

AN OBJECTIVE INSTRUMENT FOR MEASURING DEFENSE MECHANISMS

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The Defense Mechanism Inventory, a paper and pencil test which purports to measure the relative intensity of usage of five major groups of defenses, is described. The inventory consists of 10 brief stories, two per conflict area, followed by four questions regarding *S*'s actual behavior, fantasy behavior, thoughts, and feelings in the situations described. Five responses typifying the five defenses (i.e., hostility-out, projection, principalization, turning-against-self, and reversal) are provided for each question, from which *S* selects the one most representative and the one least representative of his reaction. Reliability, validity, and normative studies are presented, all indicating that this inventory has many potential uses as a clinical and research instrument.

Increased preoccupation with the theory of ego processes during the last few decades has led to greater concentration on operational definition, classification, and measurement of various ego functions. Recently, several investigators (e.g., Haan, 1963; Kroeber, 1963) have made progress in differentiating and assessing defensive and adaptive ego functioning. However, there is still much need for objective studies in this area. This preliminary report on the construction and validation of a new instrument designed specifically for the measurement of five general defense mechanisms should be, therefore, of considerable interest to researchers and clinicians.

Many defense mechanisms have been identified, some with rather tenuous differences. This multiplicity has led to attempts to achieve a more parsimonious classification system (e.g., Blum, 1953; Hilgard, 1949; Miller, 1953; Miller & Swanson, 1960). Most such systems, however, have not provided clear-cut criteria by which the various defense mechanisms might be grouped. The need for such a grouping is apparent both in the area of measurement and research and in the clinical situation where one may wish to assess

the major defense mechanisms of an individual. When defenses are evaluated clinically, either from interview material (Raines & Roher, 1955) or from projective test protocols (Filer, 1952), consensus is minimal. In those instances where substantial agreement has been obtained from projective techniques (e.g., Gardiner, Holzman, Klein, Linton, & Spence, 1959), judges inferred a specific set of defenses on the basis of careful training in the scoring procedure.

Only a few objective scales have been developed to measure defenses. The most popular are the Rosenzweig Picture Frustration Test, the Blacky Defense Preference Inquiry, and Byrne's Repression-Sensitization scale. All three have demonstrated some stability over time, but their usefulness as measures of the extent to which certain defenses are employed is still open to question. Fry (1949) and Vane (1954), among others, question the validity of Rosenzweig's (1950) Picture Frustration Test for assessing defenses. With regard to the Blacky Defense Preference Inquiry, Blum (1956) reports that avoidance is the only defense for which some validity has been established. While Byrne's (Byrne, Barry, & Nelson 1963) Repression-Sensitization scale is supported by a number of positive validity studies, a method that provides information on only two defenses is likely to be of limited value either for research purposes or for the clinician. Furthermore, we have found that the Repression-Sensitization

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scale and Welsh's (1956) Factor A correlate .97 for males and .96 for females in two independent samples of psychiatric outpatients. This finding raises a question as to whether the Repression-Sensitization scale measures any construct other than anxiety.

THE CLASSIFICATION SYSTEM OF THE *DMI*

Underlying the formulation of the Defense Mechanism Inventory (*DMI*) is the general assumption that the major function of defenses is the resolution of conflicts between what is perceived by the individual and his internalized values (Kroeber, 1963; Miller & Swanson, 1960). The conflict is resolved by a process whereby the ego attacks, distorts, or becomes selectively unaware of certain aspects of the internal or external world.

On the basis of this a classification system was devised which appears economical and yet is general enough to encompass the most important defense mechanisms previously identified. Five clusters of defenses were delineated.

1. *Turning against Object (TAO)*. This class of defenses deals with conflict through attacking a real or presumed external frustrating object. Such classical defenses as identification-with-the-aggressor and displacement can be placed in this category.

2. *Projection (PRO)*. Included here are defenses which justify the expression of aggression toward an external object through first attributing to it, without unequivocal evidence, negative intent, or characteristics.

3. *Principalization (PRN)*. This class of defenses deals with conflict through invoking a general principle that "splits off" affect from content and represses the former. Defenses such as intellectualization, isolation, and rationalization fall into this category.

4. *Turning against Self (TAS)*. In this class are those defenses that handle conflict through directing aggressive behavior toward *S* himself. Masochism and autosadism are examples of defensive solutions in this category.

5. *Reversal (REV)*. This class includes defenses that deal with conflict by responding in a positive or neutral fashion to a frustrating object which might be expected to evoke a negative reaction. Defenses such as

negation, denial, reaction formation, and repression are subsumed under this category.

The usefulness of this method of classification has been enhanced by recent findings from the field of perception. Specifically, Witkin and his colleagues report (Witkin, 1965; Witkin, Lewis, & Weil, 1966) that field independent *Ss* are high on hostility out, projection, or isolation, whereas field dependents *Ss* are high on either repression or hostility turned inwards. Measurement of these five defenses by means of the *DMI* should permit further exploration of the relationship between defenses and cognitive styles.

DESCRIPTION OF THE *DMI*

Twelve stories were developed, two for each of six conflict areas. The conflict areas tapped are authority, independence, masculinity (male form only), femininity (female form only), competition, and situational. The stories were structured in this manner to insure a broad coverage of the areas in which most persons encounter conflicts and to make possible an examination of the notion that persons will differ in the defenses they use according to the nature of the conflict.

The *Ss* are given either the masculine or the feminine form of the *DMI*. Each version contains 10 stories. After reading each story *S* is asked to respond to four questions corresponding to four types of behavior evoked by the situation described in the story: (a) proposed actual behavior, (b) impulsive behavior (in fantasy), (c) thoughts, and (d) feelings. Five responses are provided for each question, each response representing one of the five defense mechanisms listed above. The *S* marks a plus for the response most representative of his reaction and a minus for that least representative. This structured inquiry makes it possible to examine substantive questions regarding the consistency of a person's defenses over various levels (i.e., actual behavior, fantasy behavior, thoughts, and feelings).

The responses marked with a plus sign by *S* are given the numerical value of two, those marked with a minus sign are scored zero, and the unmarked responses are given the value of one. Thus the score for any one defense can range from zero to 80, but the

sum of scores for the five defenses must equal 200. A scoring template is superimposed over the answer sheet making it possible to summarize the numerical value of the five defenses across the four levels of behavior in 3–5 minutes. To complete the test itself requires between 30 and 40 minutes.

Preliminary Studies

Five clinical psychologists² were given the names of the six conflict areas and were asked to classify the stories, assigning two to each area. Four accomplished the task in perfect agreement and in accord with the authors' intent. The fifth psychologist did not note that he was to assign two stories to each area and combined the stories involving "authority" and "independence" into one category. All of the others were correctly classified.

The response alternatives have been revised several times. In one study the five previously mentioned psychologists were asked to match each set of five responses with the five defense mechanisms according to the definitions provided. Their judgments agreed with the key for all but 18 responses out of the 240. An examination of these alternatives revealed ambiguities and the responses were duly revised. In another study, the test was administered to 42 Ss and the responses to each question were analyzed to reveal alternatives which were either too popular or unpopular. After this revision, a final check of the inter-item consistency and the popularity (social desirability) of the response alternatives was made using additional samples of 66 male and 52 female students. Equating the alternatives for social desirability tends to minimize the general effect of a set to make a good impression.

When these *DMI* response revisions were completed, another group of clinicians³ was asked to match the responses with the five defense mechanisms in accordance with the definitions provided. One clinician matched all but two responses with that given in the

scoring key; the second, all but four; and the third, all but 10 responses. At least two of the three clinicians agreed with the scoring key on each response.

The effect of free- versus forced-choice instructions on the spread and level of defense mechanism scores and on their generalizability to a universe of content was next investigated. The test was administered to two new samples of male and female undergraduate students at the University of Dayton and the University of Cincinnati. One group was given the forced-choice instructions; the other group was instructed to indicate true or false in front of each response and to put a plus sign in front of the one response that was most representative of the way the respondent would react.

Figure 1 shows the average scores for males and females under free- and forced-choice instructions. The profiles are strikingly similar despite the difference in raw score level. Generalizability of defense scores over a universe of tests structured like this one was ascertained for each sample separately, using a mixed model analysis of variance to take into account the stratified nature of the test (Rajaratnam, Cronbach, & Gleser, 1965). Since the generalizability of scores obtained from a multiple-scored test using free-choice instructions is augmented by any general response tendency, as for example, a tendency to accept or reject relatively few alternatives (Bell, 1962), the coefficients of generalizability obtained under these instructions were corrected by removing the between-persons variance for the average score over all defenses. This correction resulted in more nearly comparable coefficients for the two types of instructions. These coefficients are presented in Table 1. The generalizability of the separate scores are very similar from one sample to another with two exceptions—the *PRN* scale in the male sample using free-choice instructions and the *TAS* scale in the female sample with forced-choice instructions. These coefficients are attenuated by the small variance among persons in the samples tested. The error variances for these scales were no larger than for the remaining scales; hence the low coefficients are probably attributable to sampling fluctuations. Since there was no evi-

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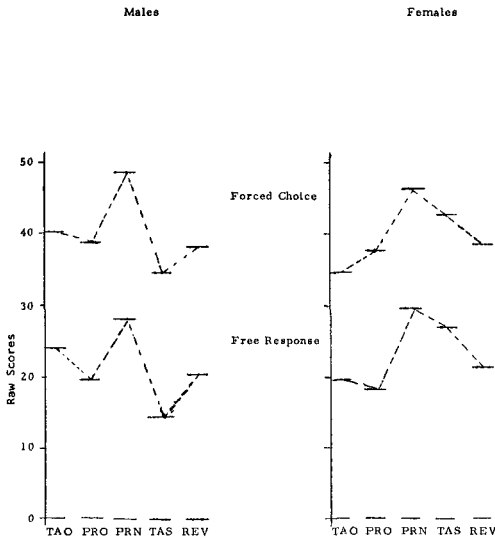


FIG. 1. Mean scores on defenses by sex and type of response.

dence of any loss in differential information of the five defense mechanisms resulting from use of the forced-choice format and it had the advantage of eliminating any response bias not attributable to defenses per se, it was decided to use forced-choice in all further studies.

Distribution of Scores

The means and standard deviations of scores on the five defenses obtained on several

TABLE 1
GENERALIZABILITY OF *DMI* SCORES DERIVED FROM INTERNAL CONSISTENCY ESTIMATES

Defense	Males		Females	
	Free response ^a	Forced choice	Free response ^a	Forced choice
<i>TAO</i>	.78	.76	.60	.83
<i>PRO</i>	.78	.57	.75	.63
<i>PRN</i>	-.31	.73	.70	.77
<i>TAS</i>	.63	.71	.73	.21
<i>REV</i>	.77	.59	.56	.65
Total profile	.70	.69	.69	.71

Note.—For Males, Free response, *N* = 15, Forced choice, *N* = 19; for Females, Free response, *N* = 16, Forced choice, *N* = 27.

^a Coefficients are corrected for elevation factor.

samples of *Ss* are presented in Table 2. Michigan University college students tended to obtain higher scores on *TAO* and *TAS* and lower scores on *PRN* and *REV* than did the general adult *Ss*. These latter were unsystematically selected *Ss* mainly of middle socio-economic status and employed as probation officers, social workers, vocational counselors, teachers, secretaries, college students, and housewives. Since the adult *Ss* were somewhat older than the college students it is possible that the observed trends are at least partially a function of age. Further evidence that *TAO*

TABLE 2
MEANS AND STANDARD DEVIATIONS OF THE FIVE DEFENSE MECHANISMS OF THE *DMI* FOR SEVERAL SAMPLES OF *Ss*

Defense	Sophomore college students ^a				General adult subjects				Psychiatric outpatients ^b			
	Males		Females		Males		Females		Males		Females	
	\bar{X}	<i>SD</i>	\bar{X}	<i>SD</i>	\bar{X}	<i>SD</i>	\bar{X}	<i>SD</i>	\bar{X}	<i>SD</i>	\bar{X}	<i>SD</i>
<i>TAO</i>	40.9	8.8	38.9	8.0	39.4	7.8	34.8	8.1	36.8	10.7	33.8	10.4
<i>PRO</i>	39.6	5.9	36.9	6.3	38.4	6.7	36.9	5.4	36.2	6.1	35.4	7.2
<i>PRN</i>	45.3	6.2	45.5	5.9	48.4	6.8	47.3	6.4	45.6	6.2	45.5	7.3
<i>TAS</i>	37.5	6.9	44.0	6.9	34.4	7.6	41.9	4.9	39.6	7.4	44.2	7.9
<i>REV</i>	36.6	7.2	35.1	7.6	39.6	6.3	39.2	6.8	41.9	9.4	41.1	10.7
Age					23.0	9.2	28.7	9.2	32.6	8.3	31.6	7.8
Education					13.8	2.1	13.4	1.8	12.3	2.3	12.1	1.9

Note.—For Sophomore college students, males, *N* = 226, females, *N* = 180; for General adult *Ss*, males, *N* = 43, females, *N* = 71; for Psychiatric outpatients, males, *N* = 124, females, *N* = 110.

^a University of Michigan.

^b Combined data for all outpatients to whom *DMI* was administered.

decreases with age while *PRN* and *REV* increase is indicated by the correlations between age and each of these scores in male and female outpatient samples. (See Table 3.)

In both the college and the general adult samples and also in the psychiatric outpatient samples, males are significantly higher than females on *TAO* and significantly lower on *TAS*. Males are also consistently higher on *PRO* than females, and significantly so in the student sample.

The male psychiatric patients tend to have lower scores on *TAO* and *PRO* and higher scores on *TAS* and *REV* than do either of the nonpatient samples.

Stability of Defenses

The stability of defense scores over time was investigated in two small samples of male and female Ss. One group consisted of 12 counselors who were administered the *DMI* before and after a T-group experience, an interval of a week. The product-moment correlations between the separate defense scores ranged from .85 for *PRO* to .93 for *TAO*. The average correlation was .89. The second sample consisted of 11 first-year psychology graduate students who were administered the *DMI* at the beginning and end of a course with 3 months intervening. The correlations for this sample ranged from .69 for *PRN* to .87 for *TAO* with an average of .76. These results are encouraging, but further studies of stability are needed.

CONSTRUCT VALIDATION

In order to provide a more stringent validation of our classification system we provided a list of 15 defenses⁴ in alphabetical order to three psychologists and seven social workers and asked them to match each of the 240 responses of the *DMI* with one defense from the list. The judges were also allowed to mark in front of a response the name of a defense not mentioned in the list or note that in their opinion the response did not represent a defense mechanism. Analysis of the data indi-

⁴ Avoidance, denial, displacement, identification with the aggressor, intellectualization, isolation, negation, projection, rationalization, reaction formation, repression, regression, reversal, turning against self, undoing.

cated that there was satisfactory agreement with the key (more than 60%) on those responses keyed *TAS*, *REV*, and *PRN* but not on responses keyed *TAO* and *PRO*. Almost a third of the judgments regarding *TAO* responses were to the effect that these responses did not constitute a defense, while 19% of the judgments of responses keyed *PRO* indicated that they were not defenses and another 14% were identified as defenses which we subsume under *TAO*. These results indicate that further revision is needed on some of the responses in these two defense categories.

Relationship among Defenses

It was expected that the five defense groupings would interrelate systematically both in accordance with predictions derived from psychoanalytic theory (Bellak, 1958; Fenichel, 1945; Hartmann, 1952; Rapaport, 1951) and with previously published findings. From an empirical standpoint it was hoped, however, that these correlations would not be so high as to imply that only a single factor was being measured.

The intercorrelations obtained for the previously described samples of college students, unselected normal Ss, and outpatients, each stratified by sex, are presented in Table 3. The matrices are remarkably similar, indicating considerable stability in the relationship of defenses from sample to sample.

TAO and *PRO* are positively correlated to a moderate degree (.29 to .63). This relationship is in agreement with the findings of Caine (1960) and Peak, Muney, and Clay (1960). Lesser (1958) reports a positive correlation between hostility and anti-Semitism, presumably a form of projection. From a theoretical standpoint a positive relationship was expected since both modes of defense entail the expression of aggression. The only other positive correlation among the five defenses is between *PRN* and *REV* (.33 to .68). There is a paucity of pertinent research findings here. A related finding, however, is that of Chodoff, Friedman, and Hamburg (1964), who reported that parents of leukemia patients tended to employ denial and isolation of affect as their major defenses. On a theoretical basis, repression of affect is common to

TABLE 3
INTERCORRELATIONS AMONG THE FIVE DEFENSES OF THE *DMI*
FOR THREE SAMPLES STRATIFIED BY SEX

Sample	<i>TAO</i>	<i>PRO</i>	<i>PRN</i>	<i>TAS</i>	<i>REV</i>		
I. University of Michigan college students							
<i>TAO</i>		.46	-.51	-.39			-.64
<i>PRO</i>	.45		-.48	-.37			-.58
<i>PRN</i>	-.60	-.34		-.24			.40
<i>TAS</i>	-.41	-.42	-.21				-.07
<i>REV</i>	-.67	-.66	.45	.06			
II. General adult population							
<i>TAO</i>		.29	-.58	-.23			-.69
<i>PRO</i>	.31		-.44	-.17			-.56
<i>PRN</i>	-.66	-.61		-.29			.33
<i>TAS</i>	-.31	-.15	-.56				-.09
<i>REV</i>	-.71	-.55	.68	-.03			
III. Outpatient							
<i>TAO</i>		.53	-.63	-.26	-.70	-.27**	-.02
<i>PRO</i>	.63		-.55	-.26	-.62	-.06	-.03
<i>PRN</i>	-.60	-.48		-.28	.54	.21	.05
<i>TAS</i>	-.44	-.45	-.14		-.19	-.08	-.06
<i>REV</i>	-.79	-.64	.47	.00		.23*	.05
Age	-.39**	-.18	.24	.11	.33*		-.00
Education	.28*	.16	.00	-.22	-.22	-.05	

Note.—For the University of Michigan sample, $N = 180$ females upper triangle, $N = 226$ males lower triangle; for General adult population, $N = 71$ females upper triangle, $N = 43$ males lower triangle; for Outpatient sample, $N = 93$ females upper triangle, $N = 67$ males lower triangle.

* $p \leq .05$.

** $p \leq .01$.

both types of defenses, which would lead one to expect a positive relationship.

Both *TAO* and *PRO* are substantially negatively correlated with *PRN* and with *REV* ($-.44$ to $-.79$). Negative correlations of hostility or projection with some of the specific defenses subsumed under reversal have been reported by Goldstein (1952), Peak et al. (1960), and Shipman and Marquette (1963). The negative correlations between hostility or projection and principalization have not been reported elsewhere to our knowledge but might be predicted on the basis that both hostility and projection are considered more primitive, immature responses to conflict than is principalization (Bellak, 1958; Fenichel, 1945; Rapaport, 1951). *TAS* is negatively correlated to some slight degree with each of the other defenses except *REV*. *TAS* and *REV* are independent. Relevant research on

the relationship of *TAS* to other defenses is meager and even conflicting. For example, Mussen and Naylor (1954) found that aggression directed outward and that directed inward tend to coexist to a large degree, while Purcell (1956) reports findings of a negative relationship between them.

Relationship between Scores on the DMI and MMPI Scales

MMPI data were obtained on 67 male and 93 female psychiatric outpatients who had also been administered the *DMI*. The MMPI responses were scored on all original scales as well as for some of the better-known experimental scales. Complete matrices of intercorrelations were obtained for males and females separately. A portion of these results is shown in Table 4.

All of the *DMI* scales except *PRO* have a

sizable number of MMPI correlates. *TAO* is positively correlated with scores on *F*, *Pd*, *Sc*, and *Ma* and negatively correlated with *L*. Furthermore, *TAO* is positively correlated with *Mf* and *A* for males but not for females. *PRO* has a somewhat similar pattern of correlations with the MMPI scales but the correlations are smaller and generally not significant for one or the other or both sexes. *PRN* and *REV*, on the other hand, are negatively correlated with *F*, *Pd*, *Pa*, *Pt*, and *Sc*. Social introversion (*Si*) and anxiety (*A*) are negatively correlated with *REV* for males and with *PRN* for both sexes. Both these scales are positively correlated with *TAS* as is *D*. Scores on Barron's (1953) ego-strength scale are negatively correlated with *TAS*. These patterns of correlations are for the most part consistent with theoretical predictions.

The correlates of *L* and *K* are of particular interest since these scales are sometimes considered to be measures of a set on the part of *S* to appear socially desirable. In general, *L* and *K* are negatively correlated with *TAO* and *PRO*, and positively correlated with *REV*, particularly in the male sample.

If the correlations are attributed to a common factor of social desirability it would imply that the more socially desirable responses in the *DMI* are the *REV* alternatives while the least desirable are the *TAO* and *PRO* responses. But then we have the peculiar situation that psychiatric outpatients obtain a more socially desirable profile than do general adults or college sophomores. (See Table 2.) A more likely explanation for the correlations is that they are due to a common factor of evasiveness or denial (versus forthrightness) which is revealed both in *S*'s attitude about himself (MMPI) and his handling of conflict situations (*DMI*).

Relationships between Defenses from the DMI and Haan's Defense Scales

Haan (1965) developed scales for eight defenses using MMPI items. Her definitions differed somewhat from ours and the scales have never been cross-validated but it seemed reasonable to explore their relationship to the *DMI* scales. Hence scores were obtained on these scales for the above-mentioned psychiatric clinic patients and also for a sample of

TABLE 4
CORRELATIONS BETWEEN *DMI* AND MMPI SCALES FOR 67 MALE AND 93 FEMALE PSYCHIATRIC OUTPATIENTS

MMPI variables	DMI Scales									
	TAO		PRO		PRN		TAS		REV	
	M	F	M	F	M	F	M	F	M	F
<i>L</i>	-40**	-31**	-37**	-12	16	19	05	02	55**	24*
<i>F</i>	25*	22*	12	24*	-14	-42**	10	37**	-36**	-36**
<i>K</i>	-21	-01	-29*	-17	18	30**	-11	-26**	39**	09
<i>HS</i>	-17	-04	-20	-12	04	-09	07	24*	23	-01
<i>D</i>	-03	-04	-10	02	-17	-13	42**	24*	-15	-06
<i>Hy</i>	-03	-04	-06	-08	02	-06	06	16	01	01
<i>Pd</i>	19	23*	02	12	-11	-26*	08	18	-23	-23*
<i>Mf</i>	38**	09	24*	-08	-08	14	-05	-14	-50**	-05
<i>Pa</i>	19	01	07	08	-10	-26*	06	46**	-25*	-21*
<i>Pt</i>	18	07	-02	00	-20	-33**	22	36**	-25*	-12
<i>Sc</i>	34**	18	05	14	-27*	-41**	10	41**	-34**	-28**
<i>Ma</i>	20	37**	08	16	06	-31**	-23	-01	-21	-11
<i>Si</i>	16	-05	06	04	-24*	-22*	32**	32**	-35**	-04
<i>A</i> (Welsh)	25*	-03	11	10	-25*	-31**	23	36**	-39**	-06
<i>Es</i> (Barron)	20	13	13	04	01	14	-34**	-35**	-03	-02

Note.—Decimal points omitted for ease of reading.
* $p \leq .05$.
** $p \leq .01$.

23 male and 24 females patients at another outpatient clinic. Those correlations which are consistent across samples and significant in at least one sample are the following: Haan's Denial scale is positively correlated with *REV* and *PRN* and negatively correlated with *TAO*. Doubt is positively correlated with *TAS* and negatively with *PRN*. Repression is positively correlated with *REV* and negatively correlated with *TAO*. Primitive Defense is positively correlated with *PRN* and *REV*. One possibly interesting sex difference is that *TAS* and Repression are positively correlated for males and negatively correlated for females. (See Table 5.)

Other Validity Studies

Responses of male alcoholics to the DMI. Michigan State University graduate students conducted a study of the *DMI* responses of 54 male alcoholics (Aldridge, Baxter, Nopziger, Roggenbuck, Shimansky, & Wolthuis, 1967). Relying on psychoanalytic theory to the effect that the alcoholic personality is rooted in a self-destructive, orally dependent orientation to life (Fenichel, 1945; Zwerling & Rosenbaum, 1959) and on the empirical findings that alcoholics demonstrate low ego strength (Borowitz, 1964), self-destructiveness (White, 1966), and dependency (Witkin, Karp, & Goodenough, 1959), the investigators predicted that the alcoholics would be high

on *TAS* and *REV* and low on *TAO* and *PRN* relative to the normals. These predictions were all substantiated at an alpha level of .05 with the exception of *PRN*, for which $p < .10$. The alcoholics also deviated more frequently from the intermediate range (2 *SD* above or below the mean of standardization group) on at least one defense mechanism relative to the normal sample ($p < .001$).

The relationship of DMI to dream recall. The 180 University of Michigan female students on whom mean scores are reported in Table 3 were administered a questionnaire related to dream recall and were asked to keep a dream diary for 1 month, noting in it every morning upon awakening various aspects of their dreams.⁵ Using the dream data drawn from the questionnaire, two predictions were substantiated. The *Ss* ($N = 29$) who reported frequent dream recall (3-4 times per week or more) were higher on *TAO* ($p < .05$) and lower on *REV* ($p < .05$) than were low dream recallers (i.e., eight *Ss* who reported they dream at most a few times per year). These findings are in line with those reported by Tart (1962) and others who attribute infrequent dream recall to the use of repression against threatening dream content. Significant correlations were not obtained, however, between defenses and frequency of dream recall when data from the dream diary were used. One possible interpretation of these results is that people who report low dream recall on a questionnaire are doing so as a result of a continuous process of repression rather than as a consequence of immediate repression following the dream process.

Psychotherapy and DMI scores. In an exploratory study on the effect of psychotherapy on defense mechanisms, we asked each of five experienced psychotherapists to test two or three of his patients, a man and woman preferably, who had been in treatment with him for approximately 6 months. We compared these results with those obtained from a group of patients, matched for education, sex, age, and race (Caucasian) drawn from the waiting list. The results revealed (see Table 6) that patients on the

TABLE 5

CORRELATIONS BETWEEN SCORES ON THE DEFENSE SCALES OF THE *DMI* AND THOSE OF HAAN

Scales	Males		Females	
	Clinic 1	Clinic 2	Clinic 1	Clinic 2
<i>TAO</i> × Displacement	.12	.04	.00	-.05
<i>TAO</i> × Denial	.00	-.40**	-.43*	-.26*
<i>TAO</i> × Repression	-.14	-.33**	-.33	-.20
<i>PRO</i> × Projection	.06	-.04	.36	.01
<i>PRN</i> × Intellectualizing	.29	.09	-.21	.19
<i>PRN</i> × Doubt	-.50**	-.17	-.28	-.26*
<i>PRN</i> × Denial	.34	.33**	.26	.48**
<i>PRN</i> × Primitive Defense	.22	.33**	.24	.07
<i>TAS</i> × Doubt	.33	.26*	.35	.30*
<i>TAS</i> × Repression	.29	.35**	-.10	-.36**
<i>REV</i> × Doubt	-.01	-.25*	-.08	-.10
<i>REV</i> × Denial	.24	.48**	.50**	.30**
<i>REV</i> × Primitive Defense	.23	.37**	.48**	-.08

Note.—For Males, Clinic 1, $N = 23$, Clinic 2, $N = 67$; for Females, Clinic 1, $N = 24$, Clinic 2, $N = 93$.

* $p \leq .05$.

** $p \leq .01$.

⁵ The authors wish to thank David Cohen for permitting the use of this data.

waiting list were significantly high on *REV* (male $p < .02$; female $p < .01$) and low on *PRO* (male $p < .05$; female $p < .01$) relative to patients in treatment. The difference on *REV* might indicate a reduction of denial, repression, and other avoidance mechanisms for patients in therapy, probably as the result of the therapists stressing and encouraging their patients to confront their feelings and face up to their problems. The other finding, that the patients in treatment were higher on *PRO*, was unexpected. One possible explanation is that the group of patients that stayed in treatment for 6 months was a more pathognomonic group relative to the waiting list patients (Grummon as quoted in Seeman, 1965), many of whom may drop out before treatment begins or within a few sessions.

The relationship of DMI to field articulation. Witkin and his colleagues (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962), rely-

ing on what they call the "differentiation hypothesis," propose a network of association between degree of field articulation and various other measures of differentiation (e.g., body concept, sense of identity, cognitive styles, and defenses). Such defenses as denial, repression, and hostility-turned-inward reflect, according to Witkin, a lower degree of differentiation than do isolation, projection, and hostility-turned-outward. Lesser differentiation is assumed in the first group of defenses because their operation involves a more primitive self-structure, as well as lesser separation of self from nonself. In a recently completed study, Ihilevich (1968) related the *DMI* defenses to the cognitive style of field articulation. A sample of 110 psychiatric outpatients (50 males and 60 females) were administered the *DMI*, the Embedded Figure Test, and the Figure Drawing Test. As predicted from Witkin's "differentiation hypothesis," Ss who relied mainly on "global" defenses (*TAS* and *REV*) were more field dependent relative to Ss who relied excessively on "differentiated" defenses (*TAO* and *PRO*) ($p < .01$).

TABLE 6

MEANS AND STANDARD DEVIATIONS OF THE FIVE DEFENSE MECHANISMS OF THE *DMI* FOR A GROUP OF PSYCHIATRIC OUTPATIENTS IN TREATMENT FOR 6 MONTHS AS COMPARED TO A GROUP OF PATIENTS ON THE WAITING LIST

Scale	In therapy		On waiting list		<i>p</i>
	\bar{X}	<i>SD</i>	\bar{X}	<i>SD</i>	
Males					
Age	28.7	6.64	26.0	6.72	
Educa-tion	12.8	1.40	13.2	2.18	
<i>TAO</i>	44.2	9.88	38.8	7.65	<i>ns</i>
<i>PRO</i>	42.3	7.09	35.7	5.98	<.05
<i>PRN</i>	41.3	5.66	44.3	5.57	<i>ns</i>
<i>TAS</i>	40.7	10.06	40.5	5.50	<i>ns</i>
<i>REV</i>	31.6	8.07	40.6	7.57	<.02
Females					
Age	29.4	6.65	26.1	4.85	
Educa-tion	12.4	2.17	11.7	2.41	
<i>TAO</i>	39.3	11.34	30.8	11.02	<.10
<i>PRO</i>	39.3	7.44	32.5	3.47	<.01
<i>PRN</i>	44.4	7.87	48.0	9.79	<i>ns</i>
<i>TAS</i>	42.9	7.94	46.2	6.32	<i>ns</i>
<i>REV</i>	34.1	9.29	42.5	3.70	<.01

Note.—Patients on waiting list had been interviewed, diagnosed, and accepted for treatment. For Males in Therapy, *N* = 12, on Waiting List, *N* = 11; for Females in Therapy, *N* = 14, on Waiting List, *N* = 11.

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