

EMOTIONS AND EGO DEFENSES

ii



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Master of Arts



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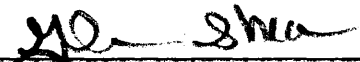
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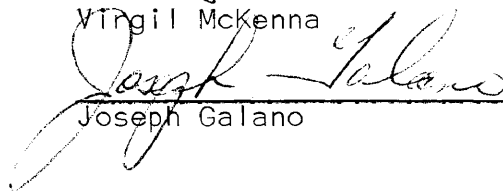
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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	iv
LIST OF TABLES	v
LIST OF FIGURES	vi
ABSTRACT	vii
INTRODUCTION	2
METHOD	13
RESULTS	17
DISCUSSION	26
REFERENCES	32
APPENDIX	35

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LIST OF TABLES

Table	Page
1. Subjective and behavioral aspects of basic adaptive functions	9
2. Emotions, defense mechanism and psychopathology ...	11
3. Correlation of emotional traits and defense mechanisms	18
4. Defense mechanisms and accuracy of identification of emotions	21
5. Affective traits and identification of emotions ...	24

LIST OF FIGURES

Figure	Page
1. Mean accuracy of identification of emotions	19

ABSTRACT

Seventeen State Hospital patients with primarily psychotic diagnoses were administered two personality questionnaires to assess the relative use of eight defense mechanisms and the relative presence of eight emotional traits. Two tasks were also employed to assess the ability to evaluate and identify facial expressions of emotions.

The hypothesis that specific ego defense mechanisms would be correlated with specific emotional traits did not receive any support. Some significant correlations did occur, however, in comparing defenses and emotional traits and some possible interpretations are presented.

Neither defense mechanisms nor emotional traits were significantly correlated with the accurate identification of specific emotions. Some highly significant correlations did occur between emotional traits and the evaluation of facial expressions as "pleasant" or "unpleasant." These results are discussed and some suggestions for future research are offered.

EMOTIONS AND EGO DEFENSES

INTRODUCTION

In the applied clinical area and, to a lesser extent, in the theoretical investigation and discussion of psychopathology, there has been a tendency to consider psychotic disorders as involving primarily a disturbance either of affect or of thought processes. This is clearly evident in the recent DSM III classification of "mental disorders" (American Psychiatric Association, 1980). Yet, most clinicians familiar with psychotic populations would probably agree that one rarely sees a case involving thought disorder, e.g., a schizophrenic disorder, that does not also include a disturbance of emotional processes such as the presence of intense, prominent anger that appears to an observer to be largely inappropriate to the person's present experiences. Thus, in schizophrenic disorders, affect is frequently referred to as labile, blunted, elated, or depressed. When the diagnosis is an affective disorder, such as manic-depressive psychosis, there are usually corresponding disturbances of normal thought processes as evidenced by delusions of grandeur, persecutory ideation, flight of ideas, or poor judgment.

If a pharmacological intervention is to be employed, a dichotomous classification of Affective vs. Thought Disorder may be largely sufficient since current prescriptive practices based

upon this model appear to be fairly successful at least in the amelioration of the most prominent psychotic symptoms. However, if the goal is to gain a better understanding of the individual, it is probably of value to understand the interactions of these two major systems of the personality:

Functioning as a major subsystem of the personality, affect plays a prominent role in behavior. Integrated behavior ... is accomplished when the various subsystems of the personality are functioning harmoniously. Personality disorder, breakdown in interpersonal relations, and ineffective functioning result when there is dissonance or disjunctiveness among personality subsystems. (Izard, et. al., 1965, p. 19)

The Nature of Emotions

In order for a clear understanding of the relationships of emotions and cognitions to emerge, it is necessary to consider some of the issues that have prevailed in the literature. These include: what constitutes an emotion; at what points in information processing emotions occur; and the related issue of whether cognitions play a deterministic role in defining the nature of emotional experiences.

Robert Plutchik (1980) has stated that there have been four major historical currents in the study of emotions. He refers to these as the Evolutionary Tradition of Charles Darwin; the Psychophysiological Tradition of William James; the Neurological Tradition of Walter Cannon; and the Dynamic Tradition of Sigmund Freud. Each tradition has contributed to our understanding of the nature of emotions.

The Evolutionary Tradition begun by Darwin (1872) and expanded upon by Tomkins (1962,1963) and Izard (1977) has emphasized the functional significance of innate emotional responses (behavioral patterns) for evolutionary survival. Tomkins' (1962,1963) additional contributions have included the detailed explanation of the facial responses by which these innately patterned emotions are expressed. His theory also explored the relationship between drives and affects (emotions) which he considered to "amplify" the basic drives. Although he is basically within the Evolutionary Tradition, Tomkins (1962,1963) also explained how affects can become associated with other stimuli, e.g., particular interpersonal situations, as the result of the vicissitudes of experience, especially vis a vis the parents in infancy and childhood. Thus, the Evolutionary Tradition has contributed the ideas that basic emotions exist, that they arose in the service of survival of the species, and that their occurrence in any given individual can be dependent upon experience or learning.

The Psychophysiological Tradition of William James has played a central role in the controversy about the interactions of cognitions and emotions. Often referred to as the James-Lange theory of emotions, this position disputed the idea that emotions follow a sequence of perception- emotional feeling- bodily changes. Rather, James (1890) argued that the bodily changes, especially of the autonomic nervous system, precede any conscious feeling of emotion and that it is the "feeling" of

these bodily changes that is experienced as emotion. The research of Schacter and Singer (1962) can be viewed as an attempt to modify the James-Lange theory and emphasize the role of cognitions in the determination of the nature of emotional experience. They attempted to show that it is not different patterns of autonomic arousal, per se, that determines whether one experiences happiness or anger, for example, but rather the person's cognitive interpretation of the state of arousal. Thus, by experimentally manipulating the environmental situation during a state of autonomic nervous system arousal, Schacter and Singer (1962) reported that they could vary the nature of the emotional experiences of the participants in their study. Although frequently cited as an elegant and classic study, this research has been criticized by Plutchik (1980, p. 37) for several reasons including post-hoc elimination of nearly one third of the participants, the questionable use of heart rate as a measure of arousal, and no reports of replication. In spite of these objections, there can be little doubt of the influence of Schacter and Singer's work in raising the question of the extent to which the study of emotions can be divorced from interactions with cognitive processes and situational determinants.

In a thoughtful and convincing paper, Zajonc (1980) explored the evidence for and against the argument that feelings occur post-cognitively. He evaluated experimental research and concluded that there is considerable evidence to suggest that

"affect and cognition are under the control of separate and partially independent systems that can influence each other in a variety of ways, and that both constitute independent sources of effects in information processing." His evidence for this position included experimental results that indicate

... that affective judgments may be fairly independent of, and precede in time, the sorts of perceptual and cognitive operations commonly assumed to be the basis of these affective judgments. Affective reactions to stimuli are often the very first reactions of the organism, and for lower organisms they are the dominant reactions. Affective reactions can occur without extensive perceptual and cognitive encoding, are made with greater confidence than cognitive judgments and can be made sooner. Experimental evidence... (demonstrates) that reliable affective discriminations (like-dislike ratings) can be made in the total absence of recognition memory (old-new) judgments. (Zajonc, 1980)

The Neurological Tradition begun by Walter Cannon (1929) has less relevance for the present research than the other traditions. Cannon (1929, cf Plutchik, 1980) largely reacted against the James-Lange emphasis upon visceral changes as emotional experience. Instead, he emphasized the role of sub-cortical, especially hypothalamic, changes that he argued produces both the physiological state of arousal and simultaneously the "felt emotional experience."

As in so many areas of personality theory, the Dynamic Tradition begun by the man in Vienna has increased our understanding of the nature and role of emotions by emphasizing the deterministic aspects of unconscious processes. Freud never actually developed a comprehensive theory of emotions although he

wrote rather extensively about anxiety and, to a lesser extent, sadness. Freud (1915) wrote about the interaction of thought and emotion:

The whole difference arises from the fact that ideas are cathected- ultimately of memory traces- whilst affects and emotions correspond with processes of discharge, the final expression of which is perceived as feeling. In the present state of our knowledge of affects and emotions we cannot express this difference more clearly. (Freud, 1915, p. 111)

David Rapaport (1950) wrote what may still be the most systematic analytic consideration of emotions. He suggested that the subjective experience be called "affect" and the objective manifestations be called "emotions." He attempted to show how the relevant ideas from other theories might be integrated within a psychoanalytic perspective:

Of the various theories, the following theory of the mechanism of emotions emerges as not conflicting with known facts: an incoming percept initiates an unconscious process which mobilized unconscious instinctual energies; if no free pathway of activity is open for these energies- and this is the case when instinctual demands conflict- they find discharge through channels other than voluntary motility; these discharge-processes- 'emotional expression,' and 'emotion felt'- may occur simultaneously or may succeed one another, or either may occur alone; as in our culture open pathways for instincts are rare, emotional discharges of varying intensity constantly occur; thus in our psychic life, besides the 'genuine' emotions described in textbooks- rage, fear, and so on- an entire hierarchy of emotions exists, ranging from the most intense to mild, conventionalized, intellectualized emotions. (Rapaport, 1950, p. 37)

Thus, the various traditions and associated research suggest that emotions are complex in nature, having physiological as well as subjective "feeling" components. There seems to be good evidence that cognitions interact with emotions at various stages

of information processing. From a psychoanalytic perspective there is the additional aspect that conscious experience of emotion may be dissimilar to the unconscious emotion that preceded the conscious experience.

Robert Plutchik (1980) has recently presented what he calls a "psychoevolutionary" theory of emotions that derives from the Evolutionary Tradition and also attempts to explain one aspect of the cognition-emotion interaction. Plutchik (1980, pp. 144-145) theorized that there are "eight basic adaptive behavior patterns that may be found in some form at all levels of evolution, do not depend on particular neural structures or body parts, do not depend on introspections, and are defined in terms of gross behavioral interactions between organism and environment." These eight patterns are incorporation, rejection, destruction, protection, reproduction, reintegration, orientation, and exploration. Each of these basic prototypic functions is considered to be the basis of a primary emotion. All other emotions are conceptualized as mixtures of primary emotions. The following sequence of events is believed to be involved in emotional reactions according to Plutchik's (1980) theory: a stimulus event occurs (e.g., appearance of a predator), resulting in a particular cognitive appraisal (danger), causing a subjective reaction (fear) which, in turn, leads to a specific behavioral reaction (run) in the service of a particular function (protection). Table 1 shows the emotion associated with each adaptive behavior and the function this is purported to serve.

TABLE 1
 SUBJECTIVE AND BEHAVIORAL ASPECTS OF BASIC ADAPTIVE FUNCTIONS*

Emotion	Behavior	Function
Fear	Withdraw	Protection
Anger	Attack	Destruction
Joy	Mating	Reproduction
Sadness	Crying for help	Reintegration
Acceptance	Pair bonding	Incorporation
Disgust	Vomiting	Rejection
Expectancy	Examining	Exploration
Surprise	Freezing	Orientation

* Adapted from Plutchik (1980, p. 154)

There are two additional features of Plutchik's (1980) theory that deserve mention. The first is that he hypothesizes that there is a specific defense mechanism associated with each basic emotion. The second is that each emotion-defense mechanism pair is hypothesized to be related to a particular type of psychopathology. These combinations are presented in Table 2.

Plutchik (1980, p. 347) does not present empirical evidence to support the hypothesized relationships of emotions, defense mechanisms, and type of psychopathology. He refers to "well known clinical reports" such as psychoanalytic papers (e.g., Kellerman, 1977) that report the occurrence of anger and the defense mechanism of displacement in individuals who exhibit passive aggressive behavior. Perhaps, the most readily acceptable relationship he mentions (see also, Plutchik, et. al., 1979) is between the defense mechanism of projection and paranoid psychopathology. All in all, however, he fails to make a convincing case for the evolutionary or individual development of specific defense mechanisms to deal with specific emotions. The present research was conceptualized as one attempt to assess the emotion-defense mechanism correlation that is hypothesized by Plutchik's (1980) theory of emotions.

Identification of Facial Expressions of Emotions

A second aspect of the present research was to assess the extent to which the ability of a State Hospital sample of primarily psychotic patients to correctly identify facial expressions of emotions might be related to prominent affective traits and

TABLE 2
EMOTIONS, DEFENSE MECHANISMS AND PSYCHOPATHOLOGY

Emotion	Defense Mechanism	Psychopathology
Joy	Reaction Formation	Mania
Acceptance	Denial	Hysteria
Fear	Repression	Passive-Aggressive, Passive Type
Surprise	Regression	Psychopathic Acting Out
Sadness	Compensation	Depression
Disgust	Projection	Paranoia
Anger	Displacement	Passive-Aggressive Aggressive Type
Anticipation	Intellectualization	Obsessive-Compulsive

particular ego defense mechanisms. Ultimately, perhaps, such a task might prove useful as an assessment procedure to suggest affective traits and/or defense mechanisms.

There has been a fairly long history of research with psychotic (primarily schizophrenic) persons that has employed the technique of requiring some form of response to pictures of the human face. The earliest was probably the Szondi Test (Deri, 1949). Subsequent research has consistently shown that schizophrenic samples show a relative inability to identify facial expressions of negative emotions compared to both "non-hospitalized normals and hospitalized depressives" (Walker, Marwit & Emory, 1980; see also Dougherty, Bartlett & Izard, 1974; Muzekari and Bates, 1977). In the present study it was expected that individuals whose most prominent emotional traits were negative in nature (Tomkins, 1962) would perceive facial expressions as more negative than individuals with predominantly positive emotional traits. Also, it was expected that the use of more "primitive" defense mechanisms (Valliant, 1976; Plutchik, et. al., 1979) would result in poorer overall performance at identifying facial expressions due to a less "mature" level of psychological functioning resulting from lesser differentiation of psychic processes.

METHOD

Participants

Seventeen hospitalized patients, thirteen male and four female, at a State Hospital in Williamsburg, Virginia volunteered to participate in the study. In return for their participation, they received a card enabling them to obtain one item from the unit token store. The age range was 19-45 and educational level ranged from grammar school through one year of college. No individuals with diagnoses of Mental Retardation or Organic Brain Syndrome were included. Fifteen individuals carried a psychotic diagnosis and two had been diagnosed as cases of Personality Disorder (one Borderline Personality and one Passive-Aggressive Personality).

Procedure

Each participant was seen individually in sessions that lasted from one to two hours. A rough explanation of the research was given and a consent form obtained (see Appendix A). Four tasks were administered in counterbalanced order. These were the Mood Profile Index (MPI), Life Style Index (LSI) and two trials requiring identification of facial expressions (I-M Series). The MPI and LSI were read aloud by the investigator who then recorded the participant's responses. This procedure

was employed due to the frequent reading and concentration difficulties encountered in a State Hospital sample. For one trial of the identification task, the participant was handed the photographs one at a time, in random order, and asked whether "the person in the photograph seemed to be having more of a pleasant or more of an unpleasant experience." For the other identification trial, a card with the nine emotions depicted in the I-M Series was presented to the participant who was asked to read each word out loud. When this was done correctly, with assistance from the investigator if necessary, the participant was asked if he/she understood the meaning of the words. Definitions were given by the investigator if it seemed necessary. These were in the form of synonyms or short phrases, e.g., contempt was defined as "looking down upon someone or something." Following this orientation procedure the I-M Series was again presented, one at a time in random order, and responses again recorded by the investigator. This time, however, the participant was asked to select the specific emotion depicted by choosing an emotion from the list of nine emotions. He was able to consult this list throughout this trial.

Measures

Mood Profile Index (MPI): This is a questionnaire developed and used by Plutchik, et. al. (1968) to study affective changes over time among hospitalized manic-depressive patients. It consists of thirty-six pairs of words used to describe moods. The person is asked to select the word in each pair that "better describes your

usual mood." Scores are then obtained for each of Plutchik's (1980) eight basic emotions: Acceptance, Disgust, Surprise, Anticipation, Fear, Joy, Anger, and Sadness. See Appendix B. Life Style Index (LSI): This is a ninety-two item true-false questionnaire developed by Plutchik, et. al., (1979) and results in a score for each of Plutchik's (1980) eight basic defense mechanisms. A definition of each defense mechanism as presented by Plutchik, et. al., (1979) is

Denial: lack of awareness of certain events, experiences, or feelings that would be painful to acknowledge.

Repression: exclusion from consciousness of an idea and its associated emotions, or an experience and its associated emotions.

Regression: retreat under stress to earlier or more immature patterns of behavior and gratification.

Compensation: intensive attempt to correct or find a suitable substitute for a real or imagined physical or psychological inadequacy.

Projection: unconscious rejection of one's emotionally unacceptable thoughts, traits, or wishes, and the attribution of them to other people.

Displacement: discharge of pent-up emotions, usually of anger, on objects, animals, or people perceived as less dangerous by the individual than those that originally aroused the emotions.

Intellectualization: unconscious control of emotions and impulses by excessive dependence on rational interpretations of situations.

Reaction Formation: prevention of the expression of unacceptable desires, particularly sexual or aggressive, by developing or exaggerating opposite attitudes or behaviors.

See Appendix C.

I-M Series of Facial Expressions of Emotions: This is a set of thirty-six black and white photographs (approximately 4"x6") of professional actors portraying nine different emotions. The I-M Series was developed by Izard (1978): There are four photographs each of joy, interest, surprise, sadness, shame, fear, anger, disgust, and contempt. It can be noted that "interest" is similar to Plutchik's (1980) "anticipation" and that "shame" and "contempt" are not included as primary emotions in Plutchik's theory. Conversely, Plutchik's (1980) "acceptance" is not included in the I-M Series which is based upon Tomkin's (1962) theory of emotions. See Appendix D.

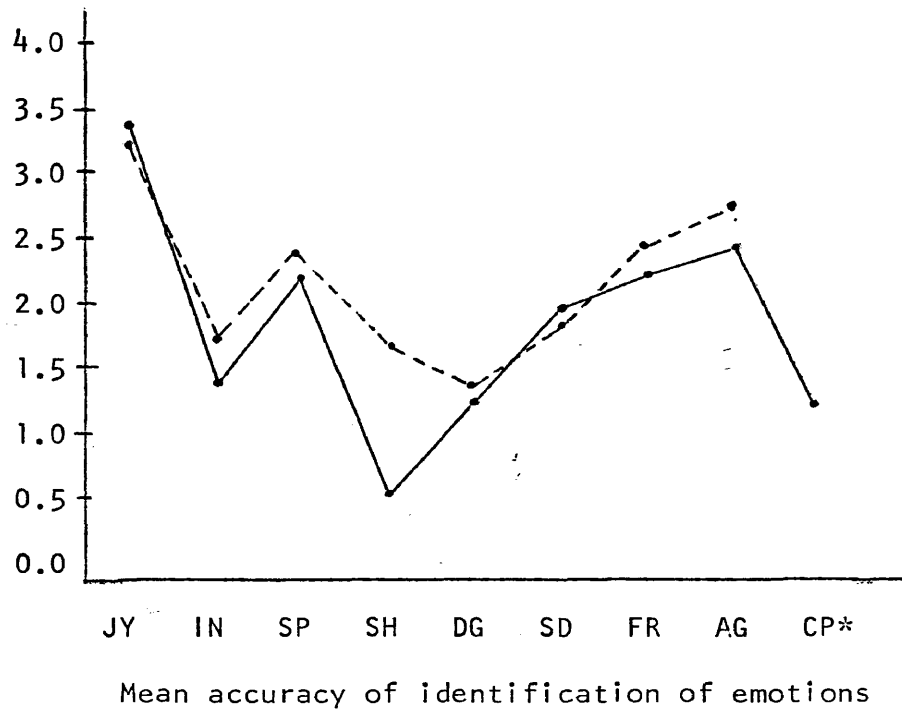
RESULTS

Table 3 presents the correlations of emotional traits (MPI scores) with ego defenses (LSI scores). The correlations along the upper-left to bottom-right diagonal are those that were hypothesized to be significantly related. It can readily be seen that the hypothesis does not seem to have received any support. Only one of the eight correlations (Surprise-Regression) along this diagonal achieved statistical significance and that correlation was in the opposite direction from the hypothesis.

In spite of the lack of support for the affective trait-defense mechanism hypothesis, nine of the sixty-four correlations in Table 3 achieved significance at the .05 level. Chance occurrence would be 3.2 significant correlations. Thus, the results suggest that alternatives to the original hypothesis be explored. Some possible explanations are considered in the discussion below.

The number of correctly identified facial expressions (Overall Accuracy Score) ranged from 6 to 26 (of a maximum possible score of 36). The sample mean was 15.9 and the median was 15.5. Joy was easily the most correctly identified emotion and Shame was by far the least correctly identified. The mean number of times each emotion was correctly identified is shown in Figure 1 and can be seen to compare favorable with the results of Walker, et. al.,

FIGURE 1



————— = Results from Present study

- - - - - = Results from Walker, et. al., (1980)

* Contempt was not included in Walker, et. al. (1980)

Emotions key: JY= Joy IN= Interest
 SP= Surprise SH= Shame
 DG= Disgust SD= Sadness
 FR= Fear AG= Anger
 CP= Contempt

(1980) who also employed the I-M Series in their research with a schizophrenic sample.

The correlations of Overall Accuracy of Identification Scores with scores for each of the eight defense mechanisms is presented in Table 4. No Significant relationships obtained. Table 4 also presents the correlations of defense mechanism scores with accuracy of identification of each of the nine emotions depicted in the I-M Series. Once again, no significant results obtained.

As an additional way of looking at the relationship between defense mechanisms and the identification of emotions tasks, each individual's most prominent defense mechanism was calculated by computing the percent of items endorsed for each defense mechanism scale. This resulted in five persons for whom the Intellectualization score was highest, three were highest on Regression, two each on Compensation and Projection, and one each on Reaction Formation and Denial. One person's highest scores were equal for Compensation and Intellectualization, and one person was equally high on Projection and Intellectualization. After the most prominent defense mechanism was calculated for each person, assignment was made to one of two groups depending upon the degree of maturity of the most prominent defense mechanism. This was done using Plutchik et. al.'s (1979) ratings of developmental level of ego defenses which were obtained by averaging the ratings of several psychiatrists. From most primitive to most mature the rankings were: denial, regression, projection, displacement, repression, reaction formation, intellectualization, and compensation. Individuals whose most prominent

TABLE 4

DEFENSE MECHANISMS AND ACCURACY OF IDENTIFICATION OF EMOTIONS

Defense Mech.	Emotion Depicted in Photograph									Overall Accuracy Score
	JY	IN	SP	SH	DG	SD	FR	AG	CP	
DN	.02	-.15	.14	-.40	.17	.22	-.30	.06	-.08	-.06
RP	.34	.18	-.14	.00	.08	-.25	.27	.07	-.08	.08
RG	.00	.34	.00	-.06	.16	.03	-.09	.11	.03	.09
CP	.36	.19	.06	-.28	.17	-.12	-.17	.35	-.10	.08
PJ	-.34	.09	-.08	-.01	.27	.26	-.11	-.04	.03	.00
DP	-.18	.13	-.04	-.06	.16	-.03	-.14	-.32	-.27	-.16
IN	.03	-.09	.14	-.28	-.05	-.08	-.29	.04	-.12	-.13
RF	-.12	-.12	-.41	-.20	.11	-.20	-.08	-.11	-.33	-.33

Defense Mechanism key: DN= Denial
 RP= Repression
 RG= Regression
 CP= Compensation
 PJ= Projection
 DP= Displacement
 RF= Reaction Formation IN= Intellectualization

Emotions key: JY= Joy
 SP= Surprise
 DG= Disgust
 FR= Fear
 CP= Contempt
 IN= Interest
 SH= Shame
 SD= Sadness
 AG= Anger

defense mechanism score was denial, regression, projection, or displacement were considered to be the more primitive defense mechanism group. This group (n=6) was then compared to the group with more mature defense mechanisms, i.e., those whose highest scores were on repression, reaction formation, intellectualization, or compensation. Of the two individuals with equally high scores on two defense mechanisms, one was assigned to the "mature" group because both defenses were mature. This resulted in nine persons in the mature defense mechanism group. The other individual was not included in this analysis because one of his highest scores was on Projection, a more primitive defense mechanism, and the other highest score was on Intellectualization, a more mature defense mechanism. In addition, one participant was omitted from all analyses involving the identification tasks because of an error in recording his responses. A t-test comparison between the primitive and mature defense mechanism groups, assessing differences in Overall Accuracy of Identification scores, i.e., number of expressions correctly identified, did not produce any significant results ($t = .347, p > .05$).

Classifying emotions as either positive (joy, interest, surprise) or negative (fear, anger, shame, disgust, contempt) according to Tomkins' (1962) theory allowed for some interesting results to emerge on the task requiring the facial expressions to be classified as "pleasant" or "unpleasant." All photographs designed to express joy (n=4) and interest (n=4) were more frequently classified as pleasant than unpleasant. This was also true of two of

the four photographs expressing surprise, while the other two "surprise" photos were called pleasant 50% of the time and unpleasant 50% of the time. Thus, there was substantially correct evaluation of positive emotions along the evaluative dimension (Osgood, Suci & Tannenbaum, 1957). This was not the case for the negative emotions. Fear and anger were always considered unpleasant. Sadness was considered unpleasant for three photos and pleasant for one. Disgust was considered unpleasant for three photos and equally divided between pleasant and unpleasant for the fourth. Contempt was only considered unpleasant for one photo. Shame was equally divided between pleasant and unpleasant for one photo but was more often called "a pleasant experience" for the other three photos.

The tendency to call emotional expressions "pleasant" was not correlated with the use of any specific defense mechanism. The correlations of number of "pleasant" responses with each defense mechanism score was: Denial (.11), Repression (.07), Regression (.06), Compensation (.25), Projection (-.11), Displacement (.00), Intellectualization (.28), and Reaction Formation (.27).

Table 5 presents the correlations of affective traits as measured by the Mood Profile Index (MPI) and Overall Accuracy of Identification Scores. Also presented are the correlations of affective traits and number of pleasant responses. There were no significant correlations of affective traits and Accuracy

TABLE 5
AFFECTIVE TRAITS AND IDENTIFICATION OF EMOTIONS

MPI Scores	Accuracy Score	"Pleasant" Score
Acceptance	.24	.08
Disgust	.07	.11
Surprise	.05	.33
Anticipation	.10	-.03
Fear	.02	.56**
Joy	-.21	-.01
Anger	-.17	-.39
Sadness	-.15	-.70***

** $p < .01$

*** $p < .001$

Score. Two of the eight affective traits were significantly correlated with the tendency to view facial expressions as reflecting more of a pleasant than unpleasant experience and two approached significance. The affective trait of Fear was positively correlated with the "Pleasant" score. Sadness was highly significantly correlated with "Pleasant" score in a negative direction, i.e., with a greater tendency to view facial expressions as reflecting an unpleasant experience. A trend in a positive direction occurred for Surprise and in a negative direction for Anger.

The most frequently endorsed affective trait was calculated for each person by considering the percent of items endorsed for each trait. For nine persons a positive emotion (Tomkins, 1962) was the most frequently endorsed (Surprise for 6 people, Anticipation for 3), and for seven persons a negative emotion was most frequently endorsed (Disgust for 2 people, Sadness for 4, Anger for 1). These two groups were then compared for differences in Overall Accuracy Score and number of "Pleasant" responses. No significant differences obtained. T-test results were .555 for Overall Accuracy Score and .257 for number of "Pleasant" responses.

DISCUSSION

There was clearly a failure to obtain any support for the concurrent presence of the defense mechanism- affective trait pairs postulated by Plutchik's (1980) psychoevolutionary theory of emotions. Certainly, one study is insufficient to conclude that such relationships do not exist. In addition, the present study suffers from small sample size. Possible effects of using a State Hospital sample might also be considered since previous research (Plutchik, et. al., 1979) found that a schizophrenic sample scored higher than a "normal" sample on all eight defense mechanisms of the Life Style Index. Although an increase in the use of multiple defenses is probably to be expected with increasing psychopathology, this may make it difficult for the relationship of specific defenses to affective traits to emerge in a correlational analysis.

Interpretation of the significant results that did occur in the correlation of defense mechanisms and affective traits is rather difficult. It should be kept in mind that the Mood Profile Index is a self-report measure and, therefore, susceptible to various types of defensive responding. The fact that nine of sixteen persons presumably with severe psychological problems endorsed a positive emotion as their most prominent "usual mood"

suggests the possibility that accurate assessment of affective traits may have been interfered with by situational or other variables. Some highly speculative interpretations will be offered, however.

Since this is largely a sample with schizophrenic diagnoses, the two emotions we might expect to predominate are fear and anger (see, e.g., Karon, 1973). This might lead us to expect that the extent to which these emotions were endorsed could indicate insight and, perhaps, the lesser use of defenses against unacceptable impulses, feelings, or ideas. In the analysis of affective traits, fear was negatively correlated with projection, a primitive defense mechanism that involves the "unconscious rejection of one's unacceptable thoughts, traits, or wishes, and the attribution of them to other people" (see p. 15). In the present sample, then, if the person was willing to admit to being fearful, emotional experiences may not have been generally prevented from reaching consciousness by the pattern of denial and projection seen in the paranoid psychopathology of many schizophrenic individuals. The significant positive correlation between fear and intellectualization might then be explained as a more mature level of ego development in which emotions are accepted but controlled through rationalizing processes. Presumably, then, it may be easier to accept the intense fear of a schizophrenic disorder if one is able to rationalize such aspects of experience as, for example, negative elements in one's interpersonal relationships.

A similar line of reasoning might suggest a possible explanation for the significant negative correlation between reporting anger as a prominent emotion and the use of repression as a defense. Although repression is a more mature defense, its function is also to exclude emotional components from consciousness. Perhaps, if the person is willing to admit to being angry, repression is not likely to be prominent. Ideally, of course, we would also expect to see similarly negative correlations for the more primitive defenses that could be used to prevent anger from reaching consciousness. This did not occur in the present study.

Surprise and regression were significantly correlated. As mentioned earlier, these were hypothesized by Plutchik (1980) to have developed together during the course of evolution. The correlation, however, was negative, the opposite direction from the hypothesis. Once again, one possible key to understanding may lie in the self-report nature of the MPI. Perhaps, if one is able to describe oneself as being generally surprised there is an acceptance of the emotion at a conscious level so that there is less need to employ the "flight under stress" that is prototypic of regression. Of course, this does not explain why a similar pattern did not occur for the other postulated relations of ego defenses and affective traits. It may suggest, however, that if there is any validity to Plutchik's theory, there may be intervening variables that would have to be assessed before the relationships could emerge in a sample that is, perhaps, especially susceptible to defensive responding.

The most highly correlated affective trait- defense mechanism pair was between Acceptance and Compensation. This could be interpreted as suggesting that the tendency to describe oneself as generally accepting was accompanied by a corresponding tendency to invest energy in substitute objects, activities, or persons in order to avoid directly experiencing perceived personal inadequacies (see p. 15). Why this relationship should obtain, however, seems to defy even such speculative interpretations as employed above. The significant correlations of acceptance with repression, disgust with reaction formation, and sadness with intellectualization (a negative correlation) are also beyond explanation employing any theoretical framework with which the author is familiar.

The fact that no significant relationships emerged in the correlation of defense mechanisms with the scores resulting from the identification and evaluation of facial expressions is, perhaps, not very surprising. Except for the hypothesized relationship of defense mechanisms and affective traits- which was not supported- there is no strong theoretical rationale for expecting the defenses used in dealing with one's own impulses, feelings, and ideas to necessarily influence the manner in which the expressions of others are evaluated. By definition, one exception would be the person who prominently employs projection. Some interesting results emerged regarding the use of projection, the affective traits of sadness and fear, and the evaluation of facial expressions. These are discussed below.

The results from the identification of emotions task were very similar to that of Walker, et. al., (1980). In particular, shame and contempt expressions appear to be emotions that are difficult to evaluate as "unpleasant" as well as difficult to identify correctly. Interest and disgust seem to be difficult to identify but not to evaluate as pleasant and unpleasant, respectively. Joy, surprise, sadness, fear, and anger seem to be relatively easy to evaluate and to identify. One possible explanation for the differences that emerged between the evaluation (i.e., pleasant vs. unpleasant) and identification (i.e., selecting the specific emotion depicted in the photograph) tasks is suggested by the research of Schlosberg (1941, 1954) and of Hastorf, Osgood & Ono (1966). Their research found that the two major dimensions that account for most of the variance in the judgment of facial expressions are a pleasantness- unpleasantness dimension and a "sleep-tension" or "level of activation" dimension. In the present research, it seems that the more intense (or activated) the emotion, the more correctly it was evaluated regarding pleasantness- unpleasantness and, to a lesser extent, the more correctly the emotion was identified. Thus, there may be an interaction of these two dimensions in determining judgments of facial expressions in the present study.

The only significant correlations in the comparison of affective traits and identification/evaluation scores were that there was a tendency for the person who described himself as

generally fearful to have a corresponding tendency towards reporting the facial expressions to be indicative of a "pleasant" experience and a tendency of the person who described himself as generally sad to have a corresponding tendency to judge the facial expressions as indicating an unpleasant experience. Interestingly, as discussed earlier, this self-report of fearfulness was significantly correlated, in a negative direction, with the use of projection as a defense mechanism. In addition, the self-report of sadness and the use of projection approached significance ($p < .10$) in a positive direction. Thus, the highly significant ($p < .001$) correlation of sadness with judging expressions to be unpleasant may be explainable, in part, by a concomitant employment of projection as a prominent defense mechanism. It is worth noting in this connection that some object relations theorists (e.g., Meissner, 1978) have argued that projection is prominent in depression as well as in paranoia.

In summary, the results of this study do not support the aspect of Plutchik's (1980) theory of emotions that postulates specific relationships between ego defenses and emotional traits. On the other hand, the procedure of employing photographs of facial expressions to assess various aspects of cognitive and affective functioning seems to remain promising. Future research might consider assessing emotional traits in a less direct manner as well as paying attention to the intensity and evaluative dimensions when looking for determinants of the judgment processes involved in tasks similar to those used in this research.

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APPENDIX A

CONSENT AGREEMENT

You are being asked to participate in a research study that is trying to see how well people can tell what others are feeling. Your participation is completely voluntary and will not affect your treatment in any way. The results will be kept confidential and your name will not be used. You have the right to end participation at any time and to refuse to answer any questions you find objectionable. There is a Patient's Rights Committee, headed by Chaplain Morgan to answer any complaints you may have. Your participation would be greatly appreciated.

Don Healy

Name _____

Date _____

Signature _____

APPENDIX B

MOOD PROFILE INDEX

Below you will find a list of words which describe moods or feelings. These words are presented in pairs and you are to pick the word from each pair that best describes your usual mood and circle that word. Sometimes it may be a little difficult to decide which word in a pair describes your usual mood better, but please try to make a choice for each pair even if the difference is very small. Please remember: make your choices in terms of your usual moods, and not necessarily in terms of how you feel now.

- | | |
|--------------|--------------|
| 1. agreeable | observant |
| 2. agreeable | cheerful |
| 3. agreeable | attentive |
| 4. attentive | affectionate |
| 5. attentive | cheerful |
| 6. alert | cheerful |
| 7. alert | affectionate |
| 8. observant | cheerful |
| 9. observant | affectionate |
| 10. timid | gloomy |

11. bored	timid
12. bored	blue
13. distrustful	sad
14. distrustful	gloomy
15. distrustful	annoyed
16. distrustful	unhappy
17. expectant	cautious
18. annoyed	sad
19. fearful	irritated
20. greedy	fearful
21. disgusted	fearful
22. amazed	irritated
23. greedy	irritated
24. fearful	angry
25. greedy	angry
26. revolted	angry
27. disgusted	angry
28. surprised	aggressive
29. surprised	gloomy
30. disgusted	amazed
31. greedy	disgusted
32. revolted	furious
33. astonished	aggressive
34. greedy	amazed
35. amazed	frightened
36. greedy	revolted

APPENDIX C

LIFE STYLE INDEX

Please indicate whether each of the following statements describes the way you usually feel or act. If the statement does not describe you, circle "No." If the statement does describe you, circle "Yes."

- | | | |
|---|-----|----|
| 1. I am a very easy person to get along with. | Yes | No |
| 2. I sleep more than most people I know. | Yes | No |
| 3. There has always been a person whom I wished I were <u>like</u> . | Yes | No |
| 4. If I get medical treatment, I always try to find out the <u>reasons</u> for everything that is done. | Yes | No |
| 5. When I want something I just can't wait to get it. | Yes | No |
| 6. I frequently blush. | Yes | No |
| 7. One of my greatest assets is my self-control. | Yes | No |
| 8. I sometimes have an urge to push my fist through a wall. | Yes | No |
| 9. I "fly off the handle" easily. | Yes | No |
| 10. When someone shoves me in a crowd, I feel like killing him. | Yes | No |
| 11. I rarely remember my dreams. | Yes | No |

- | | | |
|--|-----|----|
| 12. People who boss other people around make me furious. | Yes | No |
| 13. I get sick a lot. | Yes | No |
| 14. I am an exceptionally fair person. | Yes | No |
| 15. The more possessions I accumulate, the happier I am. | Yes | No |
| 16. In my daydreams, I am always the center of attention. | Yes | No |
| 17. I get upset at the thought of members of my family
walking around at home without clothes on. | Yes | No |
| 18. People have told me that I brag too much. | Yes | No |
| 19. When I've been rejected by someone, I've sometimes
felt suicidal. | Yes | No |
| 20. People admire almost everything about me. | Yes | No |
| 21. Sometimes I have been so angry that I have broken
things. | Yes | No |
| 22. People who start rumors really annoy me. | Yes | No |
| 23. I always see the bright side of things. | Yes | No |
| 24. I keep wanting or trying to change my appearance
through exercise. | Yes | No |
| 25. Sometimes I wish that an atom bomb would destroy
the world. | Yes | No |
| 26. People have told me that I tend to be too impulsive. | Yes | No |
| 27. I am free from prejudice. | Yes | No |
| 28. I'm annoyed by the fact that people show off too much. | Yes | No |
| 29. I hate hostile people. | Yes | No |
| 30. I try very hard not to be nasty to anyone. | Yes | No |
| 31. I am the type that never cries. | Yes | No |
| 32. I smoke heavily. | Yes | No |

33. I have trouble giving up anything that belongs to me. Yes No
34. I have a bad memory for faces. Yes No
35. I masturbate a lot. Yes No
36. I have trouble remembering people's names. Yes No
37. If someone bothers me, I don't tell it to him,
but I tend to complain to someone else. Yes No
38. I am always willing to listen to all sides of a
problem even when I know I'm right. Yes No
39. I never feel fed up with people. Yes No
40. I find it hard to sit still for any length of time. Yes No
41. I can hardly remember anything that happened in
my childhood. Yes No
42. It takes me a long time to see bad qualities in
other people. Yes No
43. I believe it's better to think things out than to
get angry. Yes No
44. People tell me I'll believe anything. Yes No
45. People who try to get their way by yelling and
screaming make me sick. Yes No
46. I put things that I don't like out of my mind. Yes No
47. I'm always optimistic. Yes No
48. When I go on a trip, I plan every detail in advance. Yes No
49. Sometimes I find myself much angrier at someone
than is justified by the situation. Yes No
50. When things don't go my way I sometimes sulk. Yes No

51. In arguments, I enjoy pointing out mistakes in the other person's thinking. Yes No
52. When I am confronted by a challenge, I feel a strong urge to meet it. Yes No
53. I feel outraged at dirty movies. Yes No
54. I get irritable when I don't get attention. Yes No
55. People tell me I'm not very emotional. Yes No
56. When I make decisions, I usually have second thoughts. Yes No
57. When someone says I am unable to do something, then I really want to do it. Yes No
58. When I drive a car, I sometimes get an urge to hit another car. Yes No
59. Most people annoy me because they are too selfish. Yes No
60. I always take work with me when I go on vacation. Yes No
61. Certain kinds of food disgust me. Yes No
62. I bite my nails. Yes No
63. I have been told that I tend to ignore problems. Yes No
64. I am a heavy drinker. Yes No
65. When I hear dirty jokes I feel very embarrassed. Yes No
66. I have dreams in which something repulsive appears. Yes No
67. Ambitious people annoy me. Yes No
68. I lie a lot. Yes No
69. Pornography is disgusting. Yes No
70. My bad temper has caused me trouble on my job. Yes No
71. One of the things I hate about people is that they are insincere. Yes No

72. When I am disappointed, I act very moody. Yes No
73. When I read or hear about a tragedy, it never seems to affect me. Yes No
74. Touching anything slimy makes me feel nauseous. Yes No
75. When I become upset, I can't help acting childish. Yes No
76. I seem to have a lot of arguments with people. Yes No
77. I never feel emotional at funerals or funeral homes. Yes No
78. I hate people who always try to be the center of attention. Yes No
79. Most people are obnoxious. Yes No
80. Using public bathrooms is very upsetting to me. Yes No
81. It is very difficult for me to use dirty words. Yes No
82. I am irritated because people can't be trusted. Yes No
83. I have a strong need to have people tell me that I am sexually appealing. Yes No
84. I can't seem to finish anything that I start. Yes No
85. I always try to wear clothes that will make me as attractive as possible. Yes No
86. My moral standards are higher than those of most people I know. Yes No
87. In arguments, I'm always more logical than the other person. Yes No
88. People with low moral standards make me sick. Yes No
89. When someone bumps into me, I go into a rage. Yes No
90. I fall in love often Yes No

91. People tell me I'm too objective about everything. Yes No

92. When I see someone who is bloody it almost never
bothers me. Yes No

APPENDIX D

I-M SERIES: FACIAL EXPRESSIONS OF EMOTIONS

Joy



Fear



Contempt



Shame



Sadness



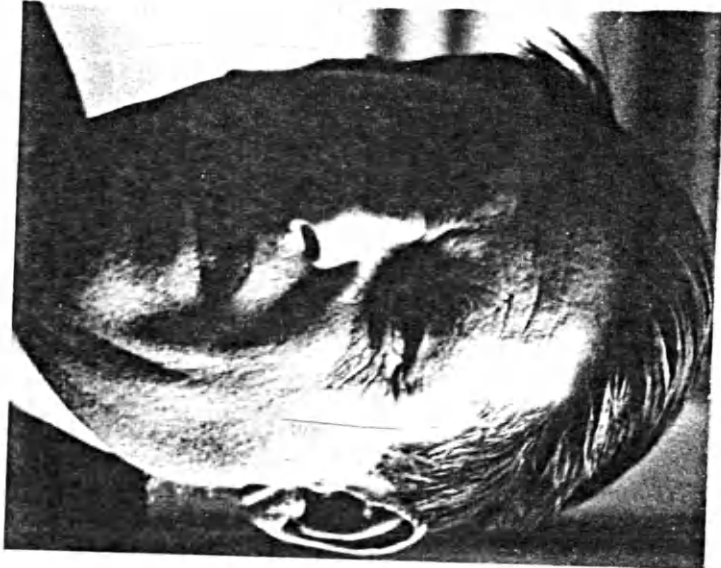
Surprise



Anger



Disgust



Interest



VITA

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