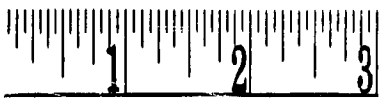
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A PROJECTIVE STUDY OF PSYCHOANALYTIC MECHANISMS OF DEFENSE

by

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of the requirements for the degree of
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CHAPTER I

BACKGROUND OF THE PROBLEM

A. The Role of the Ego in Psychoanalytic Theory

Most observers of the current fields of psychodynamics would agree that the concept of the "ego" must play a central role in any comprehensive theory of personality development, psychopathology, or psychotherapy. The ego is a concept referring to the organized part of the total personality whose function it is to mediate between internal urges of the organism and external demands of the environment. Psychoanalysis, the most prominent of personality theories, has in recent years shown ample interest in the character and function of the ego. This was not always the case. In its early period, having made some revolutionary discoveries concerning the existence of an unconscious mental life, psychoanalysis was naturally more intent upon exploring the content of this new mental life than investigating the prosaic conscious personality. Many far-reaching formulations ensued, such as the theory of psychosexual development, the meaning of neurotic symptoms, and the meaning of dreams, all of which greatly broadened our understanding of normal emotional growth as well as of pathological states.

While the aim of psychoanalysis was always to cure the emotionally ill person, that is, to strengthen the ego in its relations with both

the internal and external environment, at this stage of its development it was truly "depth oriented". As Anna Freud points out, the primary concern with the ego was to immobilize it through hypnosis or free association so that the repressed internal urges could achieve verbal expression and thus be neutralized (7, pp. 11-13). Relief from symptoms often followed but relapses were frequent.

It was not until Sigmund Freud turned his full attention to the forces inducing repressions that the ego assumed its place in analytic theory and psychoanalysis, some twenty years after its birth, became a more complete theory of the total functioning of the personality. In a series of monographs beginning around 1920 (9, 10, 11), Freud mapped out the structure and function of the ego and superego, thus laying the groundwork for current theory in these areas. If it is true that psychoanalysis was tardy in giving recognition to the ego, what shall we say of psychology, which lagged behind for another twenty years before G. W. Allport (1) and others insured the concept's scientific respectability?

B. The Ego and its Functions

The task of the ego is not an easy one. In relation to the external world it is faced with the myriad of life events and circumstances which present threats, obstacles, and restrictions upon the attainment of the organisms's desires. These desires may be merely the satisfaction of relatively simple tissue needs or such highly complex ones as those involving value systems, or the needs for

expression and synthesis. As its tools the ego utilizes such functions as motility, memory, perception, and thought.

Endopsychically, the ego's job is no less difficult. On one side lie the insistent demands for immediate gratification of socially unacceptable impulses. At times these forces may overwhelm the ego and the resulting disintegration leads to psychosis. On the other side, the superego, the internalized agent of society, enforces restrictions of its own in addition to presenting ideals to be striven for. Transgressions against its values are punished by guilt. Again, the ego must achieve some balance among these often-contradictory internal forces if the organism is to thrive. To handle the unacceptable or painful impulses the ego uses a variety of methods known as the ego defense mechanisms. Following Fenichel (6, pp. 144-160), these are sublimation, denial, introjection, isolation, undoing, repression, regression, reaction formation, and projection. Each of the defenses -- with the exception of sublimation -- represents a manner of blocking the discharge of unacceptable impulses. Because the warded-off impulses remain active and unsatisfied, although unconscious, they require constant counter-pressure from the ego to hold them in check. This process deprives the organism of valuable energy which could be used more productively. The checked impulses continue to seek release through derivatives -- related, substitute impulses which often gain expression in neurotic symptoms. For these reasons defense mechanisms are considered pathogenic activities. Sublimation is the only successful method, since the impulse is allowed discharge in a

socially acceptable form, usually through a change in the aim or object of the impulse. The entire defensive process remains an unconscious activity of the ego, so that an individual is not aware of the operation of the mechanisms. The observer may infer their existence through the apparent absence of appropriate feelings and impulses, the rigidity of the ego in certain spheres, and the misperceptions of reality in areas where dangerous impulses are aroused.

C. The Practical Importance of Ego Defense

Of what practical value are these formulations, apart from their theoretical interest? It may be seen from this brief description that ego defenses play a significant part in the organization and functioning of the personality. Their role in psychopathology is crucial. It has been said that we all have the same kinds of basic impulses; the manner in which the ego handles them determines whether psychopathology will ensue. The intimate relationship between certain defense mechanisms and specific neurotic illnesses has been explored extensively by psychoanalysts. Repression of sexual impulses is said to be the cornerstone of conversion hysteria, while in obsessive-compulsive neuroses the mechanisms of regression and reaction formation are prominent. The integral connection between projection and paranoid disturbances has long been accepted. Today the clinical psychologist uses his knowledge of the operation of defense mechanisms as an important aid in diagnosing his patient's illness. The concept

of defense has become a working principle in the clinic.

In the area of character formation the clinician encounters another process where his knowledge of defense mechanisms proves of value. Character refers to the enduring traits of the ego. Many of these traits are crystallizations of defensive attitudes against impulses. The ego becomes altered permanently in the defensive attitude as if to obviate the need for recurring defensive activities. The counter-pressure is a part of the ego, long-lasting and consciously acceptable. The clearest example of this process is the emphasis on cleanliness and orderliness in the "anal character", based on a reaction formation against the smearing of feces. Reich (17, p. 47) has described how these lasting character traits, which he aptly designates the "armor" of the ego, spill over into observable body attitudes as well as mental attitudes:

> The character resistance expresses itself not in content of the material, but in the formal aspects of the general behavior, the manner of talking, of the gait, facial expression, and typical attitudes such as smiling, deriding, haughtiness, over-correctness, the manner of the politeness or of the aggression, etc.

Probably the most important application of the concept of ego defense comes in psychotherapy. Naturally the therapist benefits from his insight into the role of defense in character and symptom formation. In addition, his entire therapeutic technique revolves around the analysis of ego activities as well as unconscious processes. The ego activities which the analyst is most concerned with are those involving resistances. The patient in treatment opposes the therapist's

efforts to bring about the verbal expression of the unconscious forces in the benign therapeutic atmosphere, because this material is still too threatening to the ego. The ego resistance must itself be analyzed before sufficient relief from anxiety is gained to permit the release of deeper feelings. The form of the resistance gives the therapist valuable information regarding the ego's defenses against impulses. In connection with the phenomenon of transference, the defenses enter the picture in another way. Patients in psychotherapy transfer to the therapist the feelings and emotions originally bound to significant persons (usually the parents) in their early life. They also transfer the defenses used earlier to handle infantile impulses. The analysis of the transference is probably the most important part of psychoanalytically-oriented treatment.

D. The Need for Research

One would suppose that a subject of such theoretical and clinical significance would have been grasped eagerly by the psychologist as a fertile field for research. Unfortunately, this supposition would prove illusory. For one thing, the concepts of psychoanalysis have proven difficult to test in the laboratory. For another, it is only recently that psychology has accepted the Freudian theories of personality as worthy of scientific consideration. The newer attitude of general psychology is exemplified in the Presidential Address of E. R. Hilgard before the American Psychological Association in 1949 (12), in which he called for the establishment of psychodynamics laboratories

on a par with the laboratories of perception, learning, etc., of the general psychologist.

Regarding the experimental work which has been done, one feels justified in agreeing with Rapaport that most of it is irrelevant to the psychoanalytic concepts purportedly under test (16, p. 2). Sears (18) has reviewed the early experimental literature relating to psychoanalytic theory. With the exception of a large number of studies unsuccessfully attempting to measure repression, there is no extensive research on individual mechanisms. Since Sear's review, studies by Postman, Bruner, and McGinnies (15, 14) have given new impetus to the testing of repressive forces in a perceptual framework. But by and large, the area of ego defense remains virtually untouched by the psychologist. No work has been done on factors governing the choice of mechanisms by individuals or on the consistency with which the mechanisms are applied.

The problems needing investigation are numerous. The theoretical speculations themselves are far from being complete and unequivocal. There are many conflicting views and many gaps in our knowledge of ego defenses. Anna Freud, probably the foremost authority in this area, readily acknowledges, concerning the genetic sequence of ego defenses:

> These differences of opinion bring home to us the fact that the chronology of psychic processes is still one of the most obscure fields of analytic theory. . . . So a classification of the defence-mechanisms according to position in time inevitably partakes of the doubt and uncertainty which even to-day attaches to chronological pronouncements in analysis. It will probably be best to abandon the attempt so to classify them and, instead, to study in detail the situations which call them forth. (7, p. 57). (Italics mine).

The theories of psychoanalysis deriving mainly from experience with disturbed individuals have tended to emphasize psychopathology. Little is known about the operation of defenses in the "normal" personality. We wonder what determines the choice of a given mechanism by an individual. We would like to know if most people have consistent, enduring preferences for given kinds of defensive activities which they apply in many different situations, or whether the type of impulse being defended against determines the type of defense used. How is conflict related to the choice and consistency of defense? Finally, we would like to know what kinds of internal relationships exist among the defenses themselves. Are there inherent qualities in the mechanisms which favor either convergence or divergence of preferences among them? This study does not presume to approach definitive answers to all these questions; it will attempt to investigate the following problems:

1) The consistency and stability of individual preferences among mechanisms;

2) The relationship between degree of conflict and consistency of defense;

3) The interrelationships of the mechanisms themselves.

In the next chapter a technique for the investigation of these problems will be described.

CHAPTER II

A TECHNIQUE FOR EXPLORING DEFENSES

The first step toward investigating mechanisms of defense is to secure an instrument which will tap defensive behavior. Such an instrument should ideally possess the following characteristics:

1) The material used to evoke the defensive reaction should be relevant to significant personality dimensions, i.e., the stimuli should approach as closely as possible actual stimuli which instigate defenses.

2) The responses given by the individual should be unambiguously related to his defenses.

3) The situation should allow for a range of possible defensive reactions so that the individual can exercise his personal preference.

A. The Test Situation

No ready-made test appeared to satisfy all these criteria. The most promising possibility for providing a framework for a study of ego defenses was offered by "The Blacky Pictures", a recent projective technique (3). This test was developed by Blum (2, 4) for the explicit purpose of measuring major psychoanalytic dimensions, including the stages of psychosexual development and significant object relationships. Consequently, it represents a departure from the traditional conception

of projective situations as ambiguous stimuli upon which the subject imposes his own organization. The Blacky test was constructed to follow the psychoanalytic theory of psychosexual development systematically. Therefore, the pictures suit the purposes of this study admirably: those impulses which must be dealt with in the natural course of development are also represented in the test and thereby a fertile situation for the operation of the ego defenses is created. Thus, the first criterion, that of significant relevant stimuli, appears to be satisfied. The remaining two criteria will be considered subsequently in the light of special modifications of the Blacky test procedures for this study.

The Blacky Pictures consist of a series of eleven cartoons of a dog family, plus an introductory cartoon. Blacky, the central character in the cartoons, is involved in various situations with Mama, Papa, and Tippy, who is generally taken to be a sibling dog. On the test administration, which may be done individually or in groups, the subject is required to write a story about each cartoon much in the manner of the Thematic Apperception Test. Each cartoon is introduced by a short descriptive comment such as, "Here is Blacky with Mama". A multiple-choice inquiry is given after each cartoon and the subject is also required to indicate which cartoons he likes and dislikes, as well as the ones liked best and least. These latter procedures were replaced in this study by an inquiry which will be described below. For research purposes, Blum has developed specific criteria which enable one to score the stories, as well as inquiry and preferences, for greater or lesser involvement on the theoretical

dimension associated with that cartoon. The dimensions measured by the various cartoons are the following:

Cartoon I	Oral Eroticism
Cartoon II	Oral Sadism
Cartoon III	Anal Expulsiveness Anal Retentiveness
Cartoon IV	Oedipal Intensity
Cartoon V	Masturbation Guilt
Cartoon VI	Castration Anxiety (Males) Penis Envy (Females)
Cartoon VII	Identification Process
Cartoon VIII	Sibling Rivalry
Cartoon IX	Guilt Feelings
Cartoon X	Ego Ideal (Males) Love Object (Females)
Cartoon XI	Ego Ideal (Females) Love Object (Males)

At this point, let us digress for a moment and examine the conditions which must exist if defenses are to be aroused in a projective situation like the Blacky test. First, the subject must identify himself with the central character in the cartoon.[1] He must be able to experience vicariously the problems, conflicts, and emotions portrayed. Stated in another way, what is external to the subject must become internalized. The impulse behavior exhibited in the cartoons must stimulate in the subject the same impulse tendency,

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1. To facilitate the identificatory process, Blacky is introduced as the son to male subjects and as the daughter to female subjects. In group administration, the sexes are tested separately.

which he then has to cope with in some way. Applying a defense against the impulse is one way of coping with it. This first condition implies the second condition necessary for the instigation of defensive behavior in a projective situation: the cartoons must be highly charged affectively. Only impulses and feelings are subject to defenses and consequently the cartoons must deal with material which will stimulate emotional responses in the subject. If there is to be a defense, there must be something against which to defend.

Applying this analysis to the Blacky test situation, we must assume, as in the case of similar projective techniques, the identification of the subject with the cartoon figures. Regarding the emotion-provoking qualities of the stimuli, several of the cartoons are of a different order than the others. Cartoons VII (Identification), X (Ego Ideal), and XI (Love Object) attempt to appraise types of object relationships and do not deal directly with unacceptable impulses. On a priori grounds, therefore, these cartoons were omitted from the study and the remaining ones were renumbered 1 to 8 consecutively.

B. The Defense Preference Inquiry (DPI)

The Blacky Pictures, then, provide a vehicle for the instigation of defensive activities. How are these defenses manifested? The subject may reveal them in the spontaneous stories he writes to the cartoons. A review of a number of protocols confirmed that this was often the case but by no means consistently so. Frequently the defenses were not indicated at all in the spontaneous stories or

could only be inferred from significant omissions. In order to facilitate the identification of the defenses which were activated, and also to provide more information about the subject's preferences among mechanisms, a ranking type of inquiry was developed for each of the eight cartoons.

This inquiry consists of four statements representing different defenses which the subject is asked to rank on the basis of agreement with his interpretation of the cartoon. The statements themselves describe Blacky's behavior or feelings in the given situation, or the subject's interpretation of them, and are constructed to represent the following ego defenses: repression, regression, reaction formation, and projection. These mechanisms may be defined in the following manner:

> Repression (R) - A process involving the keeping out of consciousness, or the removing from consciousness of memories, perceptions, feelings, or thoughts which are painful to the ego. (No attempt was made in this setting to draw a fine distinction between repression and neighboring concepts such as denial, the overt negation of reality; and isolation, the separation of an idea from its emotional component.)
>
> Regression (Rg) - A process involving the return to a mode of behavior characteristic of an earlier period, when faced with an anxiety-provoking situation. The

regression may involve acts, thoughts, or fantasy and it may be libido regression, which represents a shift from more adult forms of sexuality to more infantile ones, or ego regression, which involves a change in the ego to a less differentiated form.

Reaction Formation (RF) - A process referring to the development in the ego of conscious attitudes which are the direct antitheses of the unacceptable impulses. It goes one step further than repression in that the ego alters itself permanently so that it constantly opposes the impulse.

Projection (P) - A process which involves the unconscious attribution to others of subjective impulses or characteristics which the ego is unable to accept in itself.

Each set of four items representing the above defenses is ranked by the subject after he has written his spontaneous story. The order of presentation of the mechanisms is varied systematically throughout the eight cartoons. In ranking the given statements, the subject thereby indicates not only his preferred choice of defense but also the one he likes least and those to which he is relatively indifferent. The eight sets of rankings of the same four mechanisms afford a replication of his defense preference structure.

The Defense Preference Inquiry thus appears to satisfy the

the second and third characteristics of an effective instrument to tap defenses: it permits the identification of the subject's responses in terms of defense, and it allows the subject latitude in imposing his own preferences.

The importance of providing a variety of defensive possibilities is emphasized by a recent statement by Anna Freud (8, p. 491). Discussing the hazard of attempting to measure infantile strivings by direct questioning of adults, she indicates the varied defensive adjustments which may be made to the same impulse:

> The boy may repress his love for the mother and become oblivious of it. His answer to a questionnaire in later life would have to be: "I have no particular attachment to my mother, and cannot remember ever having had one." He may build up a reaction formation against this love, and would then answer to the questionnaire: "I have always had a particular dislike for my mother." He may project this striving onto the environment, which would make him answer: "I have never had much interest in my mother; I cannot understand why so many other people have in theirs." He may regress from the anxieties aroused by competing with the father for the mother's love, develop a passive-feminine attachment to the father, and answer as an adult: "I much preferred my father to my mother."

The question may arise regarding the selection of these particular mechanisms, (repression, regression, reaction formation, and projection), for inclusion in the Defense Preference Inquiry. Some selection was necessary in the interest of practicality. It was not feasible to ask the subjects to rank nine different mechanisms eight times over, even if it had been possible to construct items for all the defenses. The mechanisms finally chosen were selected

for these reasons:

1) They are among the more important mechanisms and are commonly encountered in the literature and in clinical practice.

2) They represent a broad sampling of types of defensive activities.

3) They possess sufficient generality to be applicable in the wide variety of situations encompassed by the Blacky Pictures.

4) Their theoretical definitions are explicit enough to permit the construction of inquiry items. They are also clearly distinguishable from one another.

In the case of repression, it was impossible to differentiate it from certain related mechanisms (not used in this study), even though they differ theoretically. For example, if a subject acknowledges the existence of an impulse and then proceeds to ignore it, we have what sounds like an isolation response. Similarly, when a subject says that it is not a given impulse or act but something else, it seems like a denial. Yet both may really be repression responses in this situation. This becomes clearer when we realize that the subject has two minutes to examine each cartoon stimulus and that the cartoon has an introductory comment which helps to structure it. Both of these factors make it difficult to refuse to recognize the content in some way. The "isolation-like" and "denial-like" responses may be the closest he can get to repression on certain cartoons (Nos. III and V in particular). In short, the operational definition of repression tends to be fairly broad. However, what was lost in precision may be gained in scope since several closely related mechanisms are thus included in the definition.

It should be noted that only pathogenic defenses have been used in the inquiry. Would not the inclusion of sublimation, the successful defense, permit a better picture of the individual's defense preferences? Sublimation is a process which is distinguished by a discharge of the impulse in a desexualized, usually socially acceptable manner. Since it is not defined by its behavioral manifestations, but only by energy discharge, it becomes impossible to write descriptive items to represent sublimation. Actually, as Fenichel points out, sublimation is not a single mechanism, but a number of different ones (6, p. 141). Apparently almost any activity can be used for sublimation purposes as long as it does not cause a blocking of the impulse and necessitate a constant counter-pressure. The concept of sublimation is an important psychoanalytic contribution but, unfortunately, it remains one of the most obscure.

A sample set of defense preference items is shown in Table 1. Cartoon 4 (Cartoon IV of the Blacky Pictures) is the Oedipal situation. Blacky is seen snarling in the foreground behind bushes while Mama and Papa are holding paws and rubbing noses in the background. Small hearts appear over their heads. The introductory comment is, "Here are Blacky, Mama, and Papa."[1]

Female subjects are presented the identical preference items with the appropriate substitution of female pronouns wherever Blacky

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1. This comment was altered from the original, "Here Blacky is watching Mama and Papa.", in order not to provide a barrier to the choice of the repression alternative.

is referred to. The complete Defense Preference Inquiry will be found in Appendix A.

TABLE 1

THE DEFENSE PREFERENCE INQUIRY FOR CARTOON 4

A.	Blacky has been feeling irritable, but his (her) mood will change when he (she) considers going over to join his (her) parents in their affectionate activities. (RF)*
B.	Blacky has been walking along muttering about his (her) own troubles so he (she) isn't paying attention to the fact that Mama and Papa are making love. (R)*
C.	Though Blacky is the one behind the bushes, he's (she's) still upset by the thought that his (her) parents are hiding their love-making from him (her) in order to keep him (her) out of the group. (P)*
D.	As Blacky watches Mama and Papa make love, he'll (she'll) work himself (herself) up to a display of anger and helplessness which will force Mama to spend some time taking care of him (her) again. (Rg)*

* The identifying symbols do not appear on the inquiry.

In constructing the inquiry, the author was concerned with avoiding the numerous artifacts which might induce a preference for a given item which was not personally motivated. Factors such as unequal length of alternatives, the presence of obscure or emotionally "loaded" words, or unequal amounts of card description in the items

would serve to elevate or depress artificially the popularity of certain items in any set of four. A condition of this sort would be doubly undesirable: an invalid measure of the individual's defensive preferences would be obtained, and the items would have failed to differentiate individuals, which is a major purpose of the inquiry. In order to avoid the situation of grossly disparate distributions of ranks within a set of statements, various forms of items were pretested on about seventy-five undergraduate and graduate college students. The aim was to evolve items in each set which were roughly equal in popularity for the group and were still consonant with the requirement of validity. Where two seemingly valid items were available to represent a mechanism, the one which was closest in popularity to the remaining mechanisms was chosen. This procedure has the effect of producing more rectangular distributions of ranks than might otherwise be obtained.

C. The Face Validity of the DPI

Before putting the DPI into operation, it was desirable to obtain some measure of its validity. Since the author had constructed the inquiry to represent defense mechanisms on a theoretical basis, the items were submitted to three Ph.D. clinical psychologists to be identified.[1] The thirty-two items (four for each of the eight Blacky cartoons) were placed individually on 3" x 5" cards, identified only

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1. The author wishes to thank Drs. I. Sarnoff, H. L. Raush, and A. T. Dittmann for their participation in this part of the study.

by a code number and the number of the Blacky cartoon to which they referred. The cards were presented in random order to the judges, who were told only that each item represented one of the four defense mechanisms which were used. Definitions of the mechanisms were provided and the judges were asked to refer to the relevant cartoon and introductory comment in order to judge the statements properly. In order to discourage keeping track of the number of items which pertained to each cartoon, the judges were requested not to refer back to items that had been previously identified. The results of these procedures indicated that the judges were able to identify the defense mechanisms represented by the items with a high degree of accuracy. They achieved an average of 94% correct identifications. Only one item of the thirty-two was incorrectly identified by more than one judge. This item (see Appendix A footnote) was missed by all three judges and therefore was completely rewritten.

The results of the judges' identifications of the inquiry items offered satisfactory evidence of the face validity of the DPI so that the author could proceed with some degree of confidence to the collection of data. Further evidence of validity for the inquiry must await future experimentation (see Chapter V).

D. Potentialities and Limitations of the Design

Once a technique for measuring preferences is available, certain problems regarding defense mechanisms become amenable to exploration through our data. One uncertain aspect of the functioning of defense in a non-pathological group pertains to the consistency with which

individuals prefer the same defenses in various situations. It is the accepted viewpoint that neurotics and psychotics tend to use, or over-use, one or more mechanisms to the detriment of their adjustment to their internal and external environments. But what of the normal person? Will he too have favorite defenses which he generalizes to many different situations if we force him to make a choice, or will he have different defense preferences in different situations? By analyzing a subject's rankings for the eight cartoons we will be able to get an indication of the internal consistency of his defense preference hierarchies in eight different situations. It may be that our subjects will show marked defense preference hierarchies or no consistent preferences at all. In the latter case the question will arise whether the subject has no real preferences but is only behaving randomly in regard to the defenses. It will be shown in the next paragraph that this issue can be clarified if it arises.

Another kind of consistency of defense preference is the consistency with which people prefer the same defenses over a period of time. To avoid confusion between internal consistency and temporal consistency, the latter phenomenon will be referred to as the "stability" of defense preferences. A measure of the stability of a subject's defense preferences may be gained by a retest of the inquiry. If a subject is consistent in his preferences we might expect his choices to be stable also. On the other hand, if inconsistency appears, the stability of the preferences will enable us to evaluate it. A subject who behaves randomly in making his rankings on the first testing

is not likely to reveal much stability over time. Conversely, if his inconsistent choices are stable, the original inconsistency cannot very well be attributed to chance. Some other factor must be sought to account for it.

Another issue of considerable interest is the relationship between defense preference and degree of conflict. It may be argued that all subjects have consistent defense preferences in areas in which they are conflicted and only show inconsistent behavior in areas where they have already resolved any conflict about their handling of the given impulses. If this is the case, we might deduce further that more consistent defense preferences would appear for the group in cartoons where greater conflict is present than would appear on cartoons where there is less conflict. This latter hypothesis can be tested by our data since the spontaneous stories can be scored as an independent measure of degree of conflict. The consistency of defense preferences in more conflicted areas can then be compared with the consistency of defenses in less conflicted areas. If the hypothesis is true, the more conflicted areas should reflect a higher degree of consistency of defense than the others. It must be kept in mind, however, that the Blacky situation does not provide a measure of presence or absence of conflict, but rather two relative degrees of conflict.

Moving from the operation of mechanisms within individuals to the level of the mechanisms themselves, there are further relationships which may be clarified and tested by our data. Reaction formation theoretically appears to be closely related to repression. Both

involve the banishment from consciousness of unacceptable impulses. In repression, however, the ego remains unchanged, while the crux of reaction formation is the alteration which takes place in the ego in the direction opposite to the unacceptable impulse. Reaction formation appears to be a logical extension of repressive activity since it goes a step beyond repression in the ego's alteration in the direction of the counter-cathexis. Some authorities maintain that reaction formation only occurs in conjunction with repression. From this we may predict that when reaction formation is chosen as the preferred mechanism, repression will also be liked. The reverse does not necessarily follow as the repressor may not go further in the direction of reaction formation. The same type of analysis may be applied to investigate whether similar relationships exist among the other mechanisms used in this study.

It is equally necessary to indicate some of the problems we cannot clarify with this technique as well as those which can be investigated. It might appear that the analysis of the group's defense preferences would be relevant to the question of the relationship between impulses and defenses, i.e., are certain defenses associated with certain impulses? Genetically, there are theories stating that particular defenses first appear in conjunction with particular stages of psychosexual development. Introjection and projection, for example, are said to develop in the oral period where their basic model is the taking in, or spitting out, of pleasant or unpleasant objects. Reaction formation is supposed to be associated with the anal period, repression with the Oedipus Complex. It would be inviting but quite unwarranted

to try to test whether these relationships persist in our population. The group popularity of any mechanism on a given card must be regarded with caution. It is possible for the various items on the DPI which represent a given mechanism to vary along a dimension of "strength". For example, there can be weaker and stronger repressions. In varying degrees this is true for all the mechanisms. Since no attempt was made to equate systematically the level of defenses tapped (an impossible task), the popularity of a given mechanism on a given card may be the result of the fortuitous grouping of a weak item with stronger ones, rather than any intrinsic preference the group has toward that mechanism. This factor makes the interpretation of group preferences as revealed by rankings on the DPI uncertain. For the interested reader, the distributions of ranks for each mechanism on the eight cartoons are presented in Appendix C.

The possibility of sex differences in defense preference is another question which cannot be satisfactorily answered by this study. The method of item construction, revising items on the basis of their pretest popularity with combined male and female subjects, would have the effect of distorting any sex differences which may actually exist. Therefore, the data derived in this study cannot be an adequate test for this type of group difference. Males and females were treated together in the analysis of data. The reader who wishes to examine mean ranks broken down by sex can consult Appendix D.

A further word of caution must be added concerning the interpretation of a subject's ranking of mechanisms on any cartoon. If he ranks projection first, it may be inferred that he prefers it to the

other three mechanisms available; it may not be assumed ipso facto that he would use it in a similar life situation. All possible defense choices are not available to him, nor can he indicate that he may prefer none of those offered. However, the greater the frequency with which a subject shows the same preferences, the more confidence may be felt that he does use the mechanism.

It should be emphasized that these limitations do not interfere with the purpose of the study -- to inquire into the operation of the consistency of defense preferences within individuals. All subjects were submitted to the same conditions and individual variations in response to the stimuli are meaningful data. Item popularity, which could have operated to produce a spuriously high degree of individual consistency, turned out to be sufficiently spread among the mechanisms to be disregarded as a serious source of error in the interpretation of individual consistency. While certain mechanisms are highly preferred on individual cartoons, there is no consistent overall preference for any one mechanism. (Appendices C and E).

CHAPTER III

EXPERIMENTAL PROCEDURES

A. Subjects

The subjects were 104 undergraduate college students, recruited from introductory courses in Psychology, Sociology, Botany, and Political Science. During the initial contact, they were informed only that the study involved an area of personality and that it was being conducted by clinical psychologists. Each subject was asked to volunteer for two one-hour sessions, and the group was told that there would be an opportunity to discuss the study with the experimenters after all the data had been collected. Meetings were held for this purpose at the conclusion of the study.

The students were offered a selection of evening times to facilitate volunteering. Men's and women's groups were scheduled at different hours. To encourage those who volunteered to appear, postcard reminders were sent several days before the scheduled meetings. Approximately half of each group volunteered and, of the volunteers, half actually came. Thus, about four times the desired number of subjects had to be approached during the recruiting period. Table 2 presents the size of each group and the date it was tested.

TABLE 2

TEST ADMINISTRATIONS

Males		Females	
Date Tested	Number	Date Tested	Number
April 18, 1951	19	April 19, 1951	12
April 19, 1951	12	April 23, 1951	33
May 15, 1951	10	May 15, 1951	18
	41		63

B. Test Administration

When the subjects arrived for the study, they were seated in four rows at the front of the room facing a large projection screen. All testing was done in the same room, a tiered lecture hall on the campus, with accommodations for about one hundred people. At the beginning of the session, each subject filled out a personal data sheet (Appendix B). This schedule contained a code number which the subject used to identify all the materials he used subsequently. The subject's name appeared only on the personal data sheet.

For the first half hour, the subjects participated in an associated experiment (5) which involved the tachistoscopic presentation of pairs of Blacky pictures. The subjects knew nothing about the stimuli except that they were pictures. The exposure times were short enough so that the subjects had, at best, only a minimal idea of the content of the pairs of flashes they were asked to judge for

clarity. When this procedure was completed, the administration of the Blacky Pictures was begun in the standard group manner.

The Blacky cartoons were projected onto the screen by means of $3\frac{1}{4}$" x 4" slides. Subjects were provided with booklets in which to write their spontaneous stories for the cartoons. These booklets also contained the Defense Preference Inquiry. After writing each story in the pages provided, the subject turned a page and found the inquiry for that story. This method of administering the DPI differs from Blum's technique in administering the standard Blacky inquiry, since he projects his inquiry questions also.

The instructions and procedures are as follows:

> What we have here is a bunch of cartoons, like you see in the funny papers, except that there are no words. We'll show them to you, one cartoon at a time, and the idea is for you to make up a little story about each one -- just tell what is happening in the picture, why it's happening, and so on. Since this is sort of a test of how good your imagination can be, try to write vividly about how the characters feel. You will have two minutes for each story, which means about one or two paragraphs on each cartoon. It is desirable to write as much as possible within the time limit. You will be told when there are only 30 seconds remaining.
>
> After your two-minute story on each cartoon, you will be given a signal to turn the page. On the following page are a series of four statements which you will be asked to rank. The exact procedures will be explained in more detail when we reach the first cartoon.
>
> Before we start, here are the characters you'll see in the cartoons. (The introductory cartoon is shown for about 20 seconds.) There's Papa, Mama, Tippy, and the son (daughter), Blacky, who is the main figure in the stories. All right, now for Cartoon 1: (Flash on screen.) Here is Blacky with Mama. Turn to Page 1 and write your story. Remember you have only 2 minutes. (At the end of two minutes): Stop. Do not turn the page until I give the signal.

> On the next page are four statements describing some possible feelings or reactions of Blacky in the cartoon you just saw. We want you to rank these statements on how well you think they represent the way Blacky seems to be feeling or acting in that situation. Naturally, there are no right or wrong answers involved. These are just a few of many possible statements about the cartoon. We just want to know how well these four fit the way you see the story. Write a "1" alongside the statement that fits best, a "2" alongside the next best, a "3" for the next, and a "4" for the one that fits worst. Regardless of how well or poorly the statements seem to fit, be sure to rank them all from 1 to 4. Never leave a statement unranked. While ranking the statements, do not turn back to your story. You will have 45 seconds for each set of rankings, so work rapidly. Try not to glance at your neighbor's paper. Please do not turn any pages until the signal is given. Any questions? All right, turn to Page 2 and begin.

The administration of the eight Blacky Pictures and the DPI took about thirty minutes. At the end of this period the subjects were thanked and told they would be notified by mail when to return for the second session, after which there would be a complete discussion of the study. Questions about the test were not entertained at this time.

In May, approximately one month after their first testing, the seventy-six subjects who had been tested in April were contacted by postcard to return for the retest session. At that time, thirty-eight subjects, exactly half of the group, appeared. The collection of retest data is summarized in Table 3.

At the retest session, the subjects were administered only the DPI. It was realized that it would be impossible to re-create the same set toward the spontaneous stories a second time after the subjects had been involved once with the inquiry. It was also felt

TABLE 3

THE RETEST ADMINISTRATIONS

Sex	Date Tested	Number
Males	May 17, 1951	10
Females	May 18, 1951	28
		38

that motivation could be maintained at a higher level if the retest session were kept short. To reacquaint the subjects with the Blacky cartoons, each one was projected twenty seconds, after which the rankings were made for that cartoon in the booklet. This was repeated for the eight cartoons.

The instructions for the retest were as follows:

> Tonight we are going to do something similar to last time. On the basis of your judgments last time, some changes have been made in the statements you ranked.[1] Tonight we would like you to rank the statements again. To remind you of the cartoons, each one will be shown for twenty seconds and then you will make your rankings in the booklet. These are the instructions for the rankings:
>
> (The instructions for the inquiry on the first session were then repeated verbatim. See pp. 28, 29.)

Since only one month had elapsed between testings, the subjects were queried regarding their recall of the test material at the end of the retest session. The almost universal response was that they recognized the Blacky cartoons but did not remember the inquiry

1. No change was actually made in any inquiry item.

items. (None of the subjects noted that the items had not actually been altered.) This suggests that one month is a satisfactory interval for retesting an inquiry of this type.

C. Statistical Procedures

We may consider at this point the raw data available for each subject at the conclusion of testing. In the order of acquisition we have: information gathered from a personal data sheet; the spontaneous stories for eight of the Blacky Pictures; and the rankings of the mechanisms on the Defense Preference Inquiry. The statistical treatment of each of these sources of data will be considered below.

Personal Data. These data were collected to provide descriptive information about the population. The various categories of identifying data are presented in Table 4.

The subjects were predominantly a lower academic class group with almost equal numbers of freshmen and sophomores. Ages ranged from seventeen to thirty-three, with a median of 19.4 years. Seventy-nine per cent of the subjects had had either no psychology courses or only the introductory course, so that the group may be considered relatively unsophisticated as far as knowledge of psychoanalytic theory and projective tests is concerned.

TABLE 4

DISTRIBUTION OF SUBJECTS ACCORDING TO IDENTIFYING DATA

Age	Number	Academic Class	Number
17 to 19	66	Freshmen	36
20 to 22	30	Sophomore	44
23 & over	8	Junior & Senior	22
		Other	2
	104		104

Number of Psychology Courses	Number	Religion	Number
None	42	Protestant	58
One	40	Catholic	11
Two	17	Jewish	23
Three or more	5	Other	12
	104		104

Spontaneous Stories. The stories that the subjects wrote for the Blacky Pictures served a double purpose. In the early stages of pretesting the inquiry on individual subjects and discussing it with them, it seemed that many were approaching the task in an intellectual manner. These people apparently would rank the statements on the basis of their descriptive qualities without developing feelings of their own about the cartoons or the statements. This was easy to do since they only looked at the pictures. It was felt that requiring the subject to write his stories would markedly increase

his involvement in the entire procedure since he was now, in a sense, committing himself by writing down his interpretation of the cartoon. The vigor with which many experimental subjects defended their choices during the discussion sessions left little doubt of their personal immersion in the task and the greater meaningfulness of their responses.

The second purpose of the spontaneous stories was to provide a measure of the subjects' degree of conflict on the personality dimensions related to the various cartoons. As mentioned previously, Blum has developed extensive scoring criteria for the stories, which provide a system for measuring the degree of conflict. Each of the stories for every subject was scored on a two-point scale as "Strong" or "Weak", indicating a greater or lesser degree of conflict. It should be noted in this connection that a "Weak" score does not necessarily mean that no conflict exists for a subject on a given dimension. It merely means that he stands at the bottom half of the group in degree of conflict on this dimension.

As a check on the scoring reliability of the spontaneous stories, the following study was undertaken. The author and a colleague,[1] working independently and without preliminary discussion of the scoring standards, scored twelve stories chosen at random from each of the eight cartoons. Table 5 presents the percentage of agreement between the two sets of scores.

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1. The author is indebted to Miss Esther Frankel for her cooperation in this phase of the research.

TABLE 5

INTER-JUDGE SCORING AGREEMENT ON SPONTANEOUS STORIES

Cartoon	Dimension	Obtained Per Cent Scoring Agreement
1	Oral Eroticism	75
2	Oral Sadism	83
3	Anal Expulsiveness	92
3	Anal Retentiveness	100
4	Oedipal Intensity	66
5	Masturbation Guilt	75
6	Castration Anxiety*	83
7	Sibling Rivalry	92
8	Guilt Feelings	66
	Mean	81.2%
	Median	83%

* Cartoon 6 can be scored for both Castration Anxiety, (Males), and Penis Envy, (Females). Castration Anxiety was scored for both sexes because the inquiry items were written for this dimension.

The 81.2 per cent over-all agreement (chance is 50 per cent), indicates that the scoring standards are sufficiently reliable to rule out concern over scoring, even under these conditions where the two scorers did not discuss the criteria in advance.

The Rankings of the Mechanisms. The subjects' rankings on the DPI provide the major source of data. A sample of one individual's rankings of the defense mechanisms is shown in Table 6.

TABLE 6

SAMPLE OF A SUBJECT'S RANKING OF

MECHANISMS ON THE DEFENSE PREFERENCE INQUIRY

Cartoon	R	Rg	RF	P
1	3	2	4	1
2	3	1	4	2
3	1	4	3	2
4	2	1	4	3
5	4	2	3	1
6	2	3	4	1
7	1	2	3	4
8	2	3	4	1

This subject ranked projection first, regression second, repression third, and reaction formation fourth on Cartoon 1. On Cartoon 2, regression was ranked first and reaction formation fourth, etc. How can the consistency with which this subject ranked the eight sets of inquiry items best be indicated? It is possible to calculate the mean rank he assigned to each of the four mechanisms. The more consistently he ranked a mechanism first, the lower a mean rank would be obtained for that mechanism. Conversely, the more often a mechanism was ranked fourth, the higher the mean rank that would be obtained. However, a mean of 2.50 could mean anything from very high

consistency, (all ranks for this mechanism 2 or 3), or no consistency, (ranks divided equally from 1 through 4), or complete inconsistency, (ranks divided equally between 1 and 4). In addition, averaging ranks violates a basic assumption in their use. Ranks are positions, not scores or measures. They indicate only the arrangement or order of things and not the distance between them. A rank of 2 is in no way twice a rank of 1. Therefore, averaging ranks was considered inadvisable as a measure of individual consistency.

The appropriate statistic in this case would be one which deals directly with ranks and gives an over-all measure of the correlation among the eight sets of rankings. This correlation would indicate the degree of consistency with which the subject reacted to all four mechanisms. If he were completely consistent in his eight sets of rankings, always placing the mechanisms in the same order, the correlation would be 1.00. If the subject had no preference among the mechanisms and each time made his rankings in a random manner, a correlation of .00 would result.[1] Kendall's coefficient of concordance, W, is a rank correlation statistic which is applicable to two or more rankings of n objects (13, p. 80-89). It measures the communality among the sets of rankings. Thus, in this instance, the degree of consistency with which the four mechanisms are ranked by each individual would be indicated. Kendall also provides tables to determine the significance of W. The concordance coefficient and its significance

---

1. The concordance coefficient, W, varies from 0 to 1. This is explained by the fact that when more than two sets of observations are present, they cannot all disagree with each other. If A disagrees with B and with C, then B and C must agree to some extent. See Kendall, p. 81.

level were computed for each subject. These data will be presented and discussed in Chapter IV. In the example given in Table 6, $W = .356$ ($P < .05$).

The remaining statistical problem pertained to the retest of the inquiry. The agreement between the first set of rankings and the retest was compared by means of a Pearsonian r. For distributions with equal standard deviations, $r_{12} = 1 - \frac{\sigma 2_{(1-2)}}{2\sigma_1^2}$.[1] A separate retest correlation was computed for each of the thirty-eight subjects who appear in the retest population by comparing his two sets of rankings. The results of this analysis will also be presented in Chapter IV.

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1. The author is indebted to Professors George Satter and Clyde Coombs, who derived this form of the correlation coefficient for him.

CHAPTER IV

RESULTS

In this chapter each of the areas under consideration will be reviewed briefly and the relevant data will be presented and discussed.

A. The Consistency of Defense Preferences

The aspect of defensive activity with which this study is primarily concerned is the degree of consistency with which non-pathological individuals prefer various mechanisms. There is clinical evidence to suggest that psychotics and neurotics favor certain mechanisms extensively, but no evidence regarding the consistency of choice of defense among normals. The measure of consistency applied to our data is the correlation among the eight sets of rankings by each individual. The concordance coefficient, W, (described in Chapter III) gives a single measure which embraces the consistency of the subject's rankings of all four mechanisms. The higher the W, the greater the consistency. The distribution of W's for our subjects is shown in Table 7.

TABLE 7

DISTRIBUTION OF COEFFICIENTS OF CONCORDANCE

W	f
.700-.749	1
--	
.450-.499	2
.400-.449	2
.350-.399	4
.300-.349	8
.250-.299	9
.200-.249	9
.150-.199	9
.100-.149	13
.050-.099	29
.000-.049	18
	104

Mean W - .158
Median W - .119
Range - .002 to .712

The median W[1] for the group is .119 with a range of .002 to .712. This median value is not significantly greater than might be obtained by chance, so we may conclude that the group as a whole does not show consistent defense preferences.

It is rather difficult to obtain a high absolute value for W

1. Medians rather than means are discussed throughout, since they minimize the undue weighting of extreme cases.

when as many as eight sets of rankings are involved and only four things are being ranked. With such a restricted range, each time one rank changes, at least half of the ranks are altered, since a second one must change also. Nevertheless, some individuals in the group have a comparatively high degree of agreement among their choices.

Table 8 presents the obtained frequencies of subjects who

TABLE 8

NUMBER OF SIGNIFICANT COEFFICIENTS OF CONCORDANCE

(OBTAINED VS. EXPECTED)

P	W	Number Obtained	Number Expected by Chance
.01	.429-	4	1.04
.05	.317-.428	16	5.2
.10	.260-.316	22	10.4

reached the .10 level of significance or less, and the numbers to be expected by chance alone. Twenty-two of the 104 subjects attained the .10 level, which is more than twice the number to be expected if only chance were operating. This means that while the group as a whole did not show a significant degree of consistency, a sizeable minority, (twenty-one per cent), did have consistent preferences. Apparently we are dealing with two groups rather than one, so far as the handling of defenses is concerned. Before pursuing further the meaning of

this difference in approach, let us look at the data regarding the stability of defense preferences.

B. The Stability of Defense Preferences

An outstanding quality of the ego is the relative permanence of its characteristics. People seldom change their manner of doing things, even over a span of years, to a point where they are no longer recognizable. Since the entire process of defense comes under the realm of the ego, we would expect defense preferences to remain relatively stable over a period of time. The specific hypothesis to be tested here is that there will be a significant correlation for the group between rankings of mechanisms on the two administrations of the Defense Preference Inquiry. The distribution of correlations for the thirty-eight subjects who were retested appears in Table 9, (p. 42).

The median correlation is .50 and the range is -.32 to .82. A correlation of .50 is significant at the .01 level. This substantiates the hypothesis and indicates that defense preferences, as measured by the DPI, are stable characteristics of our group. The extent of agreement between the sets of rankings is shown by the number of subjects who obtained significant r's (Table 10). Thirty out of thirty-eight were significant beyond the .10 level,[1] seventeen beyond

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1. One additional subject with an r of -.32 showed a significant ($P < .10$) lack of agreement between her sets of rankings.

TABLE 9

DISTRIBUTION OF RETEST CORRELATIONS

r	f
.80-.89	2
.70-.79	1
.60-.69	10
.50-.59	6
.40-.49	7
.30-.39	3
.20-.29	4
.10-.19	2
.00-.09	1
-.10-.01	1
-.20-.11	0
-.30-.21	0
-.40-.31	1
	38

Median r = .50
Mean r = .465
Range = -.32 to .82

the .001 level.

While a retest correlation of .50 is not especially high by usual test standards, it may be considered quite satisfactory for phenomena as elusive and difficult to measure as defense preferences. The inevitable changes in set and motivation which occur on a retest

TABLE 10

SIGNIFICANCE LEVELS OF RETEST CORRELATIONS

P	r	f
.001	.54-	17
.01	.44-.53	5
.05	.35-.43	7
.10	.28-.34	1
>.10	-.32-.27	8
		38

would decrease the likelihood of getting the same judgments from the subjects. In addition, the restriction of the range of ranks to four, mentioned in connection with the magnitude of W, operates potently to reduce the value of r. Each change the subject makes in his rankings involves at least one other, of necessity. Since there are only four things being ranked, this has a considerable effect on the correlation. If a subject were to make the minimal change in each of his eight sets of ranks on the retest, the correlation would drop to .80. An increase in the number of mechanisms to be ranked would probably produce even higher r's than those obtained here.

Let us return now to consider the consistency of preferences. Examination of the data so far has indicated that the group of subjects as a whole is not internally consistent in its defense preferences,

although a significant minority is. We may then divide the group into consistent and inconsistent defenders on the basis of their W's, setting the .10 significance level as the cut-off point. The consistent defenders are people who tend to indicate the same order of preferences in many different situations, while the inconsistent defenders have different preferences in different areas. Do the latter subjects have no real preferences among the defenses and therefore assign ranks randomly? If so, we would expect random behavior again on the retest and, consequently, little stability in their preferences. On the other hand, if their preferences are stable, even though inconsistent, it would not appear that their rankings were randomly assigned. Rather, we would have a case where specific preferences were being indicated in different impulse areas. The consistent defenders, of course, would be expected to have a high degree of stability.

To make this analysis, the thirty-eight retest subjects were divided into those who had insignificant W's on their first testing (thirty subjects), and those who had significant W's (eight subjects).[1] The median retest correlation was then calculated for each group separately. The originally consistent group had a median retest r of .64 ($P < .001$), and the originally inconsistent group median retest was .44 ($P < .01$). The retest of the consistent group was highly significant as expected. The significant degree of stability

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1. The retest group is a representative sample of the total group as far as consistency is concerned. Twenty-one per cent of both the original and retest groups had W's significant at the .10 level.

of preferences of the inconsistent group, however, indicates that their preferences, like those of the consistent group, are not determined by chance. In the latter case, the same defenses are generalized to all impulses, while the inconsistent group appears to apply specific defenses to specific impulses. General-specific, therefore, seems to be a more appropriate designation for these two groups than consistent-inconsistent.

C. General versus Specific Defenders

What accounts for the difference between the two groups in their handling of defenses? Chi-square tests were computed from the personal data to see whether they provide any clues relevant to generality or specificity of defense.

From Table 11 we can see that only academic class level approaches a significant relationship with the type of defensive activity. However, age and number of psychology courses, which are both highly correlated with academic class, are not statistically significant. This makes it difficult to attribute much logical significance to academic class level as a factor in defensive activities. An explanation of the finding in terms of chance alone seems more likely.

A more meaningful understanding may be reached if we consider that the general defenders approximate the type of defensive behavior theoretically ascribed to neurotics: they tend to apply their marked preferences among mechanisms inflexibly in many situations.

TABLE 11

CHI-SQUARE TESTS OF IDENTIFYING DATA FOR GENERAL VS. SPECIFIC DEFENDERS

Age	General	Specific	Total	
17 to 19	16	50	66	
19 and over	6	32	38	
	22	82	104	$X^2 = .98$, $P < .50$
Sex				
Male	10	33	43	
Female	12	49	61	
	22	82	104	$X^2 = 1.00$, $P < .50$
Class				
Freshmen	9	27	36	
Sophomores	12	32	44	
Juniors, Seniors & others	1	23	24	
	22	82	104	$X^2 = 5.46$, $P < .10$
Psychology Courses				
None	11	31	42	
One	6	34	40	
Two or more	5	17	22	
	22	82	104	$X^2 = 1.61$,* $P < .50$
Religion				
Protestant	14	44	58	
Catholic	2	9	11	
Jewish	4	19	23	
Other	2	10	12	
	22	82	104	$X^2 = .49$,* $P < .95$

* Not corrected for continuity.

Consider also that the general defenders make up only a small part of our sample. We can assume that in any sample of supposedly normal subjects a certain portion will be people who might be considered neurotic or psychotic if examined clinically. This could be equally true of college students.

Thus, the hypothesis may be advanced that the general defenders are more disturbed people than the specific defenders. If this is true, the general defenders should give more evidence of disturbance in their spontaneous Blacky stories. The significance of the difference in percentages of "strong" stories (indicating greater disturbance) for the two groups is shown in Table 12, p. 48.

On six of the eight cartoons (1, 3, 4, 6, 7, 8) there is a difference in the predicted direction. Of these six, one is significant beyond the .01 level, two are significant between the .05 and .10 level, and one other at the .15 level. The combined over-all difference of about 9 per cent is significant between .20 and .25 in favor of the general group. Of eight independent analyses less than half of one analysis (0.4) could be expected to reach the .10 level by chance, and only slightly more (0.6) at the .15 level. Our data give three and four analyses, respectively, at these levels of significance. These findings are not conclusive evidence in favor of the hypothesis, but they tend to support it. Further corroborative evidence may be inferred from the pattern of significant differences. The general defenders show the greatest disturbance on Cartoon 1, the Oral Erotic dimension. This is the earliest stage of psychosexual

TABLE 12

PER CENT OF STRONG STORIES

GIVEN BY GENERAL (22) VS. SPECIFIC DEFENDERS (82)

Cartoon	Per Cent General Defenders	Per Cent Specific Defenders	t	P*
1	.73	.40	2.75	< .01
2	.23	.33	-.90	.15-.20
3	.68	.49	1.59	.05-.10
4	.59	.46	1.08	.10-.15
5	.23	.28	-.47	.30-.35
6	.59	.56	.25	.35-.40
7	.45	.40	.42	.30-.35
8	.45	.27	1.62	.05-.10
Average	.494	.405	.75	.20-.25

* Based on one tail of the distribution.

development and, according to psychoanalytic theory, fixations at this stage involve the deepest maladjustments. Other significant differences are found for Cartoon 3 (Anal Sadism), Cartoon 4 (Oedipal Intensity), and Cartoon 8 (Guilt Feelings). These dimensions are all considered to be of great importance in the genesis of various neurotic disturbances.

D. Defense Preference and Degree of Conflict

From the theory of ego defense it may be inferred that people

are most likely to exhibit their characteristic defense patterns when confronted with conflict-provoking impulses. With other impulses they would not need to defend themselves, or if forced to indicate a defense preference, they would tend to behave in a more random manner. A deduction from the theory might be that subjects will have a higher degree of consistency of defense preferences on those Blacky dimensions which reveal greater conflict than on those which reveal less conflict. Only an approximate test of the theory may be achieved since our data provide measures of relative degrees of conflict rather than presence or absence.

This analysis should also provide further information about the meaning of the general-specific dichotomy. It has already been shown that the general defenders tend to have a greater incidence of strong stories than the specific defenders. If the above deduction concerning degree of conflict is confirmed, however, the greater consistency of the general defenders may have been built up mainly on their more numerous strong stories rather than being a typical trend on all dimensions. The general group may still be more disturbed, but its greater consistency may not reflect a general characteristic.

This hypothesis states that subjects will show a greater consistency of preferences on Blacky dimensions scored "strong" rather than "weak". Consequently, two concordance coefficients were computed for each subject -- one for his strong stories, one for his weak stories. Since the computation of W requires at least two sets of rankings, all subjects who had 8-0 or 7-1 combinations of

weak and strong stories had to be dropped from the analysis. Eight subjects were eliminated for this reason.

It must be noted that W's computed on the basis of different numbers of observations are not directly comparable. In the absence of any true relationship in the universe, the probability of obtaining a W of .50, for example, based on two sets of ranks (four ranks in each set) is much greater than the probability of obtaining the same W based on six sets. Since few subjects split exactly four and four, their weak and strong W's cannot be compared directly. However, the significance levels of the W's can be compared, regardless of the numbers of observations on which they are based. The probabilities were computed for the weak and strong story W's of each subject. The mean and median P values were then determined for the group of W's based on strong stories and the group of W's based on weak stories. Lower P values indicate more highly significant W's, hence greater consistency. Table 13 presents these data broken down for the general defenders and the specific defenders, as well as for the total group of ninety-six subjects who were eligible for this analysis.

The analyses fail to confirm the hypothesis that significantly greater consistency of preferences exists on dimensions which are scored strong rather than weak. Mean and median P values for the strong and weak stories are almost identical within both the general and specific groups. The striking proximity of these values clearly indicates that there is no greater consistency of preference in more

TABLE 13

SIGNIFICANCE (P VALUES) OF CONSISTENCY OF PREFERENCE RELATED TO "STRONG" AND "WEAK" STORIES

	TOTAL GROUP (N = 96)		SPECIFIC DEFENDERS (N = 75)		GENERAL DEFENDERS (N = 21)	
	Strong	Weak	Strong	Weak	Strong	Weak
Mean P	.52	.51	.57	.56	.35	.23
Median P	.45	.45	.61	.65	.15	.12

conflict-laden areas than in lesser ones.

The breakdown also shows that the greater consistency of the general defenders, compared to the specific defenders, cannot be attributed to the higher incidence of strong stories in the former group. The median P's of the general group are very close, with a negligible discrepancy in mean P's favoring the weak stories. Their strong stories therefore reflect no more consistency than their weak ones. Apparently they tend to be equally consistent on all dimensions, regardless of degree of conflict. The fact that the P values for the general defenders as a group are more significant than those of the group of specific defenders, of course, reflects the relative consistencies by which the groups were originally separated.

E. The Interrelationships of the Mechanisms

Certain theoretical similarities have been noted between the

mechanisms of repression and reaction formation. Both defenses relegate the forbidden impulse to the unconscious. With repression the ego remains unchanged; it merely acts as if the impulse did not exist and keeps enough pressure against it to keep it from becoming conscious. Reaction formation, on the other hand, goes further in the counter-impulse direction by causing a permanent alteration in the ego in opposition to the undesirable impulse. A person may defend himself against murderous impulses toward someone he loves by becoming very meek and submissive rather than by merely repressing the dangerous impulses and remaining essentially the same. He cannot stop at repressing the impulses; he has to act in direct opposition to them.

From these relationships it may be hypothesized that when reaction formation is chosen as the most preferred mechanism, repression will most likely be chosen next.

There are 832 sets of rankings provided by the 104 subjects. On each story the mechanisms could be ranked in any order. This analysis was carried out by separating the 192 stories on which reaction formation was ranked first. If the hypothesis is true, repression should be ranked second on these 192 sets of ranks more often than either regression or projection. A chi-square test was computed on the distribution of second choices, using as expectancies the proportion of second ranks each mechanism received on all 832 stories. These empirically-derived expectancies were considered to be more appropriate than theoretical ones based on chance, in view

of the uneven popularity of the mechanisms as second choices. (For the complete summary of ranks assigned to the various mechanisms see Appendix E.)

Table 14 presents the relationships between first and second choices for all mechanisms. We see that a very clear preference exists for repression as second choice when reaction formation is chosen first. This result substantiates the hypothesis and affirms the basic relationship between reaction formation and repression. An indication of the extent of the relationship is the fact that repression is chosen second $1\frac{1}{2}$ times as often as projection, and $2\frac{1}{4}$ times as often as regression.

The converse relationship is found to hold also. When repression is first, reaction formation is the significant second choice. Thus, repression and reaction formation appear to have a mutual affinity for each other. The same type of relationship appears to exist for regression and projection. When regression is first, projection is second, and vice versa. Thus, two separate pairs of significantly interrelated mechanisms appear in the data.

F. Recapitulation of Results

1) The analysis of consistency indicated that the group as a whole did not have consistent preferences among the four defense mechanisms included in the Defense Preference Inquiry.

2) The retest of the inquiry confirmed the theoretical stability of defense preferences as ego characteristics.

TABLE 14

CHI-SQUARE TESTS OF THE RELATIONSHIP BETWEEN FIRST CHOICE OF A MECHANISM AND THE DISTRIBUTION OF SECOND CHOICES AMONG THE REMAINING MECHANISMS

Mechanism Chosen First	Mechanism Chosen Second	Obtained	Expected
Reaction Formation (N=192)	Repression	90	61.05
	Projection	62	79.06
	Regression	40	51.89
		192	192.00
		χ^2 = 20.19, P < .001	
Repression (N=206)	Reaction Formation	98	66.17
	Regression	56	55.14
	Projection	52	84.42
		206	206.00
		χ^2 = 27.77, P < .001	
Regression (N=251)	Projection	145	98.20
	Reaction Formation	55	76.97
	Repression	51	75.83
		251	251.00
		χ^2 = 38.84, P < .001	
Projection (N=183)	Regression	74	54.29
	Repression	59	63.87
	Reaction Formation	50	64.84
		183	183.00
		χ^2 = 10.92, P < .01	

3) A sub-group of subjects who did have significantly consistent defense preferences was identified. These subjects were designated "general defenders".

4) The stability of the preferences of the inconsistent group showed that they were not ranking the mechanisms randomly. This group was designated "specific defenders", indicating that their preferences were not inconsistent but specific to the impulse.

5) Identifying data categories of age, sex, religion, and number of psychology courses failed to differentiate general and specific defenders. Academic class level tended to be lower for the general group, but this difference was interpreted as probably reflecting the operation of chance factors.

6) Data were offered which tended to corroborate the hypothesis that the general defenders are a more emotionally disturbed group. On four of the eight Blacky dimensions the general defenders reached, or approached, a significantly greater degree of conflict as measured by the spontaneous Blacky stories. On two others the difference was in the predicted direction but not significant.

7) The hypothesis that greater consistency of defense preferences would occur on dimensions showing more conflict was not confirmed. There were no differences in the mean or median significance levels of concordance coefficients based on greater and lesser conflict stories of all subjects.

8) The greater consistency of the general defenders could not be accounted for by their higher percentage of conflict stories. The general and specific groups were both equally consistent on dimensions revealing more and less conflict.

9) Substantiation was found for the hypothesis that reaction formation is an extension of repression. For stories on which reaction formation was ranked first, repression was the highly significant second choice.

10) Further findings showed that reaction formation was the preferred second choice when repression was the favored mechanism. Thus, a reciprocal relationship exists for these two mechanisms. The same type of mutual affinity was present between the other two mechanisms - regression and projection.

G. Discussion

From the preceding data certain conclusions may be drawn concerning the operation of defense preferences in normal young adults. These observations are offered with the realization that the true validity of the Defense Preference Inquiry is as yet undetermined. Until further research is available we may accept the face validity data as presumptive evidence. The other limitation of which we must take cognizance is the inclusion of only four defense mechanisms in the inquiry. The effect of the restricted range on W and r, for example, has already been discussed. However, the four mechanisms studied are major ones and can be considered representative of all the mechanisms usually encountered.

First of all, defense preferences show a significant degree of temporal consistency, or stability, in the great majority of cases. Whatever patterns of preference a subject manifested on the first

testing, he tended to maintain on the second. This was true whether his responses had a significant degree of internal consistency originally or not. Defense preferences, therefore, appear to be fairly stable for the group of individuals. As ego functions they tend to share the ego's characteristic of relative permanence.

As a result of the obtained stability of defense preferences, we may also feel some confidence in the reliability of the Defense Preference Inquiry. Had the retest given poor results, we would be concerned that errors of measurement might have obscured any stability which may actually exist. The positive retest findings, then, lend some credibility to both the stability of defense preferences and the reliability of the instrument.

In terms of internal consistency, most of the subjects do not have significantly consistent patterns of defense preferences - at least within the range of mechanisms available in this study. No one mechanism is liked or disliked to the exclusion of others. As a result, most subjects appear to be inconsistent in their defense choices. Yet, the stability data show that these varied likes and dislikes are persistent, unique characteristics of each individual and not haphazard choices. Specific hierarchies of preference are revealed by most subjects for different impulses. Defensive behavior of the normal individual may be said in this respect to be "impulse-oriented", since he is able to direct toward a particular impulse whichever defense he finds most appropriate in light of his past experiences. The ability to command a variety of defenses may give the normal person considerable flexibility and adaptability in coping

with emotional conflicts. When and if he has to defend himself against his own impulses, there are a number of defense processes at his disposal.

The minority of subjects, who showed consistent preferences, employ a different approach to defenses. In contrast to the specific defender, the general defender tends to like and dislike the same mechanisms in many different situations as well as at different times. His hierarchies of preference are generalized so that, in effect, there appears to be little relationship between the impulse and the defense used against it. Any impulse stimulus tends to evoke the same defensive response. The failure of the general defender to differentiate among impulses, as does the specific defender, implies that the behavior of the former is "defense-oriented". All his energy is bound to one course of defensive action, regardless of the particular area of conflict, so that he appears to be more constricted in handling his emotional problem.

Turning to psychoanalytic theory to help identify the two sub-groups, we noted that the mode of defense employed by the general group is an approximation of the defensive behavior associated with emotional illness. Hysterics, for example, theoretically use repression whenever they are in a conflict situation. Paranoids are noted for their use of projection. Following this line of reasoning, it was suggested that the general defenders might be the emotionally disturbed people who are likely to be found in any population sample. The evidence of higher percentages of "more conflicted" stories supported this notion, although further corroborative evidence is certainly

necessary.

The relationship between consistency of defense and emotional conflict is not a simple one which can be completely summed up by the statement, "the greater the disturbance, the greater the consistency". The comparison of the consistency of more and less conflicted stories represents a further test of the same general idea that consistency is related to disturbance. In this case, however, the analysis is intra-individual and the results fail to confirm the hypothesis. For the total group and for both sub-groups, preferences on strong dimensions are no more significantly consistent than weak ones. Since "strong" and "weak" represent degrees of conflict rather than presence or absence, we do not know for certain what degree of consistency would actually occur if choices were forced similarly under a "no conflict" condition. Nevertheless, on a priori grounds it would be difficult to attribute greater consistency to "no conflict" than to degrees of presence of conflict. Therefore, it seems reasonable to extrapolate from our data in guessing that a "no conflict" measure would have given approximately the same results obtained here for "less conflict".

If defense preferences are not more consistent for more-conflicted impulses than for less-conflicted ones, how does this reconcile itself with the suggestion that more disturbed people have a greater consistency of preferences? We may speculate that the neurotic has reached a level of ego disorganization where he responds in a qualitatively different manner from other people. Once this point is reached, he no longer distinguishes among impulses and his

defenses become generalized. Therefore, he tends to show greater consistency of defense in relation to all impulses, whether they entail more or less conflict. It may be that the defenses he uses so indiscriminately are those which originally were applied to the specific focal areas of disturbance which underly his emotional difficulties.

The non-neurotic ego--intact, fully functional, and unburdened by the constant pressures of unresolved infantile needs--can exercise its powers of perception and respond to each impulse on its own merits. Apparently the ability of the non-neurotic to defend differentially does not break down under the pressure of those psychic conflicts which he does have to resolve. He continues to defend specifically under all conditions just as the neurotic tends to defend in a general way.

What appears in the data is that more conflicted people tend to be more consistent in their defense preferences, although more conflicted impulses do not elicit greater consistency. There does seem to be a relationship between emotional disturbance and choice of defense, but not on the intra-individual basis originally predicted. It appears to be an all-or-none proposition with no differentiation made between more and less conflicted impulses.

These formulations may be considered a beginning attempt to provide an understanding of the defense characteristics of the non-pathological personality. Much further work and corroboration is needed, but these speculations may provide a framework for future

research in this area.

The evidence on the interrelationships of the mechanisms provides support for the psychoanalytic theories pertaining to the nature of different mechanisms. To begin with, a relationship was posited between reaction formation and repression based on the theory that the former is a logical extension of the latter. Although superficially the two mechanisms do not appear to be similar (repression avoiding the recognition of the troublesome impulse; reaction formation marshalling the ego to act in opposition to it), the prediction was made, and confirmed, that when reaction formation is chosen first, repression is the favored second choice. The converse relationship was also true, however. The basic similarities of the two mechanisms are evidently great enough so that they tend to be ranked together when compared with projection and regression. The same kind of interrelationship exists for the latter mechanisms. Although quite different processes, they are apparently more like each other than they are like repression and reaction formation.

The two pairs of reciprocal mechanisms fall into a natural dichotomy. According to analytic theory, regression and projection are associated with earlier genetic stages of development. The use of these archaic defenses involves a greater disruption of ego functioning. Projection entails a definite loss of ego boundaries and an impairment of reality testing since what is internal is confused with what is external to the individual. Regression is a reversion of the ego to a more infantile, less differentiated mode of adjustment in the face of conflict. Consequently, both

of these mechanisms are prominent in the more serious mental disorders, the psychoses.

Repression and reaction formation, on the other hand, are genetically later mechanisms and are associated with stronger egos. In using both, the ego structure remains intact in all areas apart from the conflicted one. These defenses are prominent in the neurotic disorders.

The clear split in the choice of mechanisms is strong evidence that the underlying similarities and differences among them are entirely consistent with psychoanalytic theory.

CHAPTER V

SUMMARY AND IMPLICATIONS

A. Summary

The theory of ego defense mechanisms grew out of the psychoanalytic study of neurotics and its application in clinical work has been similarly concerned with pathological groups. This study was undertaken to investigate the preferences of non-pathological subjects for selected psychoanalytic mechanisms. The particular aspect of defense investigated was the consistency of defense preferences. An answer was sought to the question, "Do normal subjects have consistent preferences among defense mechanisms?" Predictions were made that defense preferences would be stable characteristics of the individual; that greater consistency of preference would be present in defending against more conflicted impulses than against less conflicted; and that preferences for reaction formation, theoretically an extension of repression, would be closely associated with choices of the latter.

The basic stimulus situation was provided by the Blacky Pictures, a projective test involving cartoons of a dog family. The cartoons, designed to tap significant psychoanalytic dimensions of personality dynamics, involve basic impulse behavior, which is

presumed to be the natural subject of defensive activities. Three of the eleven Blacky cartoons were eliminated because they deal primarily with objects relationships rather than impulse behavior. The subject was required to write a story about each of the eight remaining cartoons. These spontaneous stories were then scored for indications of greater or lesser conflict.

The measure of defense preference was an inquiry developed by the author. The Defense Preference Inquiry consists of four statements about each of the eight cartoons. The statements were designed to represent the following major defense mechanisms: repression, regression, reaction formation, and projection. After writing his story, the subject ranked the inquiry items on the basis of how well they agreed with his interpretation of the cartoon. In addition to the spontaneous stories and the eight sets of ranks, a personal data sheet was collected.

The subjects were sixty-three female and forty-one male college students recruited from introductory social science courses. All subjects were volunteers. Testing was done in groups with the sexes tested separately. One month after the first testing, thirty-eight subjects returned for a retest.

The measure of consistency was the intercorrelation between the eight sets of rankings. Kendall's coefficient of concordance (W) was used for this purpose. Stability of defense preference was measured by the retest of the inquiry. The relationship between reaction formation and repression was tested by computing a chi-

square on the distribution of second choices among the three remaining mechanisms for all cartoons on which reaction formation was ranked first.

Analyses of the data yielded the following findings:

1) The group, as a whole, did not exhibit significantly consistent defense preferences, although a significantly large minority did.

2) The predicted stability of preferences was confirmed; the retest correlations being highly significant. This was true for consistent and inconsistent subjects.

3) The hypothesized greater consistency on more conflicted dimensions was not substantiated.

4) Repression was related to reaction formation as predicted and the relationship was found to be reciprocal. A similar effect was found for regression and projection.

It was concluded that our normal population contains two types of defenders: a large group of specific defenders who prefer different defenses for different impulses; and a small group of general defenders who tend to employ the same defenses for all impulses. The defense preferences of both types of individuals are stable characteristics. Turning to theory to clarify the nature of this difference in approach toward defenses, we find that stereotypy of defense is supposed to be characteristic of many emotional disorders. This led to the analysis of the percentage of more and less conflicted spontaneous stories of the two groups. The results offered supportive evidence that the general defenders are a more emotionally disturbed group. The

implications of this finding along with the negative results of the comparison of more and less conflicted stories were discussed in relation to the defenses of normal and pathological groups.

A further conclusion was that the predicted and observed interrelationships between reaction formation and repression, and regression and projection, gave strong support to psychoanalytic theories concerning the basic properties of these defense mechanisms.

B. Implications for Future Research

The Defense Preference Inquiry was developed to measure individual preferences for a sample of important psychoanalytic mechanisms. With further validation, this instrument may prove helpful in clarifying much of the confusion surrounding the topic of ego defense. Several approaches to validation of the DPI suggest themselves.

In a number of neurotic and psychotic illnesses, the preferred defensive medium is well established. A natural approach toward validating the inquiry would be to compare the preferences of hysterics (Repression), compulsives (Reaction Formation), paranoid schizophrenics (Projection), and non-paranoid schizophrenics (Regression). If the inquiry is eliciting valid responses, the theoretically favored mechanism of each group should receive the greatest number of first choices.

Another method of validation would be to compare DPI choices made by patients receiving psychotherapy with the judgment of therapists

regarding their favored defense mechanisms. This method would have one advantage over the comparison of pathological groups since it treats each subject individually. While therapists' judgments are not infallible, they represent first-hand observations of the defensive process. An alternative to therapists' ratings could be ratings by others based on recorded therapy interviews.

A somewhat different approach to validation would be to tap preferences in a variety of criterion situations involving the same impulse behavior. The situations might be ordered to represent various stages of remoteness from the original basic impulse and defense preference inquiries could be constructed which were appropriate for each situation. Taking the Oedipal dimension as an example, in addition to the Blacky cartoon, an Oedipal situation could be presented involving humans. Other stimulus conditions might involve more remote derivatives of Oedipal relationships such as teacher-student, or labor-management situations. The consistency of defense preferences under these varied conditions could then be measured.

In addition to further validation research, the two groups of defenders found in this study offer a fruitful field for further exploration. The level of disturbance of general and specific defenders should be checked with external criteria, including a variety of behavioral and projective test indices. Further investigation of the personality dynamics of the general defender would be desirable. Does his stereotypy extend to other ego functions besides defense? What other personality traits does he reveal? A personality

assessment of individuals with general defenses might help to clarify the differences between neurotic and non-neurotic defense functioning.

The specific defenders raise a theoretical issue which is of considerable interest. The fact that almost eighty per cent of our subjects had different preferences for different impulses, and that there were prominent group preferences for mechanisms on some cartoons (Appendix C), suggests that there may be defenses which are more appropriate for some impulses than others. Anna Freud (7, pp. 54-55) refers to the idea that repression may be appropriate for combatting sexual impulses, and other mechanisms appropriate for combatting aggressive impulses. She also alludes to Helene Deutsch's suggestion that each mechanism may be associated with the infantile impulse it was first developed to combat. Unfortunately, the group popularity of certain mechanisms on various Blacky dimensions cannot be taken at face value, due to the uncontrolled factor of item strength. However, the possibility remains that such relationships as those described above do exist, and an exploration of this area with suitable techniques would shed considerable light on factors governing the choice of defense.

A final word should be said regarding the appropriateness of the Blacky Pictures for stimulating and studying defensive behavior. Much of the experimental work on psychoanalytic concepts has been criticized as irrelevant to the concepts being tested. The Blacky technique offers an operational definition of important psychoanalytic dimensions which are likely to be involved in research on analytic theories. Because it deals with the kinds of impulses encountered in

the natural course of development, it is uniquely suited to the study of ego defenses.

APPENDIX A

THE DEFENSE PREFERENCE INQUIRY

The Defense Preference Inquiry will be presented in the male form. The form for female subjects is identical with the exception of the substitution of appropriate feminine pronouns in reference to Blacky. The identification of the mechanisms, the dimension measured by the cartoon, and the introductory comments are included for the benefit of the reader. At the top of each inquiry page the instructions read as follows:

> Rank all of the following statements according to how well they fit the way you see Blacky or the story. 1 = fits best. 4 = fits worst.

Cartoon 1: Oral Eroticism: "Here is Blacky with Mama."

A. Blacky isn't quite aware of the fact that Mama is there to feed him, so he's nudging her to find out what's going on. (R)

B. Blacky tends to act in the same helpless way as when he was first born, without being concerned that he is using Mama to satisfy his excessive appetite. (Rg)

C. Although Blacky is still very young, he's the kind of dog who would much rather be elsewhere seeking his own food than feed in this conventional way.* (RF)

D. Actually Blacky is especially fond of eating, but he thinks it is really Mama who wants him to eat so much all the time. (P)

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* This item was rewritten after the face validity check. The earlier version read, "Blacky has been out playing strenuously all afternoon but, not being the kind of dog who enjoys eating, at dinner time he merely goes through the motions."

Cartoon 2: Oral Sadism: "Here is Blacky with Mama's collar."

A. In Blacky's own way of thinking, the other members of the family have been feeling so mean toward him that he is entitled to chew Mama's collar to shreds. (P)

B. Blacky tries to pretend that he's ferocious, but at heart he is gentle, well-behaved, and doesn't get angered easily. (RF)

C. Whenever Blacky is in one of these moods he tends to think back to earlier times when things went more smoothly. (Rg)

D. Blacky finds Mama's collar lying on the ground but as he chews on it more and more he forgets who it belongs to. (R)

Cartoon 3: Anal Eroticism: "Here Blacky is relieving himself."

A. The complications resulting from the fact that Blacky relieved himself there will make him wish that he was a young puppy again. (Rg)

B. Blacky thinks his behavior here is justified because he senses that Mama and Papa have been unreasonably irritated with him, even though their actions didn't show it. (P)

C. It may look like Blacky is relieving himself between his parents' houses, but likely he's just digging a hole to bury a bone. (R)

D. Mama and Papa are not going to like the spot he chose, but Blacky is mainly concerned with being neat and clean and keeping the mess away from his own house. (RF)

Cartoon 4: Oedipal Intensity: "Here are Blacky, Mama, and Papa."

A. Blacky has been feeling irritable, but his mood will change when he considers going over to join his parents in their affectionate activities. (RF)

B. Blacky has been walking along muttering about his own troubles so he isn't paying attention to the fact that Mama and Papa are making love. (R)

C. Though Blacky is the one behind the bushes, he's still upset by the thought that his parents are hiding their love-making from him in order to keep him out of the group. (P)

D. As Blacky watches Mama and Papa make love, he'll work himself up to a display of anger and helplessness which will force Mama to spend some time taking care of him again. (Rg)

Cartoon 5: Masturbation Guilt: "Here Blacky is discovering sex."

A. Although Blacky has never done this before, he believes that others, unlike himself, might be very upset and guilty over such actions. (P)

B. Blacky tends to soften the impact of the whole new area of problems which his discovery forces on him by thinking back to the "good old days." (Rg)

C. While licking himself, Blacky accidentally discovers his sexual parts, but since he isn't affected by sexual sensations, he'll move on to other parts of his body. (R)

D. Blacky will not be inclined to repeat his explorations because the feeling will grow in him that he should oppose such activities in favor of more constructive ones. (RF)

Cartoon 6: Castration Anxiety: "Here Blacky is watching Tippy."

A. As Blacky watches the scene, wondering what will happen next, he doesn't permit himself even to think that the same thing might happen to him. (R)

B. Blacky is probably toying with the idea that the improvement in a dog's comfort and appearance may be worth the momentary experience of having one's tail removed. (RF)

C. Blacky's own reaction here is merely one of interest, but he thinks that seeing such an act would make other dogs panicky whenever they got around a knife. (P)

D. Blacky's anticipation of such an experience will somehow lead him to begin acting like a puppy who is still too young to have his tail removed. (Rg)

Cartoon 7: Sibling Rivalry: "Here Blacky is watching the rest of the family."

A. Blacky is pleased to see Mama and Papa lavishing affection on Tippy, since he feels that Tippy deserves the attention. (RF)

B. Blacky doesn't feel one way or the other about this as he comes along and finds Mama and Papa caressing Tippy. (R)

C. As Blacky watches the rest of the family, he wishes he were an infant again so they would have to baby him the way they once did. (Rg)

D. Blacky suspects that Tippy has been trying to win over Mama and Papa because Tippy is envious of their feelings toward him. (P)

Cartoon 8: Guilt Feelings: "Here Blacky is very upset."

A. This experience proves so disturbing to Blacky that it will be a long time before he is able to act like a grown-up, normal dog again. (Rg)

B. Blacky is so upset here because he feels he is suffering for something that really wasn't his fault. (P)

C. After an experience like this, Blacky will become a model of virtue so that this will not happen to him again. (RF)

D. Blacky's unhappiness leads him to believe that this is just a bad dream which will disappear as soon as he wakes up. (R)

APPENDIX B

PERSONAL DATA SHEET*

1. Name:_____ Sex: M___F___ Code Number_____
2. Campus address:_____ Phone_____
3. Age:_____ Place of birth:_____Home town_____
4. Class: Fresh___Soph___Jr___Sr___Major field of interest_____
5. Marital status: Single___ Married___
6. In what class were you recruited for this study?_____
7. List all courses in Sociology_____
8. List all courses in Psychology_____
9. Father's occupation_____
10. Religious preference: Prot___Cath___Jewish___Other_____None___
11. Do you were glasses? Never___Sometimes___Usually___
12. Are you wearing glasses during this study?_____
13. List age and sex of brothers and sisters.

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* Some of these items were included for use in related researches by other experimenters.

APPENDIX C

DISTRIBUTIONS OF RANKINGS OF MECHANISMS FOR THE EIGHT BLACKY PICTURES

(N = 104)

	1 Oral Eroticism				2 Oral Sadism				3 Anal Sadism				4 Oedipal Intensity			
Ranks	R	Rg	RF	P	R	Rg	RF	P	R	Rg	RF	P	R	Rg	RF	P
1	6	64	13	21	21	11	40	32	28	16	35	25	4	71	8	21
2	33	13	18	40	35	17	33	19	19	22	40	23	13	20	21	50
3	32	15	35	22	35	34	12	23	11	37	19	37	30	9	47	18
4	33	12	38	21	13	42	19	30	46	29	10	19	57	4	28	15

	5 Masturbation Guilt				6 Castration Anxiety				7 Sibling Rivalry				8 Guilt Feelings			
Ranks	R	Rg	RF	P	R	Rg	RF	P	R	Rg	RF	P	R	Rg	RF	P
1	67	12	9	16	46	12	13	33	22	49	19	14	12	16	55	21
2	10	33	38	23	28	25	19	32	23	21	17	43	39	19	17	29
3	14	31	25	34	18	37	21	28	48	20	14	22	31	29	13	31
4	13	28	32	31	12	30	51	11	11	14	54	25	22	40	19	23

APPENDIX D

MEAN RANKS OF MECHANISMS BY SEX FOR THE EIGHT BLACKY PICTURES

	1 Oral Eroticism				2 Oral Sadism				3 Anal Sadism				4 Oedipal Intensity			
	R	Rg	RF	P	R	Rg	RF	P	R	Rg	RF	P	R	Rg	RF	P
Males	2.85	1.68	2.92	2.54	2.50	2.80	2.10	2.60	2.80	2.90	1.99	2.31	3.39	1.39	2.90	2.31
Females	2.96	1.81	2.95	2.33	2.32	3.17	2.09	2.41	2.67	2.67	2.08	2.58	3.32	1.54	2.92	2.22

	5 Masturbation Guilt				6 Castration Anxiety				7 Sibling Rivalry				8 Guilt Feelings			
	R	Rg	RF	P	R	Rg	RF	P	R	Rg	RF	P	R	Rg	RF	P
Males	1.85	2.68	2.80	2.66	1.86	2.66	3.17	2.31	2.41	2.05	3.12	2.41	2.63	2.76	2.05	2.56
Females	1.67	2.74	2.74	2.85	2.03	2.92	2.98	2.06	2.49	1.95	2.90	2.65	2.59	2.98	1.90	2.52

APPENDIX E

SUMMARY OF RANKS, AND MEAN RANKS, OF MECHANISMS

FOR ALL EIGHT BLACKY PICTURES

(N = 832)

Ranks	R	Rg	RF	P
1	206	251	192	183
2	200	170	203	259
3	219	212	186	215
4	207	199	251	175
Mean Rank	2.51	2.43	2.60	2.46

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