	1.000										
PLSZ	.148	.023	-.087	.435	-.075	1.000									
PLSXY	.085	-.039	.112	.085	-.609	.438	1.000								
PLSXZ	.121	-.084	.134	-.741	-.345	.227	.238	1.000							
PLSYZ	.036	-.040	-.070	-.061	-.879	.506	.724	.379	1.000						
RRT	-.007	-.088	-.026	-.153	-.235	-.045	.130	.121	.187	1.000					
BAAS	.142	-.191	.178	-.221	.074	.060	.003	.323	-.045	-.204	1.000				
V-4	.279	.096	-.316	.073	.099	-.066	-.158	-.141	-.122	.271	-.126	1.000			
PPIS	.239	.160	-.243	.126	-.054	.120	.016	-.077	.114	-.206	.162	.118	.001		
PPES	.057	.303	-.144	.258	.184	.165	-.010	-.153	-.091	-.425	.169	-.012	.419	1.000	
CF2RT	.082	.146	-.439	.242	.096	.053	-.112	-.160	-.121	-.152	.121	.321	.048	.220	1.000
PCWS	.182	-.084	.060	.002	.035	-.099	-.114	-.135	-.036	.015	-.115	.279	.159	.153	.112
MCSD	-.009	.055	.165	-.067	-.110	-.109	.022	.009	.009	-.297	-.188	-.152	.128	.134	-.138
GSRS	.074	-.005	-.025	.073	-.183	.038	.067	-.096	.124	.123	-.280	-.175	.141	-.096	.019
GS#GR	.070	-.017	-.129	.002	-.130	.067	.133	.078	.137	.202	-.198	-.052	.122	-.137	-.039
GS#MG	-.257	-.159	.172	.016	.214	-.001	-.007	-.025	-.189	-.296	.035	-.214	.048	.189	-.062
CCTA	-.153	.116	.119	-.305	-.004	-.058	.153	.260	.009	.090	-.041	-.268	.014	-.111	-.320
CCTS	-.033	-.103	-.009	.066	-.139	.029	.055	-.068	.142	.086	-.166	-.072	.164	-.170	.061
CCTP	-.038	.143	.078	-.298	-.007	-.257	-.061	.166	-.114	-.051	.186	-.196	.111	.051	-.156
CCTF	.046	.134	-.076	.087	.123	-.028	-.050	-.102	-.124	-.337	.024	.019	.109	.199	.133
ZSSS	.080	.134	-.075	.175	.085	.103	.061	-.073	.083	-.371	.120	-.006	.384	.612	.145
IELC	-.036	.047	-.095	-.131	-.019	-.016	-.081	.130	.019	.225	.014	.179	.002	-.183	-.033
MILC	.017	.125	-.102	-.082	.003	-.049	-.114	.009	.003	.200	.020	.236	.089	-.082	-.028
CSNG	-.029	-.042	-.126	-.091	-.011	.057	.111	.116	.036	.011	.028	.051	.264	.080	-.010
CSMG	-.053	-.010	-.053	.033	.040	.002	-.045	-.066	-.016	.018	-.057	.014	.053	-.106	.103
BAASFC	.294	.096	.127	-.150	.035	.101	.150	.271	.012	-.266	.524	.102	.309	.273	.048
DPIMFL	.013	.174	-.006	-.106	.005	.019	.078	.127	.035	.076	.125	-.055	.317	.045	-.091
DPISA	.033	-.061	-.047	-.100	-.109	-.074	-.102	.015	.066	.126	-.171	.016	.156	-.105	-.170
DPIREP	.013	-.138	-.088	-.081	-.091	-.151	-.170	.025	-.025	.116	-.129	.005	.322	-.304	-.059
SEX	.010	-.018	.085	-.146	-.037	.044	.013	.162	.056	.081	-.094	-.054	.134	.278	-.133
RECEPT H	.223	.126	.020	.351	.171	.294	.062	-.167	-.002	-.362	.078	-.040	.286	.424	.136
RECEPT A	.246	.090	.003	.332	.094	.243	.062	-.168	.033	-.414	.161	.080	.137	.370	.197
RECEPT L	.092	.055	-.064	.216	-.073	.127	-.005	-.141	.106	-.299	.113	.097	.038	.223	.252
FREEDM H	.212	.039	-.061	.277	.047	.438	.132	-.040	.179	-.437	.066	-.003	.259	.409	.083
FREEDM A	.198	.032	-.061	.279	.008	.346	.121	-.106	.163	-.403	.092	.092	.161	.378	.124
FREEDM L	.143	.099	-.054	.298	-.029	.236	.055	-.193	.133	-.291	.077	.174	.079	.269	.204
HARMNY H	.061	.128	-.194	.297	.045	.261	.121	-.176	.088	-.390	.054	.027	.229	.393	.200
HARMNY A	.075	.089	-.197	.265	-.053	.190	.181	-.176	.124	-.330	.069	.158	.131	.295	.232
HARMNY L	.092	.056	-.055	.160	-.118	.035	.093	-.155	.097	-.208	.046	.222	.006	.165	.137
SSCBLE H	.115	.008	-.062	.351	.065	.368	.146	-.137	.115	-.494	.126	-.014	.259	.405	.165
SSCBLE A	.103	.032	-.116	.292	-.023	.256	.153	-.145	.129	-.466	.121	.083	.172	.329	.169
SSCBLE L	.085	.107	-.106	.154	-.100	.098	.075	-.082	.105	-.363	.105	.158	.029	.186	.177
COMPAN H	.034	.190	-.193	.384	.050	.314	.140	-.189	.089	-.408	.143	-.032	.419	.432	.179
COMPAN A	.053	.142	-.182	.362	.010	.263	.123	-.211	.101	-.396	.153	.130	.344	.354	.240

C9MPAN L	•013	•197	-•160	•312	-•055	•161	•043	-•217	•100	-•311	•067	•204	•195	•231	•262
L9VESX H	-•019	•188	-•132	•222	-•003	•266	•072	-•038	•117	-•352	-•109	-•146	•439	•427	•014
L9VESX A	•003	•162	-•145	•305	-•057	•307	•112	-•092	•180	-•352	-•071	-•028	•469	•410	•105
L9VESX L	-•036	•184	-•139	•306	-•128	•229	•051	-•157	•200	-•320	-•055	•089	•38•	•290	•145
W9RKST H	•108	-•072	-•195	•357	•136	•279	-•046	-•164	-•014	-•127	-•066	-•066	•01•	•135	•237
W9RKST A	•114	-•046	-•280	•318	•060	•206	-•044	-•167	•012	-•105	-•022	•060	•05•	•143	•302
W9RKST L	•042	-•002	-•326	•235	-•026	•138	-•028	-•118	•046	-•079	-•012	•129	•06•	•106	•324
TH9UGT H	•146	-•023	-•009	•269	-•017	•468	•192	-•008	•259	-•394	•069	-•100	•29•	•347	•012
TH9UGT A	•165	-•034	-•043	•193	-•139	•382	•235	•016	•310	-•387	•122	-•011	•25•	•304	•074
TH9UGT L	•130	-•028	-•156	•103	-•194	•200	•132	•005	•242	-•253	•159	•128	•15•	•205	•207
TRANQL H	•080	•113	-•172	•295	•078	•281	•050	-•128	•061	-•437	•012	•025	•29•	•384	•179
TRANQL A	•082	•130	-•197	•297	-•008	•251	•053	-•148	•112	-•450	•026	•151	•21•	•315	•267
TRANQL L	•046	•135	-•157	•246	-•070	•201	-•042	-•124	•128	-•366	•015	•185	•08•	•225	•300
IMPLSE H	•106	•094	-•055	•393	•163	•347	•087	-•195	•041	-•498	•043	-•161	•39•	•463	•086
IMPLSE A	•084	•171	-•171	•382	•077	•315	•120	-•212	•076	-•502	•090	-•014	•41•	•467	•229
IMPLSE L	-•007	•232	-•228	•354	-•037	•174	•072	-•264	•092	-•399	•111	•125	•32•	•375	•336
M9RALS H	•002	•065	-•069	•459	•177	•390	•127	-•240	•041	-•324	-•037	-•153	•17•	•283	•055
M9RALS A	-•066	•080	-•141	•386	•054	•276	•172	-•240	•084	-•264	-•073	-•068	•17•	•198	•101
M9RALS L	-•172	•079	-•168	•318	•002	•158	•072	-•241	•065	-•181	-•098	-•007	•13•	•058	•146
C9NFDN H	•142	•083	-•118	•340	•050	•424	•090	-•082	•154	-•374	-•019	-•003	•27•	•335	•142
C9NFDN A	•125	•038	-•195	•313	-•030	•361	•099	-•100	•185	-•330	-•027	•098	•26•	•291	•178
C9NFDN L	•074	•042	-•214	•228	-•062	•247	-•028	-•085	•145	-•280	-•028	•159	•11•	•202	•265
ENERGY H	•070	•008	-•000	•235	•185	•321	•023	-•158	•017	-•411	-•004	-•035	•24•	•378	•050
ENERGY A	•160	•016	-•070	•284	•143	•248	-•033	-•150	•012	-•416	•022	•146	•26•	•379	•168
ENERGY L	•173	•100	-•111	•060	-•026	•090	-•090	•012	•042	-•244	•067	•176	•02•	•192	•213
ELATED H	•096	•115	-•102	•288	•174	•250	-•027	-•143	-•019	-•462	•075	•038	•39•	•437	•141
ELATED A	•118	•136	-•169	•255	•000	•232	•032	-•109	•105	-•449	•080	•155	•32•	•353	•227
ELATED L	•125	•107	-•173	•157	-•108	•147	-•070	-•059	•135	-•328	•051	•185	•06•	•187	•219
HEALTH	•182	•062	-•048	•127	•108	•085	-•135	-•065	-•042	-•315	•073	•172	•11•	•147	•262
SLEEP	•004	-•013	•002	-•057	•043	•032	-•090	•009	•003	•237	-•107	•298	•03•	•001	•074
ACCXBRK	-•215	•094	-•230	-•068	•079	-•075	-•167	•074	-•123	•012	-•070	•199	•01•	-•014	•321
ALC9H9L	•004	-•021	•066	•024	•166	•083	•004	•038	-•089	•077	•027	•163	•03•	•046	-•011
MARIJNA	-•130	•004	-•024	-•349	-•133	-•025	•204	•346	•107	•017	•254	-•132	•24•	•144	-•100
AMPHETAM	-•063	•062	-•015	•108	-•031	•198	•108	•011	•115	-•020	-•091	-•257	•03•	•101	-•087
BARBITU	•052	-•026	-•074	-•383	•017	-•026	•118	•394	-•025	-•029	•256	-•180	•11•	•211	-•055
AVC9RR•	-•015	•319	-•012	•080	-•003	•094	•123	•001	•051	-•236	•006	-•021	•21•	•265	•125
%VAR•	•012	•292	-•023	•076	-•006	•073	•103	-•007	•044	-•238	•016	-•020	•21•	•247	•150
#FACT90%	-•024	-•062	-•078	•102	•224	-•065	-•209	-•141	-•245	•070	-•000	•075	•00•	-•022	•052
#FACT>10	•007	-•342	•034	-•238	-•135	-•108	•079	•191	•049	•180	•041	-•064	•16•	-•297	-•177

CORRELATIONS

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PCWS	1.000														
MCSD	.006	1.000													
GSRS	.105	.222	1.000												
GS#GR	-.333	-.023	.269	1.000											
GS#MG	.007	.130	.010	.065	1.000										
CCTA	-.308	-.201	.116	.142	.313	1.000									
CCTS	.009	.191	.504	.140	.025	-.147	1.000								
CCTP	-.228	-.079	.011	.138	.150	.423	.098	1.000							
CCTF	-.164	.080	.067	.157	.164	.208	-.010	.146	1.000						
ZSSS	.241	.080	-.072	-.211	.175	-.203	-.052	-.016	.101	1.000					
IELC	-.087	-.306	-.028	-.092	-.090	.327	-.124	.092	-.019	-.184	1.000				
MILC	.032	-.260	-.002	-.175	-.166	.251	-.035	.048	-.106	-.084	.830	1.000			
CSNG	-.179	.001	.041	.359	.180	.180	-.115	-.123	.071	-.033	.074	-.030	.001		
CSMG	.242	-.273	-.133	-.186	.092	.002	-.092	-.045	-.140	.081	.232	.228	.329	1.000	
BWASFC	-.122	-.134	-.340	-.056	-.071	.020	-.285	.091	.144	.207	.042	.074	.121	-.096	1.000
DPIMFL	.012	-.313	-.014	.027	.028	.464	-.183	.159	.158	.010	.377	.313	.159	.067	.171
DPISA	.032	.314	.182	.066	-.121	-.168	-.045	-.180	-.167	-.057	.012	.048	.056	-.041	-.225
DPIREP	-.131	.176	.151	.218	-.098	-.059	.080	.075	-.028	-.485	-.037	-.080	.056	.003	-.214
SEX	.272	-.049	-.010	.002	.301	.048	-.081	.133	-.163	.225	-.158	-.179	.089	.192	-.023
RECEPT H	.175	.087	-.040	.041	.100	-.264	-.044	-.110	.109	.325	-.298	-.228	.044	-.028	.207
RECEPT A	.146	.145	-.081	.038	.059	-.310	-.092	-.216	.337	.262	-.392	-.290	.102	.018	.232
RECEPT L	.061	.156	.043	.065	.030	-.292	.048	-.185	.366	.145	-.396	-.287	.062	-.013	.073
FREEDM H	.141	.141	.017	-.005	.132	-.210	-.035	-.295	.036	.273	-.156	-.076	.177	-.002	.082
FREEDM A	.055	.129	-.076	.004	.076	-.243	-.132	-.313	.206	.245	-.199	-.100	.139	.048	.153
FREEDM L	-.029	.083	-.128	-.044	-.001	-.260	-.160	-.304	.275	.197	-.269	-.133	.011	.061	.148
HARMNY H	.135	.280	.021	.043	.079	-.346	.125	-.109	.045	.265	-.285	-.137	.078	-.080	-.004
HARMNY A	.073	.271	-.060	.035	.043	-.364	.100	-.169	.187	.139	-.366	-.177	.049	-.026	.039
HARMNY L	.014	.263	-.064	-.044	-.026	-.355	.092	-.200	.221	.082	-.451	-.229	.041	-.105	.050
SSCALE H	.183	.235	-.073	.006	.121	-.431	.076	-.191	.052	.329	-.330	-.159	.026	-.029	.078
SSCALE A	.108	.242	-.117	-.012	.089	-.377	.028	-.175	.184	.216	-.351	-.140	.038	.022	.097
SSCALE L	.037	.230	-.067	-.030	.043	-.300	.072	-.088	.232	.157	-.358	-.144	.104	-.005	.090
COMPAN H	.029	.181	-.059	.091	.085	-.313	.089	-.105	.128	.287	-.338	-.205	.102	-.058	.181
COMPAN A	.044	.196	-.116	.052	.017	-.399	.041	-.159	.198	.206	-.365	-.182	.022	-.009	.229
COMPAN L	-.027	.186	-.099	.049	-.006	-.344	.047	-.114	.265	.126	-.376	-.197	.046	.026	.136
LSVESX H	.119	.122	.046	.090	.186	-.113	-.065	-.123	.066	.319	-.253	-.271	.102	-.073	.092
LSVESX A	.128	.112	.016	.096	.114	-.213	-.081	-.206	.119	.301	-.296	-.273	.087	-.009	.096
LSVESX L	.070	.070	-.024	.085	.043	-.266	-.070	-.205	.158	.231	-.324	-.242	.055	.072	.073
WORKST H	.081	.125	.277	.147	-.124	-.348	.259	-.349	-.044	.118	-.244	-.199	.087	.011	-.175
WORKST A	.065	.134	.224	.145	-.142	-.364	.257	-.334	.092	.113	-.214	-.136	.049	.044	-.159
WORKST L	.035	.125	.167	.139	-.133	-.331	.271	-.261	.175	.081	-.213	-.124	.038	.070	-.153
THOUGT H	.158	.122	.009	.088	.125	-.237	.010	-.244	.043	.398	-.201	-.136	.089	.095	.106
THOUGT A	.139	.117	-.002	.050	.082	-.230	-.078	-.251	.198	.351	-.229	-.131	.021	.153	.141
THOUGT L	.047	.066	.014	.024	-.022	-.243	-.059	-.219	.285	.247	-.287	-.144	.018	.079	.106
TRANQL H	.145	.220	-.022	.117	.116	-.390	.075	-.229	.065	.361	-.263	-.188	.107	-.089	.092
TRANQL A	.128	.209	-.079	.062	.030	-.451	.001	-.308	.256	.348	-.302	-.205	.019	-.002	.119
TRANQL L	.069	.117	-.141	-.051	-.012	-.437	-.077	-.363	.287	.300	-.304	-.224	.038	.033	.080
IMPLSE H	.056	.072	-.047	.068	.201	-.176	-.081	-.238	.085	.411	-.087	-.011	.141	.040	.092
IMPLSE A	-.001	.002	-.184	.058	.174	-.187	-.196	-.281	.236	.415	-.128	-.016	.129	.137	.143

IMPLSE L	-.065	-.050	-.200	-.005	.072	-.203	-.199	-.221	.286	.337	-.122	-.010	.049	.165	.204
MORALS H	.072	.158	.100	.161	.155	-.147	.046	-.173	.042	.128	-.224	-.110	.057	.053	.016
MORALS A	.030	.116	.037	.157	.107	-.073	-.051	-.153	.179	.047	-.167	-.037	.043	.113	.039
MORALS L	-.053	.063	-.035	.134	.059	-.045	-.086	-.125	.285	-.018	.123	-.017	.025	.139	.013
CONFDN H	.149	.154	.082	.160	.078	-.277	.046	-.160	.021	.274	-.184	-.113	.006	.048	.078
CONFDN A	.109	.156	.043	.172	.075	-.259	-.027	-.200	.160	.248	-.230	-.106	.019	.066	.115
CONFDN L	-.005	.129	.008	.165	.075	-.248	-.032	-.212	.296	.188	-.272	-.164	.019	-.006	.076
ENERGY H	.198	.133	.085	.146	.146	-.232	.045	-.157	.137	.303	-.153	-.104	.109	.049	.039
ENERGY A	.224	.142	.090	.160	.081	-.287	.029	-.209	.297	.289	-.286	-.221	.117	.049	.072
ENERGY L	.042	.110	.081	.158	.010	-.242	.078	-.125	.212	.116	-.418	-.363	.069	-.019	.103
ELATED H	.148	.157	-.030	.152	.164	-.252	-.011	-.070	.132	.329	-.240	-.179	.136	-.067	.178
ELATED A	.113	.142	-.044	.161	.072	-.309	-.029	-.153	.236	.276	-.313	-.227	.059	-.012	.161
ELATED L	.040	.111	-.024	.043	.004	-.295	-.021	-.201	.282	.177	-.298	-.204	.004	-.041	.079
HEALTH	.271	.091	-.101	-.108	-.134	-.375	-.034	-.046	-.063	.112	-.209	-.088	.158	-.019	.119
SLEEP	.162	-.018	.068	.105	.081	.001	.106	-.127	.014	-.079	-.280	-.248	.147	-.012	-.190
ACDNBRK	.003	.010	-.176	.076	.030	-.028	.064	.038	.163	-.080	.051	.002	.029	.187	-.087
ALCBHBL	-.017	-.219	-.275	-.066	.004	-.047	-.079	-.028	-.174	-.026	.106	.035	.081	.004	.039
MARIJNA	-.164	-.159	-.335	-.095	.030	.219	-.264	.354	-.174	.150	.148	.056	.142	.008	.199
AMPHETAM	-.052	.008	.131	-.066	-.132	-.087	-.057	-.062	-.196	.095	-.008	-.104	.079	-.078	-.094
BARBITU	.130	.013	-.076	-.097	-.007	.059	-.065	.164	-.335	.163	-.041	-.050	.119	-.064	.138
AVGSRR.	.089	.213	-.101	-.124	.100	.076	-.010	-.029	.145	-.024	-.109	-.116	.098	-.061	.277
%VAR.	.112	.203	-.084	-.115	.083	.080	.012	-.025	.156	-.049	-.116	-.114	.089	-.065	.253
#FACT30%	-.113	-.284	-.101	.078	-.107	-.145	-.132	.003	-.029	.146	.268	.217	.032	.089	-.065
#FACT>10	-.157	-.083	.047	.185	-.069	.037	.078	.170	-.140	-.043	-.106	-.186	.019	-.017	-.231

CORRELATIONS

	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
DPIMFL	1.000														
DPISA	-.431	1.000													
DPISEP	-.381	.371	1.000												
SEX	-.200	.172	.073	1.000											
RECEPT H	-.075	-.232	-.360	.123	1.000										
RECEPT A	-.171	-.214	-.100	-.009	.772	1.000									
RECEPT L	-.261	-.130	.243	-.039	.283	.744	1.000								
FREEDM H	-.201	.170	-.122	.201	.554	.470	.284	1.000							
FREEDM A	-.297	.235	.049	.160	.359	.536	.506	.873	1.000						
FREEDM L	-.300	.111	.164	.052	.177	.545	.695	.576	.866	1.000					
HARMNY H	-.320	.027	-.179	.111	.679	.571	.307	.670	.542	.308	1.000				
HARMNY A	-.433	.076	.018	.024	.453	.658	.582	.575	.680	.609	.829	1.000			
HARMNY L	-.367	.088	.218	-.022	.119	.524	.736	.303	.576	.750	.388	.772	.004		
SOCBLE H	-.331	-.013	-.248	.074	.734	.655	.343	.710	.594	.363	.917	.793	.429	1.000	
SOCBLE A	-.399	.036	-.062	.022	.522	.727	.588	.610	.693	.616	.772	.911	.717	.871	1.000
SOCBLE L	-.383	.019	.199	-.043	.190	.602	.773	.351	.570	.709	.452	.766	.879	.525	.836
COMPAN H	-.189	-.108	-.223	.079	.679	.634	.360	.556	.484	.315	.855	.737	.396	.846	.747
COMPAN A	-.330	-.059	-.060	.003	.493	.697	.598	.519	.620	.586	.756	.880	.689	.788	.892
COMPAN L	-.359	-.032	.156	-.036	.225	.622	.779	.339	.577	.731	.488	.781	.838	.519	.783
LOVESX H	-.111	.006	-.171	.330	.389	.267	.117	.409	.262	.059	.466	.267	.021	.435	.259
LOVESX A	-.182	-.024	-.092	.245	.325	.377	.352	.411	.372	.266	.439	.393	.231	.441	.383
LOVESX L	-.230	-.063	.074	.156	.168	.428	.610	.305	.485	.512	.320	.451	.514	.346	.449
WORKST H	-.419	.158	.005	-.029	.436	.356	.195	.405	.294	.118	.517	.386	.104	.528	.382
WORKST A	-.452	.188	.095	-.060	.268	.389	.367	.336	.375	.295	.476	.517	.316	.478	.483
WORKST L	-.406	.101	.187	-.043	.091	.366	.523	.218	.364	.402	.374	.557	.467	.365	.501
THOUGT H	-.165	.044	-.248	.287	.746	.578	.244	.768	.591	.317	.736	.516	.189	.796	.591
THOUGT A	-.258	.040	-.135	.253	.598	.709	.540	.719	.729	.598	.685	.696	.496	.759	.781
THOUGT L	-.328	-.010	.113	.131	.250	.638	.812	.403	.627	.745	.430	.691	.764	.473	.723
TRANQL H	-.344	.114	-.235	.225	.708	.552	.267	.665	.501	.238	.836	.627	.232	.824	.632
TRANQL A	-.432	.156	-.092	.120	.555	.695	.570	.578	.625	.534	.713	.736	.519	.738	.752
TRANQL L	-.416	.135	.087	.057	.269	.608	.744	.385	.594	.716	.371	.564	.659	.443	.610
IMPLSE H	-.072	-.031	-.432	.092	.698	.476	.125	.689	.487	.201	.702	.429	.039	.762	.525
IMPLSE A	-.139	-.078	-.323	.062	.540	.598	.405	.644	.660	.540	.631	.607	.349	.707	.690
IMPLSE L	-.130	-.184	-.082	-.011	.257	.542	.647	.383	.597	.726	.383	.558	.569	.423	.602
MORALS H	-.262	-.025	-.111	.077	.631	.563	.286	.543	.426	.242	.703	.560	.189	.738	.620
MORALS A	-.302	-.018	-.024	.086	.434	.540	.396	.403	.452	.379	.603	.636	.357	.635	.683
MORALS L	-.272	-.026	.086	.055	.180	.423	.480	.178	.371	.474	.350	.530	.469	.400	.585
CONFDN H	-.358	.152	-.137	.270	.692	.556	.263	.711	.564	.301	.776	.586	.209	.807	.634
CONFDN A	-.431	.153	.023	.248	.517	.650	.541	.613	.660	.558	.666	.706	.479	.706	.751
CONFDN L	-.406	.119	.228	.173	.258	.611	.782	.378	.576	.699	.387	.600	.657	.439	.646
ENERGY H	-.195	.067	-.263	.198	.755	.558	.170	.691	.516	.204	.770	.531	.119	.812	.594
ENERGY A	-.288	.084	-.076	.160	.627	.743	.538	.621	.638	.472	.655	.659	.419	.708	.706
ENERGY L	-.315	-.070	.318	.056	.205	.587	.795	.215	.405	.583	.150	.397	.604	.209	.435
ELATED H	-.161	-.064	-.263	.236	.706	.634	.256	.608	.452	.210	.787	.562	.194	.810	.632
ELATED A	-.321	-.041	-.048	.167	.597	.786	.642	.562	.622	.553	.676	.744	.559	.721	.803
ELATED L	-.364	.014	.249	.050	.225	.639	.842	.332	.552	.737	.294	.563	.736	.360	.622
HEALTH	-.319	.175	-.013	.027	.383	.337	.110	.330	.254	.139	.341	.330	.174	.433	.354
SLEEP	-.077	-.105	.115	.091	.083	.200	.331	.049	.060	.150	-.060	.043	.167	-.084	-.020

ACDWERK	.036	-.258	.025	-.095	.010	.177	.254	-.208	-.122	-.046	.014	.127	.07[illegible]	.010	.071
ALCOHOL	-.018	.016	-.210	.220	-.075	-.165	-.305	.020	.003	-.053	.035	.028	.06[illegible]	.035	-.005
MARIJNA	.195	-.155	-.206	.324	-.032	-.179	-.202	.105	.073	-.026	.064	.017	.09[illegible]	-.023	-.037
AMPHETAM	.103	-.031	-.201	-.089	.253	-.064	-.183	.120	-.123	-.249	.105	-.188	.30[illegible]	.106	-.091
BARBITU	.176	-.113	-.168	.261	.176	-.082	-.234	.149	-.077	-.319	.244	.010	.23[illegible]	.132	-.056
AVGERR.	.219	-.198	-.257	-.103	.229	.168	.004	.106	.033	.008	.187	.134	.04[illegible]	.162	.112
%VAR.	.220	-.193	-.223	-.121	.218	.166	.011	.090	.023	.004	.176	.132	.04[illegible]	.152	.106
#FACT90%	-.043	-.042	-.090	-.007	.032	-.028	-.081	-.139	-.124	-.154	-.086	-.155	.24[illegible]	-.048	-.096
#FACT>10	-.245	.219	.265	.145	-.307	-.233	-.011	-.012	.061	.063	-.107	.020	.14[illegible]	-.159	-.063

CORRELATIONS

	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
SOCBLE L	1.000														
COMPAN H	.454	1.000													
COMPAN A	.756	.866	1.000												
COMPAN L	.892	.591	.877	1.000											
LOVESX H	.074	.574	.420	.252	1.000										
LOVESX A	.283	.563	.551	.476	.924	1.000									
LOVESX L	.529	.445	.587	.703	.654	.856	1.000								
WORKST H	.145	.476	.363	.193	.246	.241	.159	1.000							
WORKST A	.348	.450	.475	.398	.176	.274	.298	.913	1.000						
WORKST L	.517	.377	.510	.554	.082	.256	.409	.711	.917	1.000					
THOUGT H	.238	.706	.550	.290	.547	.495	.345	.501	.363	.197	1.000				
THOUGT A	.567	.671	.711	.574	.422	.492	.489	.432	.451	.406	.863	1.000			
THOUGT L	.806	.459	.694	.773	.177	.389	.587	.839	.432	.575	.409	.771	.00[illegible]		
TRANQL H	.308	.790	.629	.359	.635	.591	.432	.559	.479	.347	.808	.692	.36[illegible]	1.000	
TRANQL A	.595	.693	.725	.624	.479	.567	.592	.496	.562	.540	.650	.749	.65[illegible]	.862	1.000
TRANQL L	.690	.379	.564	.704	.249	.425	.665	.310	.457	.547	.374	.597	.73[illegible]	.507	.830
IMPLSE H	.132	.682	.488	.197	.557	.508	.318	.512	.385	.196	.804	.643	.22[illegible]	.792	.604
IMPLSE A	.497	.649	.649	.504	.457	.546	.537	.411	.474	.411	.664	.733	.54[illegible]	.691	.731
IMPLSE L	.635	.472	.647	.718	.278	.486	.680	.154	.332	.436	.349	.588	.72[illegible]	.394	.622
MORALS H	.316	.675	.601	.386	.382	.383	.292	.581	.508	.397	.662	.618	.34[illegible]	.656	.567
MORALS A	.472	.608	.668	.544	.289	.370	.383	.423	.475	.474	.500	.638	.54[illegible]	.522	.582
MORALS L	.548	.407	.584	.625	.110	.258	.428	.223	.368	.487	.259	.515	.63[illegible]	.284	.488
CONFDN H	.309	.715	.611	.380	.565	.542	.407	.617	.534	.382	.849	.767	.40[illegible]	.858	.742
CONFDN A	.582	.637	.725	.637	.424	.529	.555	.525	.589	.566	.692	.831	.70[illegible]	.713	.802
CONFDN L	.737	.377	.612	.748	.191	.372	.597	.324	.481	.595	.399	.665	.81[illegible]	.426	.703
ENERGY H	.200	.725	.542	.254	.505	.452	.293	.646	.527	.336	.845	.708	.27[illegible]	.850	.687
ENERGY A	.492	.683	.677	.587	.442	.520	.504	.601	.625	.553	.694	.766	.58[illegible]	.736	.795
ENERGY L	.659	.261	.453	.633	.075	.263	.522	.225	.340	.474	.176	.397	.65[illegible]	.192	.450
ELATED H	.289	.834	.653	.363	.586	.528	.361	.467	.354	.212	.825	.701	.34[illegible]	.877	.706
ELATED A	.667	.743	.798	.698	.463	.576	.607	.409	.469	.476	.648	.787	.71[illegible]	.751	.858
ELATED L	.814	.324	.572	.762	.126	.338	.626	.221	.387	.535	.274	.555	.79[illegible]	.340	.673
HEALTH	.200	.275	.289	.188	.177	.203	.150	.296	.269	.165	.269	.198	.06[illegible]	.408	.416
SLEEP	.097	-.020	.044	.159	-.032	.053	.147	.102	.093	.136	.034	.093	.19[illegible]	-.013	.053
ACCWORK	.085	.105	.146	.178	-.048	.051	.118	.058	.190	.322	-.124	-.053	.10[illegible]	.005	.098
ALCOHOL	-.129	-.042	-.012	-.057	.038	.040	.013	-.035	.008	.016	.032	-.064	.19[illegible]	.048	-.042
MARIJNA	-.074	-.010	-.037	-.112	.015	-.055	-.119	-.288	-.271	-.161	.015	.049	.04[illegible]	.005	-.075
AMPHETAM	-.188	.056	-.137	-.257	.101	-.024	-.185	.163	-.077	-.203	.179	.007	.16[illegible]	.137	-.020
BARBITU	-.201	.137	-.067	-.322	.086	-.060	-.295	.046	-.041	-.090	.122	.008	.09[illegible]	.182	-.051
AVGGRR.	.063	.249	.237	.170	.274	.258	.146	-.093	-.137	-.181	.094	.012	.11[illegible]	.124	.082
%VAR.	.065	.230	.221	.161	.248	.238	.133	-.073	-.114	-.157	.073	-.011	.12[illegible]	.106	.072
#FACT90%	-.204	-.005	-.109	-.189	-.106	-.112	-.124	.142	.142	.125	-.035	-.044	.02[illegible]	.053	.016
#FACT>10	.072	-.232	-.149	-.055	-.128	-.099	-.088	-.041	.036	.123	-.101	.016	.16[illegible]	-.100	-.074

CORRELATIONS

	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
TRANQL L	1.000														
IMPLSE H	.307	1.000													
IMPLSE A	.595	.852	1.000												
IMPLSE L	.717	.454	.798	1.000											
MORALS H	.312	.672	.605	.364	1.000										
MORALS A	.416	.481	.601	.516	.895	1.000									
MORALS L	.514	.198	.463	.586	.639	.891	1.000								
CONFDN H	.446	.764	.663	.368	.827	.700	.443	1.000							
CONFDN A	.656	.564	.685	.592	.777	.820	.705	.869	1.000						
CONFDN L	.839	.244	.518	.667	.488	.621	.708	.533	.829	1.000					
ENERGY H	.330	.814	.646	.266	.727	.556	.284	.861	.674	.314	1.000				
ENERGY A	.581	.582	.622	.423	.585	.542	.390	.738	.757	.585	.827	1.000			
ENERGY L	.642	-.014	.229	.443	.127	.185	.262	.193	.410	.657	.116	.546	.00[illegible]		
ELATED H	.354	.759	.640	.367	.670	.537	.305	.629	.679	.381	.857	.780	.25[illegible]	1.000	
ELATED A	.693	.530	.686	.645	.572	.610	.519	.715	.815	.714	.647	.652	.61[illegible]	.813	1.000
ELATED L	.876	.148	.462	.686	.233	.350	.469	.317	.598	.849	.204	.556	.83[illegible]	.312	.731
HEALTH	.263	.214	.153	-.046	.149	.062	-.040	.376	.245	.137	.399	.453	.17[illegible]	.383	.385
SLEEP	.148	-.154	-.084	-.014	.002	-.036	-.034	-.028	.036	.230	-.017	.223	.47[illegible]	.024	.158
ACDWORK	.131	-.112	.027	.097	-.004	.102	.179	-.016	.062	.149	-.015	.196	.31[illegible]	.080	.208
ALCOHOL	-.062	.101	.116	-.036	-.054	-.058	-.080	.035	-.066	-.135	.071	.006	.16[illegible]	.063	-.033
MARIJNA	-.139	-.028	.023	.029	-.132	-.089	-.088	-.071	-.059	-.094	-.093	-.162	.19[illegible]	-.022	-.031
AMPHETAM	-.116	.242	-.009	-.136	.184	-.022	-.147	.139	-.055	-.154	.145	-.055	.15[illegible]	.159	-.054
BARBITU	-.298	.097	-.074	-.274	.042	-.106	-.318	.071	-.080	-.259	.079	-.039	.12[illegible]	.147	-.017
AVGRR.	.018	.189	.158	.153	.169	.122	.057	.127	.039	-.028	.060	-.005	.03[illegible]	.217	.118
%VAR.	.013	.166	.139	.136	.156	.110	.049	.113	.029	-.030	.055	.006	.01[illegible]	.207	.116
#FACT90%	-.055	.134	.098	.015	-.015	-.022	-.036	-.025	-.025	-.079	.106	.089	.10[illegible]	.030	-.011
#FACT>10	-.049	-.269	-.201	-.181	-.293	-.222	-.141	-.145	-.087	-.032	-.142	-.047	.07[illegible]	-.246	-.104

CORRELATIONS

	76	77	78	79	80	81	82	83	84	85	86	87
ELATED L	1.000											
HEALTH	.210	1.000										
SLEEP	.242	-.049	1.000									
ACD:ORK	.169	.057	.150	1.000								
ALCOHOL	-.153	.056	-.210	.068	1.000							
MARIJNA	-.114	-.143	-.030	-.042	.187	1.000						
AMPHETAM	-.144	-.148	-.081	-.269	-.078	.088	1.000					
BARBITU	-.252	.033	.003	.035	-.006	.605	.311	1.000				
AVGRR.	.017	-.015	-.102	.072	.133	-.103	.190	-.004	1.000			
%VAR.	.031	.003	-.093	.096	.133	-.126	.165	-.021	.991	1.000		
#FACTS0%	-.121	.018	-.040	.104	-.053	.082	-.049	.033	-.699	-.703	1.000	
#FACT>10	.007	.019	.074	-.143	.013	.311	-.226	.150	-.645	-.644	.164	1.000

WHEN A CORRELATION COEFFICIENT OF ZERO IS PRINTED AS 000.000 INSTEAD OF 0.000, THE DIVISOR IN THE CORRELATION FORMULA
WAS ZERO. THIS USUALLY MEANS ONE OF THE STANDARD DEVIATIONS WAS ZERO.
STOP 0

APPENDIX V

INTERCORRELATIONS OF COGNITIVE CONTROL VARIABLES AND MOOD VARIABILITY MEASURES (N = 67)

$\underline{r} = .242$; $\underline{p} < .05$

$r = .315$; $\underline{p} < .01$

Glossary of Computer Abbreviations of Labels of Measures

No.	Label	Measure
1.	MOODWD	Mood Word Fluency
2.	CFLRT	Hidden Figures Test, No. Correct
3.	CFLWR	Hidden Figures Test, No. Wrong
4.	PLSX	Personal Ladder Scale: Present
5.	PLSW	" " Past
6.	PLSY	" " Future
7.	PLSWX	" " Present-Past Range
8.	PLSXZ	" " Present-Future Range
9.	PLSWZ	" " Past-Future Range
10.	BRT	Breskin Rigidity Test
11.	BWAS	Barron-Welsh Art Scale
12.	V-4	Advanced Vocabulary Test
13.	PISS	Pearson Internal Sensation-Seeking Scale
14.	PESS	Pearson External Sensation-Seeking Scale
15.	[illegible]	Hidden Patterns Test, No. Correct
16.	PCWS	Pettigrew's Category Width Test
17.	MCSD	Marlowe-Crowne Social Desirability Scale
18.	GSRS	Gough-Sanford Rigidity Scale
19.	OSGF	Object Sorting Test, No. of Groups Formed
20.	OSMG	" " No. of Miscellaneous Groups
21.	[illegible]	[illegible] & Cohen Time Anxiety Scale
22.	CGSS	" " Submissiveness Scale
23.	[illegible]	" " [illegible] Scale
24.	[illegible]	" " Flexibility Scale

25. ZSSS Zuckerman Sensation-Seeking Scale

26. IELC Rotter's Internal- External Locus of Control Scale

27. MLC Mirels' Locus of Control Scale

28. CSNG Scott's Country Sorting Test, No. of Groups Formed

29. CSMG " ", No. of miscellaneous Groups

30. BMASC Barron-Welch Art Scale, Forced Choice Form

31. DPIMF Differential Personality Inventory: Mood Fluctuation Scale

32. DPISA " ": Shallow Affect Scale

33. DPIREP " ": Repression Scale

34. SEX Subject Sex Marker Dichotomy (1= male, 0 = female)

Mood Variables

Nos.	Label[a]	Mood Dimension
35, 36, 37	[illegible] $H_2A_1I_2$	Receptivity towards the World
38, 39, 40	[illegible] H_2 A_2 I	Personal Freedom vs. Constraint
41, 42, 43	[illegible] H_2 A_2 I	Harmony vs. Anger
44, 45, 46	[illegible] H_2 A_2 I	Own Sociability vs. Withdrawal
47, 48, 49	[illegible] H_2 A_2 I	Companionship vs. Being Isolated
50, 51, 52	[illegible] H_2 A_2 I	Love and Sex
53, 54, 55	[illegible] H_2 A_2 I	Present World
56, 57, 58	[illegible] H_2 A_2 I	Thought Processes
59, 60, 61	[illegible] H_2 A_2 I	Tranquillity vs. Anxiety
62, 63, 64	[illegible] H_2 A_2 I	Impulse-Expression vs. Self-Restraint
65, 66, 67	[illegible] H_2 A_2 I	Personal Moral Judgment
68, 69, 70	[illegible] H_2 A_2 I	Confidence vs. Feeling of Inadequacy
71, 72, 73	[illegible] H_2 A_2 I	Energy vs. Fatigue

74, 75, 76	ELATED H, A, L	Elation vs. Depression
77.	HEALTH	Physical Health
78.	SLEEP	Amount of Sleep
79.	ACDWORK	Pressure of Academic Work
80.	ALCOHOL	Alcohol Usage
81.	MARIJNA	Marijuana Usage
82.	AMPHETAM	Ampetamine Usage
83.	BARBITU	Barbiturate Usage
84.	AVCORR	Average Correlation between Variables
85.	PVAR	Percentage of Variance of First Factor
86.	#FACT90%	No. of Factors Accounting for 90% of Variance
87.	#FACT10%	No. of Factors Accounting for More Than 10% of the Variance apiece.

a. H= High (Peak), A = Average, L = Low (Trough) Mood Measure

CORRELATIONS: PRODUCT-MOMENT VERSION OF 9/1/68

COGNITIVE VARIABLES,MOOD SDS, AFFECTIVE COMPLEXITY
(4X,15(1X,F2.0),1X,F3.0,8(1X,F2.0)/4X,10(1X,F2.0)/2X,7(6X,F5.3)/2X,7(6X,F5.3)/2X,7(6X,F5.3)/2X,7(6X,F5.3)/2X,7(6X,F5.3)/2X,7(6X,F5.3)/4X,4(1X,F2.0))

26.000	5.000	.000	7.000	3.000	10.000	4.000	3.000	7.000	3.000
34.000	9.000	14.000	11.000	32.000	59.000	7.000	12.000	12.000	2.000
59.000	31.000	21.000	46.000	9.000	14.000	4.000	7.000	1.000	17.000
16.000	.000	5.000	.000	.725	.710	.724	.973	1.520	1.349
.889	1.008	1.389	1.047	1.359	1.555	.674	.934	1.030	1.208
1.311	1.346	1.097	.979	1.059	.895	.795	1.422	1.145	1.266
1.187	.889	.865	.865	.619	.623	.732	.976	.700	1.030
1.012	.833	.944	.875	.966	.981	.772	.718	1.359	.383
.000	.000	.000	28.000	32.000	13.000	2.000			

NO. OF OBSERVATIONS = 67 NO. OF VARIABLES = 87

VARIABLE	MEAN	STD. DEVIATION
MOODNO	21.791	7.307
CF1RT	4.731	2.889
CF1WR	1.836	2.404
PLSX	6.373	1.665
PLSY	4.821	2.116
PLSZ	8.776	1.104
PLSXY	2.269	1.608
PLSXZ	2.478	1.500
PLSYZ	3.940	2.437
SRT	7.119	4.279
SWAS	25.791	9.661
V-4	8.761	2.563
PPIS	12.030	3.871
PPES	10.851	3.990
CF2RT	29.896	10.542
PCNS	66.119	16.614
MCSD	11.209	4.827
GSRS	9.000	3.200
SS#GR	9.493	2.723
SS#MG	2.791	2.945
CCTA	54.896	8.254
CCTS	29.806	5.689
CCTP	20.597	3.940
CCTF	37.328	5.309
ZSSS	12.328	4.403
IELC	11.134	4.263
MILC	4.000	2.192

CSAS	1.820	6.179	
CSWS	3.518	2.164	
EXASPC	4.037	11.940	
OPTPEL	3.260	11.721	
OPTSA	2.266	2.896	
OPTSP	2.137	4.612	
SEX	.458	.299	
RECEPT	.264	.956	
RECEPT	.344	.921	
RECEPT	.400	1.182	
ENERGY	.480	1.045	
ENERGY	.393	1.060	
ENERGY	.441	1.249	
HARMV	.297	.910	
HARMV	.329	.930	
HARMV	.492	1.332	
SOCBEE	.365	1.101	
SOCBEE	.378	1.036	
SOCBEE	.469	1.306	
COMPAN	.314	.959	
COMPAN	.365	.924	
COMPAN	.453	1.215	
INVEST	.450	1.076	
INVEST	.459	1.057	
WORKST	.547	1.278	
WORKST	.471	.973	
WORKST	.456	.958	
THOUGT	.511	1.131	
THOUGT	.298	.889	
THOUGT	.387	.827	
TRAVEL	.436	1.039	
TRAVEL	.368	1.024	
TRAVEL	.343	1.044	
IMPORT	.420	1.218	
IMPORT	.248	.949	
IMPORT	.440	.908	
MORALS	.504	1.079	
MORALS	.304	.769	
MORALS	.341	.765	
OBEDN	.445	.980	
OBEDN	.313	.798	
OBEDN	.352	.900	
ENERGY	.454	1.088	
ENERGY	.474	1.047	
ENERGY	.425	1.046	
ELATED	.439	1.311	
ELATED	.362	1.033	
ELATED	.392	1.021	
HEALTH	.405	1.315	
SLEEP	.382	.922	
ACTWORK	.224	.764	
ALCHOL	.107	.721	
	.170	.300	

MARIJNA	.127	.206
AMPHETAM	.025	.087
BARBITU	.029	.106
AVGRR.	28.672	10.253
%VAR.	32.746	10.719
#FACT90%	12.567	1.567
#FACT>10	1.896	.694

CORRELATIONS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
M99DWD	1.000														
CF1RT	-.063	1.000													
CF1WR	.007	-.206	1.000												
PLSX	.013	.092	-.190	1.000											
PLSY	-.047	.051	.106	.273	1.000										
PLSZ	.148	.023	-.087	.435	-.075	1.000									
PLSXY	.085	-.039	.112	.085	-.609	.438	1.000								
PLSXZ	.121	-.084	.134	-.741	-.345	.227	.238	1.000							
PLSYZ	.086	-.040	-.070	-.061	-.879	.506	.724	.379	1.000						
BRT	-.007	-.088	-.026	-.153	-.235	-.045	.130	.121	.187	1.000					
BWAS	.142	-.191	.178	-.221	.074	.060	.003	.323	-.045	-.204	1.000				
V-4	.279	.096	-.316	.073	.099	-.066	-.158	-.141	-.122	.271	-.126	1.000			
PPIS	.239	.160	-.243	.126	-.054	.120	.016	-.077	.114	-.206	.162	.118	.004		
PPES	.087	.303	-.144	.258	.184	.165	-.010	-.153	-.091	-.425	.169	-.012	.419	1.000	
CF2RT	.082	.146	-.439	.242	.086	.053	-.112	-.160	-.121	-.152	.121	.321	.045	.220	1.000
PCWS	.182	-.084	.080	.002	.035	-.099	-.114	-.135	-.036	.015	-.115	.279	.159	.153	.112
MCSD	-.059	.055	.165	-.067	-.110	-.109	.022	.009	.049	-.297	-.188	-.152	.128	.134	-.138
GSRS	.074	-.005	-.025	.073	-.183	.038	.067	-.096	.154	.123	-.280	-.175	.141	-.096	.019
BS#GR	.070	-.017	-.129	.002	-.130	.067	.133	.078	.137	.202	-.198	-.052	.129	-.137	-.039
BS#MG	-.257	-.159	.172	.016	.214	-.001	-.007	-.025	-.189	-.296	.035	-.214	.046	.189	-.062
CCTA	-.153	.116	.119	-.305	-.004	-.058	.153	.260	.009	.090	-.041	-.268	.014	-.111	-.320
CCTS	-.033	-.103	-.009	.066	-.139	.029	.055	-.068	.142	.086	-.166	-.072	.162	-.170	.061
CCTP	-.098	.143	.078	-.298	-.007	-.257	-.061	.166	-.114	-.051	.186	-.196	.111	.051	-.156
CCTF	.046	.134	-.076	.087	.123	-.028	-.050	-.102	-.124	-.337	.024	.019	.109	.199	.133
ZSSS	.080	.134	-.075	.175	.085	.193	.061	-.073	.023	-.371	.120	-.006	.334	.612	.146
IELC	-.036	.047	-.095	-.131	-.019	-.016	-.081	.130	.019	.225	.014	.179	.002	-.183	-.033
MILC	.017	.125	-.102	-.082	.003	-.049	-.114	.009	.003	.200	.020	.236	.089	-.082	-.028
CSNG	-.029	-.042	-.126	-.091	-.011	.057	.111	.116	.036	.011	.028	.051	.264	.080	-.010
CSMG	-.083	-.010	-.053	.033	.040	.002	-.045	-.066	-.016	.018	-.057	.014	.059	-.106	.103
BWASFC	.294	.096	.127	-.150	.035	.101	.150	.271	.012	-.266	.524	.102	.309	.273	.048
DPIMFL	.013	.174	-.006	-.106	.005	.019	.078	.127	.035	.076	.125	-.055	.314	.045	-.091
DPISA	.033	-.061	-.047	-.100	-.109	-.074	-.102	.015	.066	.126	-.171	.016	.154	-.105	-.170
DPIREP	.013	-.138	-.088	-.081	-.091	-.151	-.170	.025	-.025	.116	-.129	.005	.329	-.304	-.059
SEX	.010	-.018	.085	-.146	-.037	.044	.013	.162	.056	.081	-.094	-.054	.134	.278	-.133
RECEPT H	-.134	.002	.271	-.016	-.034	-.165	.101	-.080	-.037	-.056	.054	-.355	.159	-.162	-.125
RECEPT A	-.071	.035	.318	.034	.043	-.044	.115	-.055	-.034	.068	.053	-.266	.064	-.081	-.293
RECEPT L	-.115	.077	.334	-.045	.068	-.030	.121	-.012	-.039	.031	-.007	-.376	.002	-.036	-.272
FREEDM H	-.184	.090	.220	.008	-.217	-.030	.401	-.027	.191	.073	.020	-.326	.164	-.055	-.149
FREEDM A	-.098	-.001	.299	.072	-.178	.035	.375	-.057	.189	-.063	-.002	-.271	.129	-.059	-.183
FREEDM L	-.209	-.089	.264	.046	-.038	-.053	.267	-.101	.028	-.049	.086	-.296	.119	.044	-.155
HARMNY H	-.223	.034	.344	.146	.144	.025	.130	-.122	-.089	-.108	.090	-.365	.088	-.169	-.142
HARMNY A	-.177	.074	.318	.234	.092	.123	.214	-.157	.000	-.171	.014	-.230	.064	.013	-.132
HARMNY L	-.271	.043	.226	.128	.013	.103	.264	-.095	.065	-.092	-.008	-.315	.078	.094	-.057
SSCALE H	-.207	.026	.301	-.040	.039	-.098	.165	-.035	-.053	-.084	.096	-.263	.152	-.190	-.063
SSCALE A	-.166	.015	.349	.042	-.008	.045	.204	-.016	.053	-.065	.144	-.295	.072	-.068	-.155
SSCALE L	-.229	-.082	.277	.095	-.027	.056	.234	-.102	.085	-.029	.076	-.322	.035	.001	-.099
COMPAN H	-.173	.182	.285	-.061	.079	-.021	.189	-.063	-.053	.161	.135	-.213	.059	-.051	-.075
COMPAN A	-.152	.173	.376	.045	.085	.066	.246	-.012	-.014	.003	.155	-.294	.002	.025	-.101

C9MPAN L	-.209	-.014	.335	.086	.077	.005	.248	-.106	-.029	-.009	.183	-.249	.06[illegible]	-.002	-.028
L9VESX H	-.269	.108	.207	.004	-.057	.036	.307	.026	.093	.118	.076	-.220	.06[illegible]	-.082	-.058
L9VESX A	-.171	.151	.270	.011	-.090	.113	.331	.082	.160	-.001	.069	-.342	.01[illegible]	.042	-.123
L9VESX L	-.202	.044	.234	.127	-.004	.135	.229	-.028	.087	-.054	-.008	-.336	.05[illegible]	.115	-.057
W9RKST H	-.172	-.006	.379	.158	.022	-.082	.234	-.259	-.006	-.016	.017	-.282	.03[illegible]	-.139	-.164
W9RKST A	-.170	.022	.337	.152	-.039	-.034	.222	-.221	.064	.026	.019	-.306	.00[illegible]	-.123	-.215
W9RKST L	-.135	.038	.180	.193	.009	-.005	.112	-.258	.030	.013	-.069	-.331	.09[illegible]	.056	-.155
TH9UGT H	-.222	-.058	.354	-.032	-.073	.003	.272	-.003	.120	.036	.040	-.332	.07[illegible]	-.147	-.266
TH9UGT A	-.158	-.009	.346	-.045	-.074	.046	.177	.037	.127	-.061	.004	-.345	.07[illegible]	-.093	-.229
T-9UGT L	-.071	.021	.318	.047	-.056	.127	.265	-.008	.153	-.119	.010	-.351	.06[illegible]	-.026	-.201
TRANQL H	-.144	.176	.215	.079	-.005	.055	.266	-.040	.035	-.094	.077	-.290	.05[illegible]	.025	-.020
TRANQL A	-.045	.073	.249	.151	.016	.129	.267	-.058	.047	-.185	.119	-.319	.06[illegible]	.134	-.065
TRANQL L	-.180	.105	.084	.276	.019	.136	.248	-.213	.046	-.195	-.015	-.282	.01[illegible]	.195	.114
IMPLSE H	-.167	-.006	.207	-.050	-.135	-.050	.212	-.023	.130	-.075	.069	-.297	.04[illegible]	-.042	-.127
IMPLSE A	-.159	.019	.218	.080	-.112	.063	.240	-.070	.153	-.085	-.031	-.304	.01[illegible]	-.029	-.148
IMPLSE L	-.099	-.093	.235	.038	-.014	.089	.187	-.001	.078	-.105	.017	-.322	.03[illegible]	.000	-.174
M9RALS H	.028	.083	.315	-.031	.013	-.089	.060	-.048	-.006	.051	.046	-.136	.00[illegible]	-.024	-.095
M9RALS A	-.096	-.031	.298	.016	-.075	-.056	.138	-.078	.074	-.046	-.042	-.223	.11[illegible]	-.029	-.179
M9RALS L	-.035	-.093	.243	.016	-.028	-.069	.172	-.092	.037	-.040	-.009	-.205	.01[illegible]	.110	-.171
C9NFDN H	-.202	.189	.315	-.035	.123	.050	.203	.055	-.034	-.089	.127	-.340	.05[illegible]	.020	-.151
C9NFDN A	-.174	.140	.356	.062	.026	.153	.329	.010	.090	-.111	.018	-.393	.00[illegible]	.093	-.183
C9NFDN L	-.113	.065	.236	.116	.031	.095	.278	-.106	.054	-.060	-.048	-.295	.06[illegible]	.110	-.116
ENERGY H	-.206	.077	.246	-.004	-.046	-.022	.236	-.050	.070	-.136	.112	-.345	.03[illegible]	.016	-.104
ENERGY A	-.200	.072	.297	.040	.017	.062	.223	-.045	.053	-.171	.049	-.307	.07[illegible]	.009	-.186
ENERGY L	-.219	.093	.224	.088	.130	.001	.132	-.143	-.057	-.135	-.018	-.268	.01[illegible]	.156	-.191
ELATED H	-.151	.110	.270	-.033	-.047	-.006	.240	.068	.036	.005	.168	-.280	.02[illegible]	-.071	-.006
ELATED A	-.101	.120	.281	.084	-.027	.122	.266	.048	.070	-.062	.165	-.287	.00[illegible]	.008	-.039
ELATED L	-.026	.125	.143	.237	.003	.143	.279	-.110	.045	-.179	.050	-.276	.12[illegible]	.243	.060
HEALTH	-.095	-.113	.112	.064	-.025	.104	.244	-.032	.078	.093	.023	-.001	.09[illegible]	-.068	.041
SLEEP	-.089	.001	.319	.038	.172	.001	.146	-.092	-.043	-.126	.036	-.256	.15[illegible]	.100	-.090
ACCWRK	.130	-.051	.010	.168	-.013	.009	.160	-.173	.028	-.038	-.021	-.011	.16[illegible]	.067	.058
ALCOHOL	-.082	.050	-.012	-.057	.068	.098	.061	.103	.027	-.213	.117	-.034	.17[illegible]	.154	.077
MARIJNA	-.067	.071	-.019	-.076	-.112	.040	.150	.083	.119	-.042	.156	-.064	.14[illegible]	.073	-.037
AMPHETAM	-.060	.196	-.051	.055	-.078	.232	.191	.095	.175	-.032	-.039	-.248	.00[illegible]	.217	-.003
BARBITU	.060	-.030	-.054	-.258	.011	.042	.090	.304	.011	-.115	.266	-.199	.11[illegible]	.245	-.011
ANCORR.	-.015	.319	-.012	.060	-.003	.094	.123	.001	.051	-.236	.006	-.021	.21[illegible]	.265	.125
%VAR.	.012	.292	-.023	.076	-.006	.073	.103	-.007	.044	-.238	.016	-.020	.21[illegible]	.247	.150
#FACT9C%	-.024	-.062	-.078	.102	.224	-.065	-.209	-.141	-.245	.070	-.000	.075	.00[illegible]	-.022	.052
#FACT>1C	.007	-.342	.034	-.238	-.135	-.108	.079	.191	.049	.180	.041	-.064	.16[illegible]	-.297	-.177

CORRELATIONS

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PCXS	1.000														
MCSD	.006	1.000													
GSRS	.105	.222	1.000												
BS#GR	-.333	-.023	.269	1.000											
BS#MG	.007	.130	.010	.065	1.000										
CCTA	-.308	-.201	.116	.142	.313	1.000									
CCTS	.009	.191	.504	.140	.025	-.147	1.000								
CCTB	-.222	-.079	.011	.138	.150	.423	.098	1.000							
CCTF	-.154	.080	.067	.157	.164	.208	-.010	.146	1.000						
ZSSS	.241	.080	-.072	-.211	.175	-.203	-.052	-.016	.101	1.000					
IELC	-.087	-.306	-.028	-.052	-.090	.327	-.124	.092	-.019	-.184	1.000				
MILC	.032	-.260	-.002	-.175	-.166	.251	-.035	.048	-.106	-.084	.830	1.000			
CSNG	-.179	.001	.041	.359	.180	.180	-.115	-.123	.071	-.033	.074	-.030	.00[illegible]		
CSMG	.242	-.273	-.133	-.186	.032	.002	-.092	-.045	-.140	.081	.232	.228	.32[illegible]	1.000	
BAASFC	-.122	-.134	-.340	-.056	-.071	.020	-.285	.091	.144	.207	.042	.074	.12[illegible]	-.096	1.000
DPIMFL	.012	-.313	-.014	.027	.028	.464	-.183	.159	.158	.010	.377	.313	.15[illegible]	.067	.171
DPISA	.032	.314	.182	.066	-.121	-.168	-.045	-.180	-.167	-.057	.012	.048	.05[illegible]	-.041	-.225
DPIREP	-.131	.176	.151	.218	-.098	-.059	.080	.075	-.028	-.485	-.037	-.080	.05[illegible]	.003	-.214
SEX	.272	-.049	-.010	.002	.301	.048	-.081	.133	-.163	.225	-.158	-.179	.08[illegible]	.192	-.023
RECEPT H	-.154	.322	.088	-.103	.097	.210	.079	.160	-.005	-.221	.041	.067	.05[illegible]	.011	-.073
RECEPT A	-.199	.265	.048	-.063	-.022	.264	-.136	.094	-.048	-.206	.078	.132	.00[illegible]	-.147	.048
RECEPT L	-.122	.268	.112	-.138	.074	.297	-.103	.016	-.028	-.110	.019	.092	.02[illegible]	-.036	.050
FREEDM H	-.163	.220	.153	-.071	.036	.230	.051	.121	-.013	-.069	-.080	-.074	.06[illegible]	-.203	.020
FREEDM A	-.111	.286	.123	-.098	.076	.240	.024	.055	-.049	-.164	.029	.087	.12[illegible]	-.118	.050
FREEDM L	-.169	.322	.108	-.113	.133	.238	-.013	.058	.030	-.146	.059	.108	.00[illegible]	-.115	.051
HARMNY H	-.118	.110	.066	-.200	.208	.341	.060	.118	.118	-.151	.049	.028	.07[illegible]	-.018	.048
HARMNY A	-.105	.224	.065	-.164	.152	.259	-.023	.035	.104	-.058	.178	.184	.05[illegible]	-.068	.128
HARMNY L	-.165	.159	.097	-.078	.056	.225	.016	.011	-.124	-.095	.107	.136	.00[illegible]	-.029	.032
SBCBLE H	-.170	.155	.142	-.114	.182	.412	.105	.244	.049	-.206	.141	.143	.01[illegible]	-.039	.036
SBCBLE A	-.150	.147	.071	-.162	.012	.258	-.001	.098	-.078	-.124	.108	.125	.01[illegible]	-.037	.117
SBCBLE L	-.048	.146	.141	-.146	.005	.190	-.033	-.055	-.086	-.076	.070	.087	.07[illegible]	-.007	-.019
COMPAN H	-.097	-.102	.036	-.130	.060	.428	-.102	.068	.035	-.167	.216	.183	.08[illegible]	.081	.078
COMPAN A	-.144	.096	-.014	-.169	.029	.266	-.067	.006	-.136	-.060	.070	.110	.01[illegible]	.015	.241
COMPAN L	-.091	.072	-.012	-.212	-.038	.153	-.051	-.060	-.133	-.114	.030	.105	.05[illegible]	.066	.129
LOVESX H	-.087	-.003	.070	-.135	.009	.306	.111	.015	-.060	-.210	.053	.058	.06[illegible]	.040	.059
LOVESX A	-.107	.110	.036	-.103	.011	.277	.016	-.005	-.109	-.129	.027	.061	.03[illegible]	.033	.149
LOVESX L	-.017	.153	.092	-.073	.090	.173	.024	-.062	-.055	-.074	.055	.050	.04[illegible]	.036	.067
WORKST H	-.196	.131	.039	-.052	.035	.199	.050	.078	-.106	-.173	-.013	.045	.05[illegible]	.024	-.027
WORKST A	-.219	.149	.075	-.055	-.068	.170	.019	-.017	-.152	-.177	-.033	.044	.05[illegible]	.014	-.058
WORKST L	-.139	.178	.197	-.014	-.008	.191	.048	-.058	-.096	-.066	.023	.106	.01[illegible]	.053	-.125
THOUGT H	-.069	.177	.147	.001	.150	.367	.036	.144	-.105	-.179	.090	.081	.01[illegible]	-.026	.003
THOUGT A	-.052	.236	.053	-.106	.047	.193	-.056	.070	-.147	-.084	.048	.086	.05[illegible]	.013	-.007
THOUGT L	-.060	.220	.144	-.070	.028	.218	-.020	.016	-.048	.002	.055	.066	.01[illegible]	.035	.090
TRANQL H	-.082	.062	.172	-.162	.197	.378	.079	.167	-.023	-.031	.143	.145	.04[illegible]	-.023	.051
TRANQL A	-.075	.236	.097	-.130	.143	.147	.021	.023	-.165	.014	-.012	.059	.00[illegible]	-.053	.116
TRANQL L	-.071	.244	.169	-.104	.074	.025	.101	-.129	-.036	.092	-.108	.000	.00[illegible]	-.074	.015
IMPLSE H	-.163	.255	.135	-.087	.011	.287	.084	.063	.037	-.118	.046	.105	.03[illegible]	-.163	.144
IMPLSE A	-.126	.241	.184	-.085	.006	.267	.065	.003	-.055	-.134	.090	.164	.04[illegible]	-.061	.049

IMPLSE L	-.093	.279	.188	-.022	.064	.186	.050	-.040	-.082	-.055	.129	.201	.059	-.112	.038
MORALS H	.013	.291	.191	-.022	.008	.060	.229	.028	-.215	-.085	-.014	.067	.022	-.068	-.044
MORALS A	-.089	.359	.114	-.096	-.039	.016	.178	-.064	-.246	-.145	-.113	-.047	.069	-.133	-.067
MORALS L	.001	.271	.170	-.033	-.089	-.012	.116	-.058	-.247	-.065	-.110	-.017	.004	-.156	-.014
CONFDN H	-.013	-.104	-.121	-.207	.045	.319	-.091	.081	-.090	.007	.213	.232	.019	.269	.151
CONFDN A	-.058	.170	.015	-.129	.058	.236	-.043	.014	-.173	.037	.011	.041	.064	.078	.082
CONFDN L	.075	.219	.190	-.125	.008	.169	-.024	.010	-.156	.044	-.024	.041	.089	.012	.071
ENERGY H	-.149	.090	-.041	-.167	.078	.262	-.054	.119	-.066	-.000	.094	.150	.060	.063	.128
ENERGY A	-.130	.224	-.047	-.183	.113	.198	-.095	.057	-.077	.012	.073	.145	.022	.025	.077
ENERGY L	-.054	.249	.087	-.136	.067	.167	.047	.060	-.063	.142	.044	.165	.012	-.007	.009
ELATED H	-.154	.044	-.015	-.120	.051	.292	-.009	-.023	-.011	-.163	.158	.148	.054	.023	.190
ELATED A	-.227	.164	-.047	-.117	.039	.234	-.080	.008	-.048	-.148	.113	.130	.000	.040	.175
ELATED L	-.094	.319	.035	-.064	-.010	.052	-.058	-.040	.104	.051	-.165	-.118	.038	-.148	.155
HEALTH	-.206	-.030	.060	.257	.167	.127	.127	.090	.081	.029	.045	-.005	.202	.130	.046
SLEEP	.068	.185	.015	-.117	-.034	.027	.171	.103	-.088	.149	-.122	-.062	.052	.053	-.009
ACDWORK	-.055	.107	.112	.012	-.182	-.053	.107	.053	.077	-.045	-.018	.071	.009	-.055	.011
ALCOHOL	-.008	-.149	-.230	-.009	-.011	.058	-.099	.023	.022	.133	.133	.079	.269	.039	.193
MARIJNA	-.159	-.094	-.378	-.140	-.085	.002	-.322	.144	-.074	.110	.090	.057	.023	-.030	.124
AMPHETAM	-.078	.010	.022	-.120	-.153	-.058	-.109	-.182	-.348	.130	.090	.026	.129	-.055	.016
BARBITU	.155	-.072	-.074	-.145	-.063	-.061	-.089	.174	-.406	.231	-.005	-.018	.062	-.048	.160
AVGDRG.	.089	.213	-.101	-.124	.100	.076	-.010	-.029	.145	-.024	-.109	-.116	.099	-.061	.277
%VAR.	.112	.203	-.084	-.115	.083	.080	.012	-.025	.156	-.049	-.114	-.114	.080	-.065	.253
#FACT>0%	-.113	-.284	-.101	.078	-.107	-.145	-.132	.003	-.029	.146	.268	.217	.034	.089	-.065
#FACT>10	-.157	-.083	.047	.185	-.069	.037	.078	.170	-.140	-.043	-.106	-.186	.019	-.017	-.231

CORRELATIONS

	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
DPIMFL	1.000														
DPISA	-.431	1.000													
DPIREP	-.381	.371	1.000												
SEX	-.200	.172	.073	1.000											
RECEPT H	-.007	.051	.061	-.138	1.000										
RECEPT A	.090	.106	-.074	-.116	.747	1.000									
RECEPT L	.202	.010	-.251	-.023	.667	.817	1.000								
FREEDM H	.095	-.108	-.161	-.134	.713	.668	.617	1.000							
FREEDM A	.028	-.016	-.076	-.073	.688	.741	.610	.813	1.000						
FREEDM L	-.051	.110	-.076	-.046	.715	.744	.684	.718	.855	1.000					
HARMNY H	.264	-.310	-.200	-.211	.666	.594	.592	.621	.584	.515	1.000				
HARMNY A	.148	-.133	-.218	-.124	.667	.741	.655	.666	.765	.722	.767	1.000			
HARMNY L	-.087	-.007	-.232	-.014	.559	.612	.631	.590	.681	.784	.469	.776	.002		
SOCBLE H	.108	-.200	-.127	-.205	.755	.668	.556	.653	.716	.688	.785	.748	.601	1.000	
SOCBLE A	.051	-.073	-.153	-.096	.754	.808	.658	.684	.800	.747	.706	.825	.747	.857	1.000
SOCBLE L	.047	-.019	-.279	-.019	.635	.720	.754	.591	.683	.755	.543	.727	.815	.693	.839
COMPAN H	.378	-.134	-.195	-.088	.560	.500	.506	.542	.425	.436	.702	.571	.414	.667	.581
COMPAN A	.213	-.111	-.270	-.051	.627	.712	.675	.614	.623	.595	.730	.760	.637	.737	.813
COMPAN L	.036	-.024	-.266	-.072	.656	.695	.735	.621	.649	.749	.566	.716	.807	.676	.792
LOVESX H	.261	-.221	-.266	-.166	.564	.514	.505	.456	.616	.545	.651	.606	.562	.635	.656
LOVESX A	.168	-.095	-.185	-.029	.600	.613	.560	.658	.707	.615	.625	.718	.677	.697	.750
LOVESX L	.087	-.039	-.239	.056	.605	.585	.638	.555	.594	.628	.575	.736	.778	.506	.708
WORKST H	-.002	-.066	-.114	-.052	.658	.705	.673	.630	.718	.703	.608	.682	.696	.695	.767
WORKST A	-.019	.056	-.088	-.021	.643	.735	.679	.618	.716	.695	.566	.648	.674	.632	.781
WORKST L	-.056	.200	-.109	.069	.570	.639	.695	.459	.567	.651	.448	.556	.658	.516	.677
THOUGT H	.031	.075	.024	.073	.758	.726	.631	.706	.767	.742	.644	.714	.658	.776	.832
THOUGT A	-.025	.130	-.072	.057	.700	.811	.672	.648	.776	.701	.560	.718	.671	.694	.837
THOUGT L	.058	.074	-.248	.042	.671	.738	.717	.624	.701	.674	.578	.699	.677	.675	.789
TRANQL H	.310	-.275	-.328	-.065	.691	.597	.618	.647	.704	.640	.719	.707	.579	.804	.745
TRANQL A	.068	-.127	-.248	-.048	.686	.739	.670	.611	.750	.672	.592	.767	.709	.733	.845
TRANQL L	-.064	-.052	-.273	-.013	.563	.590	.646	.541	.649	.690	.472	.675	.754	.578	.667
IMPLSE H	-.052	.051	-.165	-.001	.686	.722	.676	.687	.756	.761	.599	.702	.694	.729	.776
IMPLSE A	-.073	.093	-.138	-.013	.697	.747	.658	.675	.801	.779	.570	.769	.783	.745	.842
IMPLSE L	-.066	.161	-.206	.039	.628	.710	.672	.545	.675	.742	.461	.688	.737	.663	.749
MORALS H	-.006	.056	-.043	.047	.602	.533	.479	.440	.445	.437	.412	.419	.389	.522	.531
MORALS A	-.161	.141	-.040	.002	.632	.639	.513	.558	.596	.575	.378	.534	.587	.528	.643
MORALS L	-.154	.235	-.100	.093	.535	.597	.520	.465	.498	.571	.246	.478	.639	.419	.585
CONFDN H	.328	-.146	-.384	-.072	.567	.526	.536	.517	.529	.474	.631	.571	.519	.656	.622
CONFDN A	.077	.038	-.289	.042	.621	.666	.650	.608	.658	.622	.606	.709	.725	.661	.804
CONFDN L	.010	.077	-.285	.047	.566	.620	.695	.554	.597	.672	.498	.660	.737	.635	.723
ENERGY H	.101	-.066	-.191	-.034	.696	.681	.650	.713	.772	.721	.592	.673	.651	.702	.770
ENERGY A	-.059	.092	-.198	-.019	.708	.758	.679	.676	.784	.751	.559	.747	.729	.704	.823
ENERGY L	-.118	.129	-.276	.031	.634	.675	.633	.540	.611	.712	.406	.640	.743	.563	.698
ELATED H	.256	-.196	-.275	-.155	.730	.641	.679	.673	.662	.626	.696	.688	.594	.731	.759
ELATED A	.097	-.136	-.184	-.114	.768	.812	.720	.696	.769	.728	.662	.799	.719	.749	.877
ELATED L	-.042	-.127	-.193	-.028	.590	.649	.697	.644	.597	.665	.479	.698	.709	.523	.660
HEALTH	.068	-.168	-.044	-.011	.303	.272	.246	.289	.346	.416	.209	.243	.279	.412	.398
SLEEP	-.011	-.010	-.286	.117	.379	.430	.419	.377	.432	.442	.377	.434	.484	.397	.506

ACDWBRK	-.176	.069	-.045	.126	.249	.341	.249	.167	.398	.431	.118	.298	.37?	.218	.359
ALCOHOL	.065	.019	-.234	.080	.017	-.065	.051	-.066	-.080	-.010	-.057	.083	.15?	-.059	-.011
MARIJNA	.088	.011	-.093	.097	-.009	.015	.040	.164	.114	.092	-.042	-.001	.05?	-.068	-.014
AMPHETAM	.073	-.015	-.261	-.047	.123	.280	.283	.345	.183	.189	.098	.278	.48?	.133	.343
BARBITU	.105	-.111	-.165	.236	-.061	.031	.049	.029	-.054	-.054	-.046	-.040	.11?	.002	.066
AVCORR.	.219	-.198	-.257	-.103	.337	.318	.371	.351	.305	.265	.452	.444	.29?	.301	.348
%VAR.	.220	-.193	-.223	-.121	.346	.305	.346	.346	.299	.253	.452	.427	.27?	.300	.337
#FACT90%	-.043	-.042	-.090	-.007	-.399	-.332	-.281	-.444	-.438	-.286	-.339	-.296	.15?	-.304	-.353
#FACT>10	-.245	.219	.265	.145	-.129	-.193	-.284	-.166	-.121	-.105	-.349	-.384	.24?	-.143	-.155

CORRELATIONS

	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
SOCBLE L	1.000														
COMPAN H	.512	1.000													
COMPAN A	.719	.782	1.000												
COMPAN L	.867	.612	.829	1.000											
LOVESX H	.576	.722	.705	.659	1.000										
LOVESX A	.627	.650	.807	.699	.845	1.000									
LOVESX L	.720	.488	.714	.765	.692	.850	1.000								
WORKST H	.714	.477	.674	.756	.526	.609	.580	1.000							
WORKST A	.737	.481	.694	.760	.554	.662	.629	.951	1.000						
WORKST L	.745	.427	.629	.737	.460	.580	.684	.787	.852	1.000					
THOUGT H	.737	.586	.742	.738	.574	.685	.670	.752	.745	.673	1.000				
THOUGT A	.738	.483	.711	.711	.508	.676	.650	.721	.749	.638	.837	1.000			
THOUGT L	.790	.511	.728	.772	.588	.661	.716	.693	.733	.707	.775	.875	.00[illegible]		
TRANQL H	.657	.678	.722	.651	.677	.642	.610	.661	.630	.587	.693	.628	.674	1.000	
TRANQL A	.781	.494	.804	.766	.577	.694	.703	.678	.673	.651	.727	.778	.771	.803	1.000
TRANQL L	.800	.380	.629	.771	.511	.572	.700	.636	.644	.636	.601	.664	.749	.693	.816
IMPLSE H	.742	.466	.661	.725	.549	.606	.625	.709	.714	.676	.781	.732	.759	.684	.704
IMPLSE A	.796	.476	.678	.739	.593	.670	.659	.706	.724	.681	.778	.772	.760	.661	.759
IMPLSE L	.823	.430	.633	.718	.433	.523	.603	.633	.648	.683	.700	.724	.771	.608	.741
MORALS H	.417	.399	.596	.532	.327	.436	.460	.613	.628	.532	.635	.588	.551	.560	.584
MORALS A	.574	.312	.606	.649	.418	.547	.566	.625	.660	.544	.670	.734	.681	.482	.674
MORALS L	.651	.293	.584	.699	.390	.516	.631	.580	.635	.623	.636	.668	.709	.425	.667
CONFDN H	.580	.734	.770	.691	.667	.705	.600	.587	.578	.506	.632	.635	.659	.714	.646
CONFDN A	.744	.590	.810	.784	.618	.760	.727	.709	.713	.666	.748	.787	.809	.676	.792
CONFDN L	.808	.489	.705	.806	.491	.576	.684	.654	.639	.733	.688	.694	.804	.668	.760
ENERGY H	.696	.580	.676	.711	.648	.678	.591	.715	.700	.605	.783	.806	.759	.724	.701
ENERGY A	.761	.507	.675	.734	.586	.680	.629	.696	.698	.622	.770	.862	.819	.643	.751
ENERGY L	.756	.386	.574	.707	.508	.587	.652	.615	.628	.666	.652	.697	.739	.573	.673
ELATED H	.712	.767	.801	.760	.805	.763	.710	.612	.639	.569	.695	.630	.709	.797	.735
ELATED A	.772	.650	.821	.790	.691	.784	.726	.705	.715	.640	.736	.774	.749	.749	.850
ELATED L	.756	.367	.624	.716	.463	.579	.707	.574	.572	.626	.556	.691	.651	.592	.767
HEALTH	.365	.237	.252	.297	.243	.181	.144	.422	.350	.270	.413	.356	.361	.380	.322
SLEEP	.469	.277	.523	.484	.409	.530	.471	.597	.595	.498	.473	.497	.516	.390	.465
ACDWORK	.366	.003	.205	.341	.256	.386	.411	.455	.513	.441	.263	.342	.403	.261	.296
ALCOHOL	.133	.101	.087	.128	.029	.096	.104	-.020	-.055	.046	.009	-.096	.079	.048	.009
MARIJNA	-.004	-.076	-.062	-.019	-.023	-.021	-.104	.028	.008	-.174	.000	.041	.021	-.067	-.067
AMPHETAM	.337	.165	.363	.340	.250	.356	.400	.238	.271	.246	.202	.379	.379	.195	.402
BARBITU	.086	.013	.153	.079	-.039	.032	.055	-.055	-.060	-.094	.071	.194	.139	.088	.235
AVGGRR.	.247	.330	.435	.351	.460	.502	.525	.197	.214	.212	.277	.283	.346	.375	.408
%VAR.	.231	.327	.404	.327	.446	.480	.496	.182	.202	.193	.270	.264	.319	.354	.373
#FACT90%	-.196	-.202	-.277	-.215	-.388	-.458	-.361	-.237	-.285	-.197	-.400	-.335	.281	-.284	-.341
#FACT>10	-.106	-.310	-.297	-.225	-.341	-.305	-.349	-.111	-.093	-.134	-.060	-.196	.234	-.221	-.208

CORRELATIONS

	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
TRANQL L	1.000														
IMPLSE H	.691	1.000													
IMPLSE A	.683	.830	1.000												
IMPLSE L	.698	.788	.889	1.000											
MORALS H	.339	.558	.504	.485	1.000										
MORALS A	.530	.649	.700	.635	.813	1.000									
MORALS L	.609	.596	.632	.683	.717	.860	1.000								
CONFDN H	.492	.553	.580	.525	.477	.453	.412	1.000							
CONFDN A	.607	.695	.767	.706	.514	.661	.635	.817	1.000						
CONFDN L	.755	.699	.744	.780	.486	.603	.681	.615	.840	1.000					
ENERGY H	.684	.729	.732	.621	.395	.500	.448	.699	.713	.596	1.000				
ENERGY A	.718	.718	.798	.731	.354	.555	.520	.655	.792	.693	.908	1.000			
ENERGY L	.753	.644	.710	.737	.361	.522	.624	.552	.707	.713	.738	.852	.804		
ELATED H	.657	.688	.681	.605	.487	.495	.455	.751	.676	.577	.756	.692	.559	1.000	
ELATED A	.698	.713	.796	.722	.501	.596	.526	.692	.754	.652	.771	.802	.654	.869	1.000
ELATED L	.834	.619	.682	.645	.358	.470	.557	.383	.598	.697	.564	.624	.654	.649	.764
HEALTH	.378	.306	.298	.289	.122	.136	.090	.224	.312	.287	.502	.435	.347	.323	.359
SLEEP	.343	.465	.461	.459	.505	.500	.527	.493	.589	.463	.417	.441	.478	.339	.412
ACDWORK	.370	.376	.349	.329	.299	.333	.401	.175	.301	.318	.292	.330	.389	.225	.226
ALCOHOL	-.004	.092	.089	.136	-.066	-.079	.002	.203	.130	.097	.075	.074	.139	.089	.059
MARIJNA	-.047	.035	.017	-.038	-.137	-.008	-.059	.059	.104	-.053	.126	.119	.064	.010	-.003
AMPHETAM	.339	.214	.308	.311	.273	.425	.453	.351	.488	.408	.258	.290	.251	.234	.338
BARBITU	.100	-.011	-.018	.086	.218	.213	.324	.173	.183	.176	.088	.056	.070	-.012	.019
AVGERR.	.355	.397	.347	.178	.253	.260	.207	.284	.413	.332	.328	.315	.209	.501	.453
%VAR.	.325	.386	.333	.165	.242	.238	.187	.356	.378	.302	.314	.289	.179	.490	.434
#FACT>0%	-.234	-.413	-.386	-.157	-.285	-.326	-.230	-.236	-.336	-.210	-.297	-.318	.174	-.372	-.358
#FACT>10	-.237	-.167	-.166	-.081	-.124	-.059	-.052	-.268	-.176	-.172	-.283	-.215	.122	-.318	-.303

CORRELATIONS

	76	77	78	79	80	81	82	83	84	85	86	87
ELATED L	1.000											
HEALTH	.274	1.000										
SLEEP	.345	.224	1.000									
ACDWORK	.322	.147	.503	1.000								
ALCOHOL	.034	-.159	.169	.031	1.000							
MARIJUA	-.045	.059	.077	.103	.107	1.000						
AMPHETAM	.304	.015	.275	.024	-.009	.186	1.000					
BARBITU	.096	-.110	.249	-.046	.044	.173	.527	1.000				
AVGRR.	.429	-.004	.182	.092	.195	-.024	.264	-.030	1.000			
%VAR.	.405	-.015	.171	.097	.194	-.012	.229	-.053	.991	1.000		
#FACT90%	-.286	-.031	-.171	-.016	-.014	.057	-.066	.077	-.699	-.703	1.000	
#FACT>10	-.289	.100	.021	-.027	-.013	.086	-.279	.062	-.645	-.644	.164	1.000

WHEN A CORRELATION COEFFICIENT OF ZERO IS PRINTED AS 000.000 INSTEAD OF 0.000, THE DIVISOR IN THE CORRELATION FORMULA WAS ZERO. THIS USUALLY MEANS ONE OF THE STANDARD DEVIATIONS WAS ZERO.
STOP 0

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