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A Validation Study of Millon's Theory and Measure

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A VALIDATION STUDY OF MILLON'S
THEORY AND MEASURE

by
Michael E. Carney

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of

Master of Arts

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VITA

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INTRODUCTION

Drawing from various theoretical viewpoints and research studies, Millon (1969) has fashioned a theory of personality and psychopathology. The central feature of his approach lies in its conception of interpersonal styles or personality patterns. These styles or patterns refer to characterological ways of acting, relating, or thinking; they incorporate a tightly knit organization of needs, attitudes, and behaviors. These styles operate according to motivational principles which involve the valence and sources of reinforcements combined with the kinds of behaviors utilized to secure these reinforcements. These patterns are understood to derive from the complex and sequential interaction of constitutional and experiential factors.

This theory too provides a conceptual framework for a revision of the diagnostic classification system. It does this through its view of the forms of psychopathology as elaborations and extensions of basic personality styles. This theory postulates the continuity of personality through its conception of personality patterns which enable it to organize clinical syndromes and psychopathological states in a systematic and comprehensive manner.

The current study was conducted to investigate the central dimensions of this theory--the interpersonal styles. It attempted to determine whether these styles demonstrated consistent interrelationships with other variables that would be expected to occur on the basis

of Millon's theory. Given the motivational forces operating in each style, it was hypothesized that each personality pattern will incorporate a distinct constellation of needs and defense styles. In addition, this study serves the purpose of elucidating these patterns with respect to needs as discussed by Murray (1938) and defense styles. In effect, it reconceptualizes these styles in terms of the organization of needs and defenses.

Empirical validation was attempted through self and teacher ratings and their correspondence to the scales of the operational measure of this theory (Millon-Illinois Self-Report Inventory). Also, an experimental form of this measure (developed by this writer) was administered to determine whether it would serve as a suitable alternate form.

These validation efforts are important to determine whether this theory and its operational measure merit general acceptance. The theory does not present any major theoretical advances which so characterized the work of Freud and Jung. Rather its significance lies in its conceptual framework, its integration of principles and ideas which bear strong implications for diagnostic classifications. In fact, the theory by its reformulation of diagnostic categories could replace the conventional nosology and thereby dramatically alter our thinking and language concerning psychopathology. If this theory and its operational measure prove to be acceptable, it will not only affect clinical practice but it would have a strong impact upon the public's understanding of mental health.

REVIEW OF THE LITERATURE

Since the Millon-Illinois Self-Report, an operational measure of Millon's theory of personality, has recently been developed, research involving this measure has not been published. Studies are currently being undertaken to establish this inventory's normative data and its relationship to other measures. Since a review of studies cannot be conducted, a discussion of the inventory's features and the concepts which underlie its construction is warranted to appreciate the importance of this inventory and the contribution it promises to our understanding of personality functioning and diagnostic classification. The initial form of the Millon-Illinois Self-Report Inventory (MI-SRI) was developed to assess personality functioning and standardize diagnostic procedures according to a comprehensive theory of personality and psychopathology. In fact, few objective measures have been so clearly wedded to a theoretical orientation as this inventory. Millon's conceptualization and theoretical orientation derives from several sources. His approach, particularly in its delineation of personality patterns, is based upon clinical and multivariate research, the work of several investigators utilizing a variety of factor-analytic and statistical techniques (Lorr, Klett, & McNair, 1963; Lorr, Bishop, & McNair, 1965; Lorr, 1966; Overall, 1963; Overall, Hollister, & Pichot, 1967; Zigler & Philips, 1961), and the clinical observations of a number of intrapsychic theorists, most notably Freud (1917), Abraham (1927),

Horney (1950), Fromm (1947), and Sullivan (1953). Perhaps the major impetus for the development of this theory was Millon's dissatisfaction with the traditional diagnostic categories. His dissatisfaction has led to more inclusive and potentially more meaningful concepts, providing information regarding the psychological processes that antedate the onset of the psychological disorder. This premorbid style of interaction provides a context in which to understand the symptoms and disorders which develop from an individual's functioning. Moreover, this viewpoint not only suggests an etiology for this personality disturbance but offers a perspective to make important decisions regarding treatment plans and goals. Thus, psychiatric diagnosis could reach the most advanced status of other medical diagnosis, in that diagnosis would be directly related to both etiology and treatment. In attempting to eliminate the deficiencies of the traditional nosology, this reformulation has provided the central focus for a theory of personality and psychopathology.

The salient features of this theory may be best understood by examining the principal criticisms levied against the Kraepelinian system. The foremost weakness of this system lies in the absence of an underlying theoretical perspective, the organizing principles necessary to establish a body of interrelationships and provide a framework for coordinating various syndromes. The traditional nosological system stands as a collection of discrete and isolated categories, accompanied by the prominent and dramatic symptoms associated with each disorder. Yet this emphasis on symptomatology operates at the expense of an understanding of personality structure in which the disorder is embedded.

The conventional system has excluded many complex and important characteristics of functioning (e.g., interpersonal style, dominant traits, kinds of defenses, etc.) by its focus on dramatic and observable symptoms. Hence, it provides little information regarding the person's interpersonal behavior and it also fails to consider the continuity in functioning between "normal" behavior with that manifested in clinical disorders. In addition, two controlled studies of the diagnostic procedure (Asch, 1949; Beck, Ward, Mendelson, Mock, & Erbaugh, 1962) demonstrate the poor reliability of the classificatory system.

In attempting to correct the limitations of the traditional nosology and preserve its best elements, Millon has fashioned his own theoretical approach to personality and psychopathology to serve as the foundation for this reformulation of the diagnostic system. The organizing principles of this new classification are inspired by concepts that were first presented by Freud and Skinner. Freud (1917) proposed the following three polarities as governing psychological functioning: pleasure-pain, subject-object, active-passive. From an altogether different perspective, Skinner (1953) raised three questions which he conceived as central to the understanding of pathological functioning which parallel closely those of Freud's concepts. These questions concern: (1) the nature of reinforcements: whether they be positive or negative, pleasurable or painful; (2) the course of reinforcement: whether it comes from self or others, subject or object; (does the individual primarily attain his reinforcements from himself or outside himself?). In Millon's approach this category can be

further broken down into the following postures which characterize the individual's experiencing of reinforcers: detached--a failure to experience significant positive reinforcements from himself or others; dependent--a primary orientation toward obtaining reinforcements from others; independent--a primary orientation toward obtaining reinforcements from oneself; and ambivalent--a conflict between obtaining reinforcements from either others or self. The final question concerns the instrumental coping style: whether a person engages in passive or active kinds of activity (direct or indirect) to secure reinforcement.

From this conceptualization which links types of reinforcement, sources of reinforcement, and styles of instrumental behavior, a 4 x 2 matrix has been created from which emerge eight personality patterns or coping styles. These patterns were originally delineated for psychiatric patients, describing their premorbid functioning and behavior, with an emphasis upon negative traits and attributes rather than the strengths or assets associated with each style. The same principles have been applied to devise the coping styles for the adolescent form of the MI-SRI, though this form has been developed for a normal population. Yet this application illustrates one of the central theses of Millon's theoretical system--the continuity between normal and pathological behavior. The same processes and dynamics underlie the personality patterns for both normals and psychiatric patients. Nevertheless, one difference which reflects its standardization lies in its terminology; for example, the passive detached pattern of the clinical form has been altered to apathetic, the active detached to sensitive, etc.

These personality patterns represent the fundamental strata from

which develops pathological syndromes ranging from mild to severe. These patterns prefigure the kinds of pathology which may subsequently arise in the individual. They highlight the processes which may later become aberrant or exaggerated and cause series breakdowns in behavior. In tracing the roots of the disturbance, they provide a key to understanding psychopathology. These personality patterns refer to characterological ways of behaving, perceiving, thinking, feeling, and relating. They signify a tightly knit organization of needs, attitudes, and traits which produced an enduring personal style. These patterns are often referred to as coping strategies because they represent habitual ways of reducing anxieties and gratifying needs--a preferred manner of meeting inner needs in concert with external demands, a characteristic style of adaptation. The use of the word strategy may be misleading because this style does not reflect a deliberate conscious decision to act in a specified way, but rather an ingrained way of perceiving and acting fashioned from his early childhood.

The origin of these personality patterns or coping styles can be traced from interactions between the individual's constitutional make-up and his early life experiences. According to Millon's speculation, a child, endowed with a distinctive pattern of capacities, energies, and temperaments, attains certain goals and satisfies his desires through a process of trial and error. A shaping process occurs in which these activities, preferences, and types of behavior which are reinforced become learned and crystallize into a habitual way of perceiving and acting. From this early interaction of his needs with environmental conditions, the child forms a world view and a style

of life consonant with this view. Subsequently, rewards and reinforcements perpetuate this view and consolidate this coping style. It becomes deeply embedded in the personality structure as an automatic set of dispositions and attitudes that is constantly reinforced by the environment and relatively free from extinction.

Since personality patterns represent habitual ways of perceiving and relating, they can be expected to be clearly highlighted in conflict situations. For as anxiety ensues from these situations, the individual relies on those tactics or unconscious maneuvers which maintain his integration and lessen his anxiety. These styles or specific coping methods have been defined as defense mechanisms.

All defense mechanisms serve the same function of protecting the individual's self-esteem and reducing anxiety. Whether these mechanisms are maladaptive depend upon the way these threats are handled and the degree of reliance upon these self-protective measures. Since the personality patterns as sketched by Millon are defined as distinct habitual modes of functioning, the particular utilization and degree of reliance upon defense mechanisms should bear a relationship to these more inclusive characterological styles. Thus, it is reasoned that a specific patterning of defenses will be associated with each coping style.

Each coping style embodies a hierarchy of needs which guide and motivate behavior. For each distinct coping style, the specific patterning of needs--or phrased in another way, the expression of particular traits--will be expected. In fact, coping styles imply a configuration of interpersonal behaviors, a consistent set of dynamics, processes,

and needs which provide a commonality to what may appear a myriad of diverse behaviors.

The central purpose of the present study was to investigate the patterning of defenses and needs with these coping styles. It was expected that reliance on specific defenses and the predominance of certain needs will characterize each coping style in ways different from each other. If the relationships occur as predicted, these findings would further substantiate Millon's theoretical system.

The general hypotheses were the following:

(1) Passive detached (apathetic - Scale 1) persons will score very high on harm-avoidance and understanding. Not seeking stimulation or enticed by risks, they would be attracted to positions of security and safety, relating to the world in a dispassionate and detached manner. Conflicts will be less intense with this coping style since there is a diminution of drive or impulse to engender a conflict with established values. Displaying little affect and seemingly unconcerned with ego enhancement, this pattern of behavior relies less on defense mechanisms than the other styles. But of the defenses with which these persons would respond, it is predicted that they will handle conflict by responding in a neutral fashion to a frustrating object. According to Gleser and Ihilevich's (1969) classification, this reaction is referred to as Reversal (REV).

(2) Active detached (sensitive - Scale 2) persons will also score very high on harm-avoidance. Although individuals who show this pattern may appear quite similar to the apathetic, the central motivations of their behavior is quite different. Apprehensive and mistrustful,

conflicts will develop between their social longings and social fears. Individuals predominantly exhibiting this pattern of interaction will handle conflict by turning it back upon themselves (Turning-Against-Self--TAS), blaming themselves for their own inadequacy.

(3) Passive dependent (cooperative - Scale 3) persons will score very high on affiliation, and to a lesser degree, on social recognition; they will score low on autonomy and dominance. People scoring high on this coping style seek gratification and approval from outside themselves in the relationships they form. Consequently these individuals will handle conflict by turning it back upon themselves (Turning-Against-Self--TAS) rather than alienating those upon whom they depend for support.

(4) Active dependent (sociable - Scale 4) persons will score high on affiliation, exhibition, and social recognition. Conversely they will score low on autonomy. This pattern is exemplified by an individual who seeks gratification and approval from outside himself, but acts in a much different way than does the cooperative person. The defenses most likely to be relied upon would be those characterized under Reversal (REV). Individuals displaying this pattern show a great similarity to hysterics, a diagnostic group noted for its use of repression, a defense mechanism subsumed under the category of Reversal (REV).

(5) Passive independent (self-assured - Scale 5) persons will score high on autonomy and play, and score low on nurturance and endurance. This relationship is hypothesized because the self-assured display a narcissistic attitude in which they expect the praise and acknowledgement of others. Fearful of any situation which exposes their

limitations and weaknesses, these individuals rationalize away challenges or criticisms. Accordingly, these individuals will likely rely on defenses classified as Principalization (PRN) which entails the splitting off of affect from content, illustrated in such defenses as intellectualization, isolation, and rationalization.

(6) Active independent (assertive - Scale 6) will score highly on such traits as dominance, aggression, autonomy, and to a lesser degree, achievement. Conversely, they will score low on affiliation and nurturance. These individuals demonstrate an overriding concern with securing power and control over others. The defense mechanisms grouping that would be consistent with this interactional style and dispositions will be Projection (PRO), defined as the expression of aggression toward an external object through first attributing to it, without unequivocal evidence, negative intent, or characteristics.

(7) The passive ambivalent (disciplined - Scale 7) individual will display a high need for order, endurance, and to a lesser degree, nurturance. The ascendancy of these needs reflects the individual's effort to control his world, lest his strong unacknowledged emotions be released without check. It is hypothesized that these individuals will rely on Principalization (PRN) as a primary defense reaction. This hypothesis is consonant with the literature reporting the dynamics and defenses of the obsessive-compulsive patient--a diagnostic group associated with this coping style.

(8) The active ambivalent (unpredictable - Scale 8) person will score high on aggression and impulsivity. These individuals display erratic behavior, ranging from agreeableness to acting out. They are

often irritable and angry. It is hypothesized that these individuals will rely on the grouping of defense mechanisms termed Turning-Against-Object (TAO), which is defined as managing conflict through attacking a real or presumed external frustrating object.

Another aspect of this study will concern itself with the relationship between personality orientations as defined by Millon (dependent, independent, ambivalent) and cognitive style as measured through field-independence-dependence. Field-independence-dependence is a perceptual-personality dimension described by Witkin and co-workers (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962). It refers to analytic or global ways of perceiving. This dimension is assessed by either the Rod-and-Frame test (RFT) or the Embedded Figures Test (EFT). Each perceptual task requires the ability to distinguish an item from its background, to break down or analyze the visual field into its component parts. Viewed originally as a perceptual measure, this ability to differentiate and structure the visual field was found to tap broad dimensions of psychological functioning. Investigators established relationships between field independence-dependence with such important factors as self-identity, body concept, the awareness of inner needs and feelings (Witkin et al., 1962), the uses of defenses and controls (Schimek, 1968), and the nature of early developmental experiences (Dyk and Witkin, 1965). This complex of personality characteristics and developmental experiences demonstrate a self-consistency in the sense that these modes of functioning rest upon an articulated sense of self, an ability to keep things and one's self separate in experience. This net of interrelationships prompted Witkin

to characterize field-independence-dependence as an expression of a cognitive style which manifests itself in diverse areas of psychological functioning. In later thinking, Witkin viewed field-independence as a measure of differentiation, referring to the more complex structuring and organization of the individual's psychological and cognitive processes (Witkin, 1965).

An expression of this cognitive style is the degree to which a sense of inner standards has been developed. Witkin found that field-independent individuals have greater sense of separate identity, being more aware of their inner needs and feelings. Field-dependent persons have a less developed sense of self-identity manifested in a reliance upon external sources of definition for their attitudes, judgments, sentiments, and their view of themselves. These findings are consistent with the task that defines field-independence. The field-independent person structures the field to disembed the figure; he relies on bodily cues or an internal frame of reference to perceive the hidden figure or judge the upright. In contrast, the field-dependent person relies on the surrounding field to make his judgments.

Several studies have been conducted to demonstrate this relationship between cognitive style and developed inner standards. In a study in which subjects' positions on an issue were confronted, Bell (1955) found that field-dependent subjects were more likely to shift from their initially stated positions to the authority's more than the field-independent subjects. Linton (1955) found that field dependence was associated with high conformity in other situations. In a design combining aspects of these two studies, Solar, Davenport, and Brachl (1969)

found that field-dependent subjects were more likely to defer to field-independent subjects in their conjoint alignment of the rod in the RFT. Reliance on external cues for definition was the central hypothesis to Konstadt and Foreman's study (1965) in which they found that field-dependent children looked up at the faces of the adult examiner in a situation of disapproval about twice as often as children with an analytic cognitive style.

This study along with others (Witkin et al., 1962; Messick & Damarin, 1964) demonstrate that persons with global cognitive style are particularly attentive to faces which serve as a major source of cues as to what others are thinking and feeling.

Given these characteristics associated with different ways of perceiving, it can be seen that cognitive style bears a close relationship to three major personality orientations postulated by Millon in his theoretical system of personality. Those orientations--dependent, independent, ambivalent--refer to the primary source to which a person seeks reinforcement; from outside himself--dependent; from within himself--independent; or characterized by a vacillation between these two sources--ambivalent. The independent orientation corresponds to the analytic cognitive style with its development of inner standards. Similarly, the dependent orientation corresponds to the global style of perceiving with its reliance upon external cues for definition. With these relationships in mind, the following hypotheses have been formulated:

- (1) Individuals showing predominantly an independent orientation will be extremely field-independent;

(2) Individuals exhibiting primarily a dependent orientation will be less field-independent than those with an independent orientation;

(3) Those characterized by an ambivalent orientation will have scores which fall between those of the independent and dependent individuals on the field-independence measure;

(4) Individuals manifesting a detached orientation will not show any systematic relationship to field-independence. It is speculated that while some detached subjects might have a developed articulated sense of self, this coping pattern might include individuals whose sense of self is so poorly developed that their pattern of withdrawal and failure to seek positive reinforcements is quite adaptive, given their limited inner resources and level of differentiation.

Another aspect of this study is the construction of an alternate form for the Millon-Illinois Self-Report Inventory (MI-SRI) for adolescents. This alternate form will differ from its counterpart in some important respects. Unlike many alternate forms, it will not be a collection of similar items which comprise a parallel form of the original instrument. Rather this alternate form, derived by the author of this paper, bears an entirely different format than the MI-SRI. It moves away from the traditional assessment position of measuring attributes or traits in an abstracted way. In what seems a logical and appropriate step, this form attempts to assess personality traits in an interpersonal context. It achieves this aim in the following way: subjects are asked to imagine themselves in an interpersonal conflict situation and then are requested to judge specific behavioral

responses to this situation as preferred or considered most typical of themselves.

New testing approaches seem called for on the basis of poor predictive results found with even the most skilled clinicians (Holt & Luborsky, 1958). The advantage this approach offers is that it approximates a behavioral sample, which is perhaps the most valid index to predict future behavior. It seems reasonable to assume that the closer a measure taps behavior, the less the risk of inference in predicting behavior. As McClelland (1973) has stated, the best testing is criterion sampling. Admittedly, this measure is not ascertained from actual behavior in true-life situations which has its own methodological problems with respect to validity, standardization, and financial practicality. But this format offers the most realistic alternative, given the ethical restraints upon experimenters and the wide cross-section of behavior which needs to be examined.

METHOD

Subjects

This validation study was conducted at two separate settings-- a Catholic boys high school in a north suburban area of Chicago (Loyola Academy in Wilmette, Illinois); and a Catholic boys high school in metropolitan Chicago (St. Ignatius College Prep). Classes of sophomores and juniors from each school (87 subjects) participated in the study. Both schools attract intelligent, achievement-oriented, college-bound students. St. Ignatius' student body features a greater heterogeneity with respect to ethnic and social backgrounds. Whereas, students at Loyola Academy are relatively homogenous, drawn from predominantly white affluent households.

Tested in a group setting, all the students consented to their participation in the study. Confidentiality was assured to each of the students. Subjects were promised the opportunity to examine the results of their tests, accompanied by an explanation of what these results might indicate. Given the student's permission, these results will eventually be communicated to the counseling programs at each school.

Materials

(A.) The Millon-Illinois Self-Report Inventory, in its initial

form, consisted of 150 self-description items clustering in a series of 20 clinical scales. It was developed for a psychiatric population in an attempt to standardize diagnostic procedures according to a comprehensive theory of personality and psychopathology. Subsequently, an adolescent form of this inventory has been developed, adapted for persons between the ages of 13 to 20. This adaptation features scales pertinent to the problems and concerns of that population. Unlike the clinical form, this measure has been devised for a normal population of high school and college students. As mentioned previously, the terminology differs between the two forms with respect to coping styles. Yet the same principles underlie both measures. Actually the different labels simply indicate a shift in emphasis in describing these dimensions, with the clinical form advancing the more undesirable or pathological aspects of behavior.

Validation studies for the adolescent form of the MI-SRI are currently in process and have not been published. Yet preliminary studies (Millon, 1975) have been conducted for the clinical form. It is reasonable to assume that these results would not be expected to differ significantly for the adolescent form. On the basis that both forms operate from the same theoretical system and were constructed by the same procedures, these findings merit some discussion.

Millon reported that the median internal consistency of each of the 20 scales of the clinical form was shown to be above .85, with a range of .78 to .91, as determined by Kuder-Richardson Formula 20. Test-retest reliability data was also attained on a group of patients who were actively involved in psychotherapy programs. Consequently,

reliability data was contaminated by both natural changes in their clinical states and those generated by the effects of treatment. Despite these uncontrolled factors, the reliability figures for the personality patterns are quite high, with most in the range of .80.

Millon (1975) has recently reported a test-retest study conducted with 96 girls over a six-month interval using the adolescent form. The reliability figures for the eight styles ranged from .59 to .71 (the lowest scales: Scale 2 = .59; Scale 4 = .62). These results can be considered respectable in light of the instability and turmoil so typical of this developmental stage combined with the long interval.

Although only preliminary findings have been collected, the results have been quite encouraging with respect to the validation of this inventory. One validation procedure was achieved through a correspondence between MI-SRI scores and clinical judges' ratings. It was found that the diagnostic hit-rate or true-positive accuracy was significantly greater than chance for all scales.

(B.) The Personality Research Form (PRF) is a self-report personality inventory consisting of 300 items which yield 14 trait scores and one validity scale. The selection of this measure was determined by its research aim of measuring broadly relevant personality traits in settings such as high school and college. It was developed to gauge normal functioning rather than psychopathological behavior. The personality traits measured by this inventory are achievement, affiliation, aggression, autonomy, dominance, endurance, exhibition, harm-avoidance, impulsivity, nurturance, order, play, social recognition, and understanding. These traits too can be further grouped into

superordinate categories; for example, measures of impulse expression and control incorporate five scales, ranging from impulsivity to order. These traits were largely adapted from the set of personality variables defined by Murray (1938) in his Explorations in Personality. However, a conceptual difference does exist between the PRF variables and those defined by Murray, particularly with reference to measurement. While Murray and his co-workers viewed needs on a continuum ranging from low to high, the PRF dimensions of personality were all conceived, both theoretically and psychometrically, as bipolar. Hence, half of the items for each scale are written in terms of the opposite pole of each of the named variables. Structuring the items in this way not only controls for an acquiescence response style, but assures the presence of important characteristics regardless of whether scores are high or low.

The reliability of this inventory is quite impressive, comparing favorably with other personality scales currently available. The reliability figure assessing its internal consistency of its items was .91. Test-retest reliability was found to cluster around .90.

By means of peer and self-ratings, the manual (Jackson, 1974) reports median validity figures of .52 and .56 respectively. Also, a multi-method factor analysis was conducted which provided substantial evidence for convergent and discriminant validity of the PRF scales.

(C.) The Defense Mechanism Inventory is a recently developed instrument devised to meet the long-standing need of providing an objective measurement of the major defense mechanisms an individual uses. Gleser and Ihlevich's (1969) Defense Mechanism Inventory (DMI)

operates on the premise that the major function of a defense is the resolution of conflicts between what is perceived by the individual and his internalized values. Accordingly, the manner in which the individual resolves the conflict through distortion and denial constitute the kinds of defenses employed. On this basis, a number of defenses have been classified into five general categories, each of which identifies the general pattern of the defensive maneuvers. These five clusters of defenses are: (1) Turning-Against-Object (TAO)--this class of defenses deals with conflict through attacking a real or presumed external frustrating object; (2) Projection (PRO)--this category involves the expression of aggression toward an external object through first attributing to it, without substantial evidence, negative intent or characteristics; (3) Principalization (PRN)--this class of defenses handles conflict through invoking a general principle that splits off affect from content and represses the former; (4) Turning-Against-Self (TAS)--this refers to defenses that manage conflict through directing aggressive behavior towards the subject himself; and (5) Reversal (REV)--this class includes defenses that handle conflict by responding in a positive or neutral fashion to a frustrating object which might be expected to evoke a negative reaction.

This inventory consists of ten brief stories, featuring conflicts with regards to authority, independence, competition, sexual identification, and situational factors, which are followed by four questions involving the subject's projected behavior, fantasy behavior, thoughts, and feelings in the scene described.

With two small samples over a week interval, test-retest reliability

was appraised to be .89. Studies conducted with alcoholics (Aldridge, Baxter, Nopziger, Roggenbuck, Shimansky, & Wolthuis, 1967) and cognitive style (Ihilevich, 1968) found a significant relationship between levels of differentiation and the kinds of defenses employed.

(D.) The Group Embedded Figures Test (GEFT) is the instrument utilized to measure field-independence. This measure represents an adaptation of the originally individually administered Embedded Figures Test to make possible group testing. The GEFT has been modeled as closely as possible on the EFT, containing 18 complex figures, 17 of which were taken from the EFT. It is a timed test in which subjects are asked to disembed a simple figure from a more complex configuration. Split-half reliability was found to be .82. Validity was assessed through the correlation with other measures of field-independence: the EFT, RFT, and body drawings. The validity coefficients for men were reasonably high with respective scores of .82, .39, .71. The low correlation between GEFT and RFT is rather typical of comparisons between scores on the EFT and the RFT.

(E.) MI-SRI Ratings. Students were given a personality description of each of the coping styles. They rated themselves on how well these descriptions fit their own personality on a five-point scale, ranging from "not at all" to "a great deal." Also, teachers were given a description of each of the personality styles. They were asked to rate each student on a scale of one through ten, with a score of ten given to the "best fit" and another lower score given to the style which comes next closest to approximating the student's behavior.

(F.) An alternate form of the MI-SRI was developed by the author

of this study. It consists of six brief stories which pose a conflict which an adolescent might conceivably face. The subject is presented with eight different responses to this situation (each response corresponds to Millon's interpersonal styles). He is requested to rank three responses considered most characteristic of his own attitudes and behavior.

Three judges familiar with Millon's theoretical system independently scores the responses to determine whether these items represented these styles accurately. To express this finding as a validity coefficient, Cohen's (1960) Kappa (k) coefficient of agreement for nominal scales was used. The k value was .88. The binomial test was computed and the z value was 31 ($p < .001$).

Procedures

Measures were administered in a group setting during regular class periods. Testing required three 45-minute class periods to complete the tasks.

A series of t -tests was performed comparing those subjects predominantly characterized by one of the interpersonal styles (the scale of the highest score) with all other subjects on needs, defense styles, and embedded figures test performance. A correlational matrix was constructed between all scores on the interpersonal styles with needs, defense styles, and embedded figures test performance.

Analysis of variance was used to determine the effect of personality orientation upon embedded figures test performance. Subjects were classified into personality orientations by combining scale scores

of each orientation (e.g., dependent--cooperative and sociable scales). However, subjects were excluded whose combined scale scores did not either exceed 115 base rate points or supercede another orientation by at least 15 points.

Cohen's (1960) Kappa (k) coefficient of agreement for nominal scales was employed to assess the correspondence of ratings and alternate form results with the inventory scores.

RESULTS

In comparing passive detached (apathetic) persons with all other subjects on needs and defense styles as shown in Table 1, apathetic persons showed significantly less need for affiliation, harm-avoidance, order, and social recognition. They did evince a greater need for autonomy than the others. As predicted, they did not rely upon any particular defense style. Table 2 indicates that scores on the apathetic scale correlated positively with the defense styles of principalization and reversal, and with such needs as achievement, autonomy, endurance, and understanding; they correlated negatively with the styles of turning-against-object and projection and with needs of affiliation, aggression, exhibition, impulsivity, play and social recognition.

The comparison between the active detached (sensitive) persons with other subjects on needs and defense styles (see Table 1) revealed that sensitive persons were significantly higher on principalization and harm-avoidance than the others and showed less need for dominance and understanding. Table 2 indicated that scores on the sensitive scale were associated positively with turning-against-self, embedded figures test performance, and negatively with achievement, affiliation, dominance, endurance, exhibition, order, and play.

As shown in Table 1, the comparison between passive dependent (cooperative) persons and other subjects on the critical variables demonstrated that cooperative persons were less inclined to utilize

Table 1

The t-Tests Between Subjects Dominant on One Scale of Millon-Illinois Self-Report Inventory with Remaining Subjects on Variables of Personality Research Form, Defense Mechanism Inventory, and Embedded Figures Test

SCALES	1	2	3	4	5	6	7	8	
TAO			-2.85**			2.41*			
PRO									
PRN		2.12*				-3.27**		-2.04*	
TAS									
REV									
Achievement								-2.57*	
Affiliation	-2.06*			2.10*					
Aggression			-4.28**			3.54**		2.68**	
Autonomy	3.17**								
Dominance		-2.33*		3.66**					
Endurance					1.97*				
Exhibition				3.44**					
Harm-avoidance	-2.65**	2.88**							
Impulsivity					-2.05*			2.60*	
Nurturance			2.12*						
Order	-2.44*						2.35*		
Play	-2.24*		-2.89**	2.37*					
Social Recognition	-2.67*		-2.34**						
Understanding		-2.15*	2.87**					-2.77**	
EFT									
	N =	5	11	16	22	6	10	5	12

*p < .05, **p < .01

Note. Scale numbers refer to the following styles: 1=apathetic; 2=sensitive; 3=cooperative; 4=sociable; 5=assured; 6=assertive; 7=disciplined; 8=unpredictable.

Table 2

Millon Correlation Coefficients with Variables of the Personality
Research Form, Defense Mechanism Inventory, and Embedded Figures Test

SCALES	1	2	3	4	5	6	7	8
TAO	-.21*		-.45**	.20*		.40**	-.38**	.20*
PRO	-.22**			.19*		.18		
PRN	.24*		.40**	-.22*	-.08	-.46**	+.32**	-.29**
TAS		.24*			-.28**			.20*
REV	.27*		.26**			-.28*	+.25*	-.20*
Achievement	.31**	-.24*			.27**	-.23*	.35**	-.58**
Affiliation	-.28**	-.32**		.40**	.24*			-.19*
Aggression	-.50**		-.65**	.30**		.74**	-.45**	.49**
Autonomy	.21*		-.21*				-.36**	
Dominance		-.55**	-.32	.53**	.53**	.23*		-.32**
Endurance	.27**	-.23**			.27**			-.47**
Exhibition	-.37**	-.44**	-.31**	.58**	.42**	.35**	-.25*	
Harm-avoidance							.27**	
Impulsivity	-.35**				-.20*	.25*	-.56**	.53**
Nurturance			.40**			-.44**	.28**	-.25*
Order		-.29**			.29**		.38**	-.42**
Play	-.55**	-.20*	-.35**	.48**	.20*	.45**	-.47*	.29**
Social Recognition	-.50*		.22*	.20*		.32**		.24*
Understanding	.29**		.24*			-.34**	.26*	-.46**
EFT		.24**	.19*					

* $p < .05$; ** $p < .01$

Note. Scale numbers refer to the following styles: 1=apathetic; 2=sensitive; 3=cooperative; 4=sociable; 5=assured; 6=assertive; 7=disciplined; 8=unpredictable.

the defense style of turning-against-object than the others. They showed greater need to offer nurturance and were less aggressive, playful, and desirous of social recognition. The correlational matrix (see Table 2) shows that scores on the sensitive scale correlated positively with nurturance, social recognition, understanding, field independence, and the defense styles of principalization and reversal; they correlated negatively with aggression, play, autonomy, dominance, exhibition, and turning-against-object.

The comparison between active dependent (sociable) persons with others on needs revealed that sociable persons were more affiliative, dominant, exhibitionistic, and playful (see Table 1). Table 2 shows that scores on the sociable scale were associated positively with the defense styles of turning-against-object, projection, and with such needs as affiliation, aggression, dominance, exhibition, play, and social recognition. This scale correlated negatively with the defense style of principalization.

In comparison of passive independent (self-assured) individuals with other subjects on these variables, Table 1 indicates that self-assured persons were less impulsive than the others. Table 2 shows that scores on this scale correlated positively with achievement, affiliation, dominance, endurance, exhibition, order, and play; they were associated negatively with impulsivity and the defense style of turning-against-self.

As shown in Table 1, the comparison of active independent (assertive) persons with other subjects on the critical variables revealed that assertive persons were significantly disposed to utilize the de-

fense style of turning-against-object and disinclined to employ the defenses of principalization. With respect to needs, these persons were significantly higher on aggression. Table 2 shows that scores on this scale correlated positively with the defense styles of turning-against-object, projection, and needs of aggression, dominance, exhibition, impulsivity, play, and social recognition; they correlated negatively with the defense styles of principalization and reversal, and with needs of achievement, nurturance, and understanding.

The comparisons of persons characterized as passive ambivalent (disciplined) with the other subjects indicated that disciplined persons were significantly higher on the need for order than the other subjects (see Table 1). Table 2 presents a correlation matrix which shows that scores on this scale are associated positively with the defense style of principalization and reversal, and with needs for achievement, harm-avoidance, nurturance, order, and understanding. They correlated negatively with the defense styles of turning-against-object, and needs of aggression, autonomy, exhibition, impulsivity, and play.

Finally, the comparisons of subjects characterized as active ambivalent (unpredictable) with all other subjects indicated that unpredictable persons were higher on needs of aggression and impulsivity. Conversely, they were lower on needs of achievement and understanding and less inclined to utilize defense mechanisms of principalization than other subjects. Table 2 reveals that scores on this scale correlated positively with defense styles of turning-against-object and turning-against-self; they were also associated positively with aggression, impulsivity, play, and social recognition. They correlated

negatively with the defense styles of principalization and reversal, and with needs of achievement, affiliation, dominance, endurance, nurturance, order, and understanding.

Self ratings and teacher ratings were employed to validate this measure by the correspondence between judgments and the scales' scores. The self-rating in which subjects rated themselves on descriptions of these interpersonal styles correlated significantly with the results of the MI-SRI. Twenty-three of 78 subjects selected the interpersonal style most characteristic of them as assessed by the inventory. A k coefficient of .19 was computed which yielded a binomial z of 4.4 ($p < .01$; Table 1). However, when subjects were given the opportunity to select the two styles most characteristic of themselves, their judgments were not in significant agreement with their two most elevated scales of the inventory. Nevertheless, more agreement was found between the inventory and other ratings and measures than were found between any of the other measures to each other.

With regard to teachers' ratings, no significant agreement was found between teachers' judgments on the students' most characteristic interpersonal style and the scale scores of the inventory. This lack of correspondence was highlighted by the fact that the teachers were only able to select seven of the 62 students whose perceived salient interpersonal style matched with the results of the inventory. Also, the teachers' ratings on the two most characteristic styles did not show a relationship to the inventory scores.

The results on the alternate form nearly matched those of the teachers' ratings. On the two most salient styles, the alternate form

Table 3
 Agreements Between Millon-Illinois Self-Report Scales
 with Ratings and Alternate Form

		MI-SRI			
		Peak Scale		Two Highest Scales	
		Actual	Expected	Actual	Expected
Self Ratings ^a	Peak Scale	23*	10		
	Two Highest Scales			68	72
Teacher Ratings ^b	Peak Scale	7	8		
	Two Highest Scales			37	57
Alternate Form ^c	Peak Scale	7	8		
	Two Highest Scales			38	58

Note. $a_n = 78$; $b_n = 62$; $c_n = 63$.

* $p < .01$ Assessed with binomial test

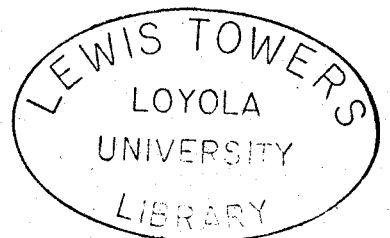
was not in significant agreement with the findings of the inventory.

The results on the experimental form were mixed. The alternate form results did not correspond significantly with the inventory on the primary interpersonal style. However, a significant correspondence was also found between the two most characteristic styles on the alternate form with the two most elevated scales on the inventory. The k coefficient was also .26 with the binomial z being 2.15 ($p < .05$; Table 3).

Personality orientation did not show any significant relationship with field independence. In fact, the independent orientation had the lowest mean on embedded figures performance of any orientation. Among the independent and dependent styles, only the dependent cooperative style was associated positively with embedded figures performance.

DISCUSSION

A series of t-tests and correlations were conducted to determine whether these interpersonal styles relate to needs and defense styles in a predictable manner consistent with Millon's theoretical framework. Accordingly, each style was examined regarding its relationship to these variables. The hypothesis that apathetic persons would score high on harm-avoidance and understanding and not rely specifically on any defense style was only partially supported. Although apathetic persons did not predominantly rely upon any defense style, the correlational matrix does present a picture of the organization of their defenses characterized by a general repression and emotional constriction. Contrary to prediction, apathetic persons were found low on harm-avoidance. But upon further consideration, this finding can easily be viewed as consistent with Millon's formulation of the apathetic style since apathetic individuals are characterized as having less affective energy and a diminished sensitivity to social cues and events. Due to their minimal involvement in the social world, they are not particularly apprehensive. Their social withdrawal leaves them with a diminished interest in the external world with its inherent dangers and threats. Their need for autonomy coupled with their low need for affiliation and social recognition is quite consistent with Millon's description of this interpersonal style--individuals whose need for social interaction and stimulation is quite low.



The hypothesis that sensitive individuals will rely upon turning-against-self and score high on harm-avoidance was generally supported. Although principalization was its most characteristic defense style, turning-against-self was correlated positively with this sensitive style. Both defenses involve the internalization of conflict. The high harm-avoidance attests to their anxiety and apprehension regarding interpersonal relationships with its inherent risks. The disinclination of the sensitive individual to dominate and understand corroborates Millon's delineation of this style--individuals concerned primarily with safety and security. They do not engage in risk-taking behavior which would subject them to criticism as in leadership or achievement-related roles. Their self-protective posture might likely restrict their curiosity and intellectual exploration.

The hypothesis that cooperative persons would score high on affiliation and social recognition and low on autonomy and dominance with the utilization of turning-against-self as the defense style received partial validation. Contrary to hypothesis, these individuals were low on need of social recognition and did not rely upon turning-against-self as a defense style. Rather they used ego defenses which internalize conflict and prevent acting out behavior through mechanisms as repression and isolation. Again in retrospect, this low social recognition is consistent with Millon's description of the deferential quality of the cooperative personality. Dependent upon others, they do not seek others' admiration or acclaim as much as their love and sustenance. And in reciprocal fashion, they desire to assist and nurture others. This patterning of needs corroborates Millon's exposition of this

interpersonal style. Conscious of their own need for support, they renounce their feelings for aggression, play, prestige, and independence. This accounts for turning-against-self not being relied upon in this dependent personality because all aggressive feelings are successfully repressed, even those against oneself.

The hypothesis that sociable persons would be characterized by strong needs for affiliation, exhibition, and social recognition were congruent with the findings, though social recognition did not reach a statistically significant level. Also, sociable individuals did not rely upon reversal, but rather showed a tendency to externalize conflict through projection and displacement. An unexpected finding was that an interest in dominance characterized these individuals. Although highly affiliative and seeking others' attention (exhibition), these individuals clearly demonstrate a need to dominate and control their relationships, a quality distinguishing them from the cooperative individual. This feature, presumably expressed through manipulative and seductive behaviors, along with this exhibitionistic quality are characteristics associated with the hysterical personality (MacKinnon and Michels, 1971). However, in this study, the defense styles displayed did not match with those commonly attributed to the hysterical personality. Their high aggression and dominance needs help account for their unexpectedly high autonomy score. Given the relative strength of these needs, the sociable individual may not appear particularly dependent. Yet Millon's use of this term must be carefully considered. It is not limited to acting "dependent," but refers to a dependence upon reinforcements from external sources. The difference in the

personality attributes of the sociable and cooperative persons are quite evident. On a behavioral level, the cooperative person appears far more dependent than the sociable person. Sociable individuals appear more spontaneous and expressive of their impulses, particularly aggressive feelings, than are the cooperative persons who act in a more controlled and constricted manner.

The hypothesis that self-assured individuals would have strong needs for autonomy and play with lowered needs for endurance and being nurturant was not borne out. Nor did these individuals rely upon principlization as a defense. In fact, these individuals exhibited less a patterning of salient needs than did the other interpersonal styles. However, the series of correlations suggest that this style concerns itself with control and desire for self-enhancement, as exemplified in high scores on achievement, dominance, order, and play. Little can be stated authoritatively regarding their defense styles, except that they do not rely upon defense mechanisms that turn anger toward oneself.

The hypothesis that assertive persons are extremely dominant, aggressive, autonomous, and achievement-oriented receives partial support since autonomy and achievement do not appear to be primary concerns. However, the defense style marked by a reliance on ways to externalize conflict (high TAO and low PRN) along with high aggressive feelings characterize these persons as assertive in their interpersonal relations. The pattern of correlations present a personality structure in which aggressive feelings are salient with relatively few inner controls and a desire to dominate others. This need to assert and control others stems from an emotional source given that it does not extend itself

apparently in the intellectual or cognitive sphere as reflected in low achievement and understanding scores. This same reasoning might help explain the low autonomy score in that assertive persons' primary concern lies in dominating others rather than simply being independent or free from restraint.

Self-assured and assertive individuals differ sharply regarding the nature of their own controls and desire for control over others. The self-assured person appears to display greater control of their own impulses and are more interested in harnessing their energies into socially constructive goals. They do not perceive their own purposes in opposition with others as assertive persons tend to do. Their needs for self-enhancement might assume many different forms, usually in a socially approved manner. In contrast, assertive persons appear primarily concerned with their need to dominate others, with the task or goal bearing secondary importance.

The hypothesis that disciplined persons would display needs of order, endurance, and nurturance along with their primary reliance upon principalization was largely supported. Although only their need for order differentiated them from other individuals, the patterning of needs and defense styles was consistent with Millon's description of this interpersonal style. They internalize conflict through ego defenses as isolation, rationalization, and repression. Correlational results suggest that these individuals are conflicted over their impulses, particularly their aggressive feelings and they attempt to control and master these feelings through either intellectualization, denial, or reaction formation, as evident in their nurturing and

solicitous attitudes. The dynamics of this style, with its need hierarchy and defense styles, captures the essence of the obsessive personality.

The hypothesis that unpredictable persons would score high on aggression and impulsivity and rely upon the defense style of turning-against-object was supported by the findings. What was not predicted were these individuals' low scores on achievement, understanding, and principalization. These findings in combination with the correlation results indicate that unpredictable persons act out their feelings and do not engage in those internal processes which monitor and transform these feelings to the degree which distinguishes the disciplined person. Although this style resembles the assertive style in many aspects, the unpredictable style differs by its disinterest in both interpersonal relationships and in dominating others. In addition, this style correlates with the defense mechanism of turning-against-self which suggests that when the unpredictable person's defenses break down, they turn their anger inward against themselves, resulting in blame and depression. It is this alternation of behavior (between acting out angrily and blaming oneself), the hallmark of this style, which Millon has aptly categorized as unpredictable.

In analyzing the results of the t-tests, consideration must be given to the fact of the great number of t-tests or comparisons performed. While those predicted findings from these comparisons can be accepted unequivocally, the other non-predicted t-test findings must be interpreted with some caution. Due to the large number of t-tests performed, some of these findings can be attributed to chance. In light

of this methodological problem further cross-validation studies are needed to substantiate these findings.

The series of t-tests have translated or defined Millon's interpersonal styles in terms of Murray's conceptualization of needs (1938) and Gleser and Ihilevich's classification of defenses (1969). This process has provided some degree of convergent and discriminant validation of these interpersonal styles in demonstrating that each style tends to represent a distinguishable pattern or constellation of needs. The data, with the exception of the EFT results, tends to be consistent with Millon's exposition of each style. To give one example, the validation was particularly illustrated with the unpredictable style which correlated positively with both turning-against-self and turning-against-object. The reliance on these defense styles corresponds closely to their erratic behavior in which they act alternately resentful and guilty.

The present study has revealed differences and subtleties between styles not elaborated upon by Millon. For instance, the results suggest that the sociable person is less dependent and more aggressive and dominant than what one would expect from Millon's description. Although Millon refers to their active manipulation of others, their anger and need for control is not emphasized. In a similar fashion, this study presents a slightly different view of the self-assured individual who is seen as more affiliative and disciplined than understood in Millon's descriptions. This difference can be accounted for by the fact that a well-adjusted self-assured person tempers his narcissistic character sufficiently to realize that benefits are not owed him but

rather are the product of one's labor and perseverance. Perhaps even more differences and subtleties might have emerged if a greater number of subjects could have participated in this study.

The hypothesis relating cognitive style to personality orientation was not confirmed by the current study. Subjects characterized by an independent orientation were not more field-independent than other subjects. These inconclusive results might be explained by a methodological problem in field independence-dependence research which often remains overlooked. Much of this research depends upon subjects selected on the basis of their occupying the extreme ends of the field independence-dependence continuum. In studies as this which utilize subjects presumed to occupy the middle range of the continuum, the results have often been inconclusive. The understanding of this dimension can lead us to expect that those characterized by an independent orientation will be more field independent than those characterized by a dependent orientation in those cases when these subjects represent the extreme of each orientation. But in the present study, the criteria designating subjects by orientation were quite inclusive with only a few subjects excluded. Perhaps the only conclusion drawn from this aspect of the study would be to exercise caution in attributing independent or dependent characteristics solely by orientation with normal subjects.

The findings on the self-ratings indicate that the MI-SRI assesses the conscious feelings significantly better than chance. Approximately 30% of all subjects were able to select their most salient interpersonal style as assessed by the MI-SRI. Despite its statistical significance,

the relatively low accuracy rate requires some examination. Several explanations can be offered to account for this low rate. One line of reasoning accords that these characteristics are not completely explicit in the subjects' minds. Conceivably, their own lack of self-knowledge can contribute to the low correspondence between scores and ratings. Such a notion suggests further investigation and research in the area of determining whether individuals having more self-knowledge are better able to identify their salient interpersonal style than others. Self-knowledgeable people could perhaps be selected on the basis of their ability to be empathic. Findings (Hogan, 1973; Lesh, 1970) indicate that individuals demonstrating high empathic qualities are considered to have greater self-awareness. Another factor to be considered is that in some cases, interpersonal styles of relatively equal strength pose an extremely difficult judgment in self-evaluation.

A survey of the data reveals an interesting finding with respect to the subjects' own self-concepts. Adolescent subjects frequently viewed themselves as more passive dependent or cooperative than what this measure assessed. The inventory classified 16 subjects as being primarily cooperative whereas 29 described themselves as being primarily cooperative (see Table 4). This difference can likely be attributed to the developmental stage which finds the adolescent engaged in the difficult process of achieving separate identity. This struggle for individuation and autonomy often intensifies feelings of dependence and ineffectiveness.

The teacher ratings did not correspond to scale scores in a significant way with regard to dominant styles. This result is not

Table 4

Distribution of Peak Scores of the Millon-Illinois Self-Report Inventory, Self-Ratings, and the Alternate Form

Scales	MI-SRI		Self-Ratings		Alternate Form	
	Freq.	%	Freq.	%	Freq.	%
1	5	5.7	7	9.0	3	4.8
2	11	12.6	11	14.1	3	4.8
3	16	18.4	29	37.1	4	6.3
4	22	25.3	6	7.7	12	19.0
5	6	6.9	3	3.8	6	9.5
6	10	11.5	8	10.2	16	25.3
7	5	5.7	10	12.8	15	23.8
8	12	13.8	4	5.1	4	6.3
N	87		78		63	

surprising since these judgments require precise discriminations, demanding that the teacher parcel out these styles from a myriad of behaviors. Such judgments are likely to be most suited to the role of therapist or counselor. A teacher's interactions with a student are generally confined to a formal setting in which the behavior observed is essentially public and restricted. In contrast, the counselor is afforded the opportunity to observe the more intimate private aspects of the subject's personality. Indeed, the student's interpersonal style often becomes the focus of the counseling session. The counselor's perspective along with his training confers a special advantage in rendering precise clinical judgments.

This view appears substantiated by Millon's research (1975) with the clinical form of this inventory. Using a scale to scale comparison with 682 patients, clinicians' true positive hit-rate was 3-4 times greater than chance as determined by the base rate. With the exception of the passive detached style (27%), the true positive hit-rate exceeded 40% for each interpersonal style. These results indicate that clinicians showed far more agreement with the test scores than did the teachers. Both their clinical training and their more intimate interaction with the subjects can explain the difference between "accuracy" rates. However, another factor affecting judgment rates might be attributed to a threshold effect. Since psychiatric patients shown an unadaptive over-reliance upon a particular style, their salient styles are likely to be more extreme than those of normals (taking into account Millon's claim that the inventory assesses pre-morbid style). Hence, their distinguishing interpersonal style would be easier to

recognize and identify for the clinician. These styles more closely approximate the model or prototype, with the motives and dynamics more dramatically illustrated.

The results of the pilot study with the alternate form illustrates the persistent problem of predicting specific behaviors in situations from personality constructs. Before this form can be accepted as a suitable alternative to the MI-SRI, more investigation and work needs to be directed in two areas. One area involves the formulation of the response items. Ideally, each response item should clearly represent a distinct interpersonal style. Although the effect was achieved with reasonable success as gauged by the inter-judge agreement ($k = .88$, $p < .01$), more extensive investigation (using a greater number of judges) is required to assure confidence that each response item corresponds accurately to the interpersonal style it purports to represent in the given situational context. Also, the social desirability factor appears to be an uncontrolled source of bias. The distribution of scores (Table 4) suggests that certain interpersonal styles (most notably, the assertive) are more appealing to adolescents than are other interpersonal styles. Modifications in terms of the reformulation of response items and control of the social desirability factor would represent advances in the direction of making this form comparable to the original measure.

This study has demonstrated a reasonable degree of construct validity for the adolescent form of the MI-SRI through establishing a series of moderately high theoretically consistent relationships between each of its interpersonal styles to a distinct hierarchy of

salient needs and defense styles. It has also shown a fair degree of empirical validity for this measure through its agreement with self-ratings. The relatively low correspondence between self-ratings and the inventory, along with its failure to match with the teachers' ratings, raises questions regarding the measure's clinical usefulness. Since these styles are not easily identifiable to the subjects themselves or to observers, judgments regarding an individual's interpersonal style cannot be made with full confidence. If further investigation arrives with similar findings of low agreement between this measure and various ratings, it may necessitate that the styles be viewed in another manner. With a normal adolescent population, it may be more meaningful to combine these MI-SRI styles into profiles or subtypes, similar to work done with MMPI profiles (Dahlstrom, Welsh, & Dahlstrom, 1973). Such an operation would ideally render judgments on individual's interpersonal style easier because these profiles would be associated with more specific behaviors. It would hopefully reduce the complexity of these judgments by increasing the categories but limiting the domain of behaviors to which they refer. If efforts were to be undertaken in this direction, a normative study would be required to elucidate the many combinations of styles into distinct personality subtypes. Through other personality measures and behavioral observations, specific personality descriptions can be delineated for every subtype, such as sociable-cooperative, disciplined-sensitive, etc.

The goal behind these efforts is the linkage between motives and styles to specific behavioral referents. To achieve this aim, research

should be directed to assess how these styles or profiles express themselves in specific situations, as the alternative form attempted. Determining how these styles would manifest themselves behaviorally in a clinical setting would be of particular importance. Such findings would promise tremendous clinical benefits through predicting the kinds of behavior and interpersonal styles patients would exhibit. This knowledge would be helpful in screening candidates for individual and group therapy. Indeed, with respect to group therapy, it would fulfill a vital role by guiding the selection of members to compose a group, a problem confronting therapists in their effort to provide a rewarding and stimulating group experience to all its members. The quality of group interaction would appear to depend to a considerable degree on the interplay of personality styles and on the proper proportion of similarities and differences. Yalom (1975) addresses this issue of member selection and group composition in terms of predicting each individual's behavior in the group. If therapists have some basis to predict behavior in a group, they can likely fashion a group according to their interests and goals.

A study examining the relationship of Millon's interpersonal styles to behaviors in a group therapy setting offers several advantages. It would pose an extreme test of validation not only through bridging the theoretical to the practical but also be determining the clinical utility of this measure. This setting also limits the range of behavior likely to occur and lends itself to systematic observation and measurement. In fact, the use of this measure in the proposed manner is consistent with the original purpose of this inventory--to

provide a system of diagnostic classifications and personality descriptions that is both clinically relevant and conceptually sound.

REFERENCES

- Abraham, K. Selected papers. London: Hogarth Press, 1927.
- Aldridge, R. G., Baxter, G. I., Nopziger, L. M., Roggenbuck, A. L., Shimansky, R. L., & Wolthuis, D. J. Defense mechanisms of an alcoholic population as compared to a normal population. Unpublished master's thesis. Michigan State University, 1967.
- Asch, R. The reliability of psychiatric diagnosis. Journal of Abnormal and Social Psychology, 1949, 44, 272-276.
- Beck, A. T., Ward, C. R., Mendelson, M., Mock, J. E., & Erbaugh, J. R. Reliability of psychiatric diagnosis: A study of consistency of clinical judgments and ratings. American Journal of Psychology, 1962, 119, 351-359.
- Bell, E. B. Inner directed and other directed attitudes. Unpublished doctoral dissertation. Yale University, 1955.
- Buros, O. K. (Ed.) The seventh mental measurement yearbook. Highland Park, New Jersey: Gryphon Press, 1972.
- Cohen, J. A coefficient of agreement for nominal scales. Educational and Psychological Measurement, 1960, 20, 37-46.
- Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. The MMPI handbook. Minneapolis: University of Minnesota Press, 1972.
- Dyk, R. B., & Witkin, H. A. Family experiences related to the development of differentiation in children. Child Development, 1965, 30, 21-55.

- Freud, S. Introductory lectures on psychoanalysis (1917). London: Hogarth Press, 1963.
- Fromm, E. Man for himself. New York: Rinehart, 1947.
- Gleser, G. C., & Ihilevich, D. An objective instrument for measuring defense mechanisms. Journal of Consulting and Clinical Psychology, 1969, 33, 51-60.
- Goldfried, M. R., & D'Zurilla, T. J. A behavioral-analytic model for assessing competence. In C. D. Spielberger (Ed.), Current Topics in Clinical and Community Psychology. Vol. I. New York: Academic Press, 1969.
- Hogan, J. Moral conduct and character: A psychological perspective. Psychological Bulletin, 1973, 79, 217-232.
- Holt, R. H., & Luborsky, L. Personality patterns of psychiatrists. New York: Basic Books, 1958.
- Horney, K. Neurosis and human growth. New York: Norton, 1950.
- Ihilevich, D. The relationship between defenses and field dependence-independence. Unpublished doctoral dissertation. University of Cincinnati, 1968.
- Jackson, D. Personality research form manual. New York: Research Psychologist Press, 1974.
- Konstadt, N., & Forman, E. Field dependence and external directedness. Journal of Personality and Social Psychology, 1965, 1, 490-493.
- Lesh, T. Zen meditation and the development of empathy in counselors. Journal of Humanistic Psychology, 1970, 10, 39-74.

- Linton, H. B. Dependence on external influences: Correlates in perception, attitudes, and judgments. Journal of Abnormal and Social Psychology, 1955, 51, 502-507.
- Lorr, M. (Ed.) Exploration in typing psychotics. New York: Pergamon Press, 1966.
- Lorr, M., Bishop, P. F., & McNair, D. M. Interpersonal types among psychiatric patients. Journal of Abnormal Psychology, 1965, 70, 468-472.
- Lorr, M., Klett, C. J., & McNair, D. M. Syndromes of psychosis. New York: Macmillan, 1963.
- Mackinnon, R. A., & Michaels, R. The psychiatric interview in clinical practice. Philadelphia: W. B. Saunders, 1971.
- McClelland, D. C. Testing for competence rather than for "intelligence." American Psychologist, 1973, 28, 1-14.
- Messick, S., & Damarin, F. Cognitive style and memory for faces. Journal of Abnormal and Social Psychology, 1964, 69, 313-318.
- Millon, T. Modern psychopathology: A bisocial approach to maladaptive learning and functioning. Philadelphia: W. B. Saunders, 1969.
- Millon, T. Preliminary manual: Millon-Illinois Self-Report Inventories. Unpublished document, 1975.
- Murray, H. A. (and collaborators) Explorations in personality. New York: Oxford Press, 1938.
- Overall, J. E. A configural analysis of psychiatric diagnostic stereotypes. Behavioral Science, 1963, 8, 211-219.

- Overall, J. E., Hollister, L. E., & Pichot, P. Major psychiatric disorders: A four-dimensional model. A.M.A. Archives of General Psychiatry, 1967, 16, 146-151.
- Schimek, J. G. Style and capacity in analytic functioning. Journal of Personality, 1968, 36, 202-212.
- Skinner, B. F. Science and human behavior. New York: Macmillan, 1953.
- Solar, D., Davenport, G., & Brachl, D. Social compliance as a function of field dependence. Perceptual and Motor Skills, 1969, 29, 299-306.
- Sullivan, H. S. The interpersonal theory of psychiatry. New York: Norton, 1953.
- Witkin, H. A. Psychological differentiation and forms of pathology. Journal of Abnormal Psychology, 1965, 70, 316-336.
- Witkin, H. A., Dyk, R., Faterson, H. F., Goodenough, D.B., & Karp, S. A. Psychological differentiation. New York: John Wiley & Sons, 1962.
- Witkin, H. A., Oltman, P. K., Raskin, E., & Karp, S.A. A manual for the Embedded Figures Test. Palo Alto: Consulting Psychologist Press, 1971.
- Yalom, I. D. The theory and practice of group psychotherapy. Second edition. New York: Basic Books, 1975.
- Zigler, E., & Philips, L. Psychiatric diagnosis. Journal of Abnormal and Social Psychology, 1961, 63, 607-618.

APPENDIX A

MI-SRI SELF-RATING

This project is trying to see how well high school students can identify the personality traits they actually have. In this study, we would like you to judge whether certain traits apply to you. Read each of the descriptions below, one at a time, and then rate yourself to what degree this personality description is true of you or not.

Name: _____

Personality A

These persons tend to be very quiet and socially uninvolved, spending most of their time alone. They seem to be unemotional and have few strong feelings about things. Generally, they would rather stay home, even when interesting things are going on socially with others their age. They are seen by others as sort of "loners."

I am 1 2 3 4 5
 not at all a little somewhat pretty much a great deal

Personality B

These persons tend to be socially shy and awkward, appearing somewhat nervous when with others. They find themselves alone much of the time, not because they want to be, but because they are afraid that people don't like them. They do feel lonely and usually have few, if any, close friends. They feel things quite strongly, but almost always keep their feelings to themselves.

I am 1 2 3 4 5
 not at all a little somewhat pretty much a great deal

Personality C

These persons tend to be very nice, sweet and good natured. They are very helpful and would do almost anything for other people. Almost always friendly and agreeable, they are never seen arguing or in conflict with others. They usually have a few very close friends who they go around with a lot and depend on being with all the time.

I am 1 2 3 4 5
 not at all a little somewhat pretty much a great deal

Name: _____

Personality D

These persons tend to be very dramatic and emotional. They love attention and will do all kinds of things to get it. They enjoy socializing, even flirting with people and sometimes seem sort of phony to others. They are very good at getting others to do just what they want them to do. Although they have lots of friends, they are usually not very close to any of them.

I am 1 2 3 4 5
 not at all a little somewhat pretty much a great deal

Personality E

These persons tend to be very confident in themselves and are usually conceited. They love telling everyone how great they are at everything. They care mostly about themselves and spend lots of time talking about what they can do. Many act snobbish and are friendly only with people they feel are good enough for them.

I am 1 2 3 4 5
 not at all a little somewhat pretty much a great deal

Personality F

These persons tend to act as if they are afraid of nothing. They love to compete with friends and are often the leader in a group. They like to take charge of things and often act like they are tough. Sometimes, they do act mean to others and may not be very thoughtful and understanding of the feelings that others have.

I am 1 2 3 4 5
 not at all a little somewhat pretty much a great deal

Personality G

These persons tend always to be doing the right and proper thing. They are prudish and seem always to have a serious look on their faces. They are very respectful of teachers and elders, and often seem old fashioned. They are very orderly, planning carefully before doing anything. Most other people see them as very straight persons.

I am 1 2 3 4 5
 not at all a little somewhat pretty much a great deal

Name: _____

Personality H

These persons tend never to be able to make up their minds and are often nervous and restless. They worry, are pessimistic and complain a lot. They frequently are very moody, changing from feeling great to feeling terrible and then back again. They tend to argue and be discontent with friends, and then are very apologetic.

I am 1 2 3 4 5
 not at all a little somewhat pretty much a great deal

Now that you have finished that task, please choose the three personality descriptions which best describe you are you are now. Re-read the paragraphs and decide which one is closest to the way you really are. Put the letter of that description (A through H) in the blank space for your choice. Do the same for the second and third choices.

1st choice _____

2nd choice _____

3rd choice _____

APPENDIX B

STYLE A

Students with this type of personality tend to keep to themselves, appearing rather quiet and unemotional. They are even-handed, fair-minded and not easily excited. They tend not to get emotionally involved with others and do not often feel strongly about things. They do not avoid other people, but simply feel indifferent about having others around.

STYLE B

Students with this type of personality tend to be quite shy or socially ill-at-ease with others. These students would like to be close to people but have learned that it is better to maintain one's distance and not to trust the friendship of others. Although they often feel lonely, they avoid close interpersonal contact, often fearing rejection and tending to keep their sometimes very strong feelings to themselves.

STYLE C

Students with this type of personality tend to be soft-hearted, sentimental and kindly in relationships with others. They are extremely reluctant to assert themselves, however, and avoid taking initiative or assuming a leadership role. They are inclined to be quite dependent on others, preferring to let them take the lead and give direction. It is typical of them to "play-down" their own achievements and to underestimate their abilities.

STYLE D

Students with this type of personality are talkative, socially charming and frequently dramatic or emotionally expressive. They tend to have strong, but usually brief relationships with others. These students always look for new excitements and interesting experiences. They often find themselves becoming bored with routine and longstanding relationships.

STYLE E

Students with this type of personality tend to be quite confident in their abilities and are often seen by others as self-centered and egocentric. They rarely doubt their own self-worth and act in a self-assured manner. These students tend to take others for granted and often do not share or concern themselves with the needs of those to whom they relate.

STYLE F

Students with this type of personality are strong-willed and tough minded, tending to lead and and dominate others. They frequently question the abilities of others and prefer to take over responsibility and direction in most situations. They are often blunt and unkind, tending to be impatient with the problems or weaknesses of others.

STYLE G

Students with this type of personality are very serious-minded, efficient and rule-conscious persons who try to do the "right" and "proper" things. They tend to keep their emotions under check and dislike "showy" people. They prefer to live their lives in a very orderly and well-planned fashion, avoiding unpredictable and unexpected situations.

STYLE H

Students with this type of personality tend to be discontent and pessimistic. They often find themselves behaving unpredictably; sometimes being out-going and enthusiastic, then changing quickly to the opposite. These students often feel guilt about their moodiness, apologize to the people involved, but soon are just as moody as ever.

APPENDIX C

ALTERNATE FORM

#1

You are at a sock hop at school. There is a group of guys in your year who have been acting tough all night. One of these guys is harassing one of your friends because he has been dancing with a girl he likes. And you sense a fight may occur.

_____ I would try to settle it quickly. But if they would not accept it, I would not care if they fought and hurt each other.

_____ I would side with my friend and be ready to fight the guy if he refused to back off.

_____ I would feel that there wasn't much I could do but just see what happens.

_____ Afraid a fight would occur and ruin the hop, I would find the dean to prevent any kind of disturbance.

_____ Upset, I would tell both guys that fighting would lead to rather severe punishment for both of them.

_____ I would become real tense and probably withdraw from the situation. I am afraid that I might be ridiculed if I tried to mediate the dispute.

_____ I would talk to both these guys, kid around with them, and try to get them to forget about the whole thing.

_____ I would break up the dispute expecting that they would listen to me because I think both these guys like me.

#2

Because of your skiing interest, you and a fellow senior have been placed in charge under a teacher of a group of students at a ski resort. You have found out from the manager of the motel that two brash sophomores are violating some rules of the trip (drinking, roughhousing, etc.) which might cut short this trip and rule out future trips.

_____ I would be quite upset about this incident. I would talk to the teacher and see if some punishment might be arranged for the students.

_____ Feeling that the sophomores were juvenile, you would coolly explain the situation to the manager and teacher and then expect the whole thing to blow over.

_____ This incident upsets you and in some way you feel that you will get blamed for the misconduct.

_____ You figure that this was bound to happen and there isn't really much you can do about it.

_____ I would be upset and approach the moderator and assure him that I had nothing to do personally with these violations.

_____ I would go to these two sophomores and tell them a thing or two. If they resisted, I might even get in a fight with them.

_____ I would approach the manager and implore him not to be harsh and give the students a break. I would also try to persuade the teacher to make light of the matter.

_____ I would try to punish the sophomores but after this, I probably would feel bad about my sternness.

#3

You have been admiring this girl Jane, a cheerleader for the school for the last three weeks. Your younger sister tells you that Jane really likes you and would like you to ask her out. Yet you have been dating Sue, your steady girl for the last three months.

_____ Uncomfortable about this problem, I would not show too much interest in either Sue or Jane and use my time to develop my favorite hobby.

_____ I would tell Sue that I planned to date Jane also. If Sue didn't like it, then that was too bad for her. Sometimes, you have to do things for yourself.

_____ I would be upset by the situation and try to explain my feelings in a rational way to both Sue and Jane and then come to a resolution.

_____ I would date each one according to my mood, switching from one to the other. I would probably be periodically arguing and making up with each of them.

_____ I would not be quite sure if I could believe what my sister said. I would not ask Jane out but I would become more curious about what Jane was really up to.

_____ I would begin to show less interest towards Sue and become more involved with my new love interest, Jane.

_____ I would feel really great about this situation, and I would try to date both girls simultaneously.

_____ I would feel flattered but primarily I would feel a strong loyalty to Sue since she has shown herself to be faithful to me.

#4

Your father said that he would allow you to have your car if you saved your money. On your 17th birthday you showed your father that you had the money for both car and insurance. Your father had reservations, saying you cannot have the car because it would only make him worry and that your grades would suffer.

_____ I would strongly resent my father's inconsistency and his action now would make me question whether he was ever sincere at all.

_____ I would argue with my father over the matter and demand that he live up to his agreement or else.

_____ I would try to cajole my father to change his mind. If this wasn't effective, I would ask my Mom to persuade Dad.

_____ Figuring what could I really do about it, I would use my savings for other things that I wanted, but couldn't afford before.

_____ Upon my father's decision, I would probably explode at him. Later on, I would cool down and try to be reasonable with him.

_____ Taken aback, I would reason with my father, knowing that in the long run he wouldn't deny me what I wanted.

_____ Troubled by his decision, I would accept it and be determined to obey all his commands to show him how responsible I am.

_____ Upset by the situation, I would accept my father's judgment, realizing that he had a good reason for what he was doing.

#5

On one of the last days of your senior year, you get in a fight in a hallway with a junior named Terry who calls you a rather insulting name. Mr. Doe, a young first-year teacher, breaks up the fight and tells you that you are suspended from school and may not even graduate with your class.

_____ I would be furious at the teacher and tell him what I thought of his judgment. After a little while, I would calm down and feel sorry for what was said.

_____ Initially stunned by the punishment, I would feel pretty confident that the school would not kick me out, given my past record and the interest of my parents.

_____ I would feel relatively little disturbed about the incident. Knowing I would have no influence on the decision, I would wait for the decision.

_____ I would feel terrible about this punishment. Not to get mad, I would plead with Mr. Doe and accept his judgment.

_____ I would appeal to Mr. Doe's sense of justice. I would point out my disciplinary record and speak of my respect for the laws and traditions of the school.

_____ I would feel very angry at the junior and would be quite critical of Mr. Doe. If he did not lessen the punishment, I would immediately confer with the Dean and the principal.

_____ I would be perturbed by the incident. I would be sullen and wonder whether Mr. Doe had something against me.

_____ I would try to persuade Mr. Doe of the unfairness of his punishment. I would also actively try to win the support of other members of the faculty.

#6

You and your best friend Ted are in the same homeroom in school, play on teams together, and socialize together on weekends. Just recently, Alex--a nice friendly guy--has been hanging around with you frequently. In fact, he is always calling you up before you go out and it seems like you can never be with Ted without Alex being around. Ted is beginning to complain about being with Alex.

_____ I would like Alex to associate with us because he really admires me and he can be of advantage to me in a lot of ways.

_____ I would feel somewhat confused in this situation and I would defer to Ted about how much Alex would pal around with us.

_____ It would not make too much difference if he comes with you or not.

_____ Feeling bad that Ted is complaining of Alex, I would feel obliged to remain friendly with Alex.

_____ I would feel a little ill at ease since you would wonder what was behind Alex's sudden interest in you.

_____ I would feel caught in the middle between these two guys and would probably in some way blow up with both these guys.

_____ I would like to have Alex around because I know he really likes me.

_____ Seeing that Ted was irritated, I would be very direct with Alex and state that I don't always want to be with him.

APPROVAL SHEET

The thesis submitted by Michael Carney has been read and approved by the following Committee:

Dr. Alan DeWolfe, Chairman
Professor, Psychology, Loyola

Dr. Eugene Kennedy
Professor, Psychology, Loyola

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

11/18/77
Date

Alan S. DeWolfe
Director's Signature