INFORMATION TO USERS

This reproduction was made from a copy of a document sent to us for microfilming. While the most advanced technology has been used to photograph and reproduce this document, the quality of the reproduction is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help clarify markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure complete continuity.

2. When an image on the film is obliterated with a round black mark, it is an indication of either blurred copy because of movement during exposure, duplicate copy, or copyrighted materials that should not have been filmed. For blurred pages, a good image of the page can be found in the adjacent frame. If copyrighted materials were deleted, a target note will appear listing the pages in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed, a definite method of "sectioning" the material has been followed. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again beginning below the first row and continuing on until complete.

4. For illustrations that cannot be satisfactorily reproduced by xerographic means, photographic prints can be purchased at additional cost and inserted into your xerographic copy. These prints are available upon request from the Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases the best available copy has been filmed.

University Microfilms International
300 N. Zeeb Road
Ann Arbor, MI 48106

Kestenbaum, Gerald I.

A STUDY OF THE DEFENSE MECHANISM OF INTELLECTUALIZATION

City University of New York PH.D. 1982

A STUDY OF THE DEFENSE MECHANISM OF INTELLECTUALIZATION

by

GERALD I. KESTENBAUM

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

1982

This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

June 20, 1981
date

Chairman of Examining Committee

June 22, 1981
date

Executive Officer

I.H. Paul, Ph.D.

Arthur Arkin, M.D.

Harold Wilensky, Ph.D.

Supervisory Committee

The City University of New York

Abstract

A STUDY OF THE DEFENSE MECHANISM

OF INTELLECTUALIZATION

by

Gerald I. Kestenbaum

Adviser: Professor I. H. Paul

The defense mechanism of intellectualization has been imprecisely and inconsistently defined in the past, and an analysis of the literature reveals several different theoretical models for intellectualization. It was concluded that intellectualization could best be defined as the use of increased cognitive activity for its inherent affect-inhibiting potential, and not as an avoidance technique. It was therefore hypothesized that an increase in cognitive functioning would result in a decrease of affective arousal even when there is no shift of attention away from the stimulus.

The experimental method utilized by Lazarus and his collaborators was adapted to test this hypothesis. 48 male undergraduate subjects were divided into intellectualization and control groups. Both groups were shown a stress-inducing film, although with varying instructions. Intellectualization group subjects were instructed to think about and try to understand the film; control group subjects were instructed to simply watch the film. Three self-report stress measures were obtained

before and after the film. Heart rate and skin conductance measures were also obtained preceding and during the film for each subject. It was hypothesized that intellectualization group subjects would show a lower stress arousal than control group subjects.

The skin conductance results provided support for the hypotheses although the differences between the two groups became significant only following the elimination of extreme and negative GSR subjects. The heart rate data and the results of the self-report measures were inconclusive. Although there was evidence that the film instruction was effective for only some of the subjects, no interaction effect between personality style and instruction effectiveness was found.

The findings suggest the viability of the hypothesized model for intellectualization, and the need for developing clearer and more systematized definitions for all the defense mechanisms was highlighted. Methodological questions were raised regarding the use of the baseline period to represent stress-free level of arousal, and the phenomenon of stress-anticipation was discussed in this context. The importance of subject age as a factor in stress-arousal experiments also emerged from the findings of this study.

Acknowledgements

I wish to take this opportunity to thank those individuals whose assistance has made this study possible.

My committee, always supportive and enthusiastic, helped maintain my interest in the work from beginning to end. Dr. Hal Wilensky was always available whenever the many practical questions arose, and was responsible for widening the study to include personality variables. Dr. Arthur Arkin came through at a crucial moment with much-needed assistance in procuring the equipment needed for this research. This and his interesting observations relating the phenomena of this study with parallels in the fields of philosophy, neuropsychology and anthropology made his contributions to this study both invaluable and enjoyable.

Special thanks are due to Dr. I. H. Paul for his continuing suppport throughout my graduate career, which he demonstrated once again as committee chairman. His stimulating ideas and his enthusiasm transformed a chore into an adventure, and provided me with the experience of a most rewarding collaboration. It is largely to his credit that this study was so promptly completed.

Lastly, a special note of appreciation goes to my wife, Ruth Peyser. Her unique proficiency in the recruitment of subjects was invaluable, as were her many encouraging words. Even at times when the magnitude of the work seemed to dominate our lives, she could be counted on for an additional measure of support, patience and good cheer. She was in every sense an outstanding member of the team.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

Statement of the Problem

The task of experimentally verifying hypothesized explanations of defense mechanisms which are observed clinically in the psychoanalytic situation is an important but difficult one. It is important because the assumptions of the mechanisms involved in defense provide the underpinnings of much of psychoanalytic technique. It is difficult because of the high level of inference involved in much of the research, as outlined by Kline (1972), a problem which is compounded by the predominance of only correlational studies that attempt to prove dynamic, cause-and-effect relationships.

Even in those studies where these pitfalls have been avoided however the problem of conceptual ambiguity often limits the usefulness of the research findings. Despite the consensus regarding the importance of the concept of defense there is little agreement regarding the definitions of the individual defense mechanisms. For example, A.Freud (1937), Laughlin (1970) and Bibring (1961) have each presented a classification of the defenses which is at variance with the others. Eissler (1959) and Siegel (1969) suggest that much of this definitional heterodoxy can be attributed to a tendency to define and name the defenses descriptively in terms of the observed aspects in which they differ from other defenses and not in terms of the actual mechanisms assumed to be operating. As such, even when research has addressed a particular defense it has been unclear whether the defense addressed is definitionally similar to other researchers' use of that

term. It seems crucial then that any attempt to address experimentally the clinically-observed defenses should begin with and grow out of a careful attempt to define the psychic process or mechanism of the defense, and should address itself to that level as well rather than to the merely descriptive level of definition.

This study is an attempt to verify a particular mechanism and functional relationship which can be offered as an explanation of intellectualization. The central role of intellectualization in defending against the drives and against affect was prominently discussed first by A.Freud (1937) with regard to puberty, and as outlined by Gitelson (1944) is readily experienced daily by the psychotherapist in the form of patients' resistances and defense-transferences. Indeed, Khan (1969) presents the view that most of the tenets of psychoanalytic technique regarding premature interpretation, working through, and allowing for the development of transference and regression are aimed at insuring a revivification of experience and insight and at avoiding the danger of intellectualized insight alone which can occur in a "talking cure".

Despite the clinical prominence of defensive intellectualization there is a lack of consensus over what mechanism is assumed to be involved in intellectualization and in fact over whether it should be considered a mechanism of defense at all. Anna Freud (1937) does not list intellectualization as a separate defense mechanism (while acknowledging its defensive role) and Schafer (1954) considers it a subset of isolation. Bibring (1961) and Laughlin (1970) on the other hand give intellectualization a more central and separate role as a primary or secondary defense mechanism.

Contributing to this conceptual heterodoxy are fundamental discrepancies in the definition of intellectualization, both in theoretical and in research writings. The term "intellectualization" has been used to refer to as broad a phenomenon as a general obsessive-compulsive style by some authors (e.g. Ledyard 1960) whereas Laughlin at the other extreme has attempted to particularize the definition of intellectualization by subdividing it into three different categories. Clearly our present attempt to experimentally examine an hypothesis of intellectualization must be preceded by a careful analysis of its different meanings and by arriving at an appropriate working definition which should optimally address the actual psychic mechanism assumed to be operating. This is the focus of the remainder of this chapter, following which a review of the relevant research literature as it relates to this definition will be undertaken. From this point conclusions can be reached regarding the direction and focus for additional research, and this will be the point of departure for the experimental part of this study.

Intellectualization: Toward a Definition

A. Freud (1937) wrote that for the adolescent in particular "the thinking over of instinctual conflict - its intellectualization - would seem to be a suitable means (of surmounting it). The flight from instinct is exchanged for a turning toward it...in thought." Elsewhere (1966) she adds that "Intellectualization (refers to) an attempt to bind id energies through secondary process thinking."

Although definitions of intellectualization differ, all theorists can find a common element in A.Freud's above suggestion that

psychoanalytically intellectualization refers to a particular dynamic relationship between emotional experience and ideational activity, or between affect and cognition, as suggested by Schafer (1954) and Bibring (1961) as well. Before we can explore further the different ways in which that relationship has been construed however it will be necessary to better define the meanings of affect and cognition which are the central terms of this discussion.

Affects, the Instincts, and Defense

It is generally agreed that intellectualization involves a defense against affective experience or affective modes of activity, although in much of the psychoanalytic literature the defense is described rather as being against the instincts or drives (e.g. A.Freud). A first question in need of clarification then is: What is the assumed relationship between the instincts and affects and which is best conceptualized as the target of the defense?

It is assumed in psychoanalytic theory that the instinctual drives can not be observed directly but are instead inferred from their derivatives. Instinctual drives can be manifested in action, ideation or affective arousal, all of which may be transformed or disguised through the work of defense, as outlined in Rapaport (1953). It must be understood then that to talk about a defense against the drives is really to refer only to the defense against the drive manifestations since only these manifestations can in principle become conscious.

We can further conclude that intellectualization refers specifically to a defense against only the affective component of drive discharge. Intellectualization generally is not taken to refer to an

emphasis on cognitive functioning as a way of defending against ideation (which is the underlying mechanism in obsessional thoughts resulting from displacement) nor to the use of cognition to avoid or forestall action (which is often the function of obsessional doubting). Although in intellectualization an affective state of arousal may be defended against with the motive of precluding the possibility of action, the focus of the defense in intellectualization is nevertheless upon the experienced affective state.

Since we have concluded that even in A.Freud's definition it is the affective state and not the instincts themselves that is being defended against, we need no longer remain tied to a narrow "id" or "drive dicharge" theory of affects. We can include as well affects generated by self-preservation tendencies in the face of threat as discussed by Hartmann (1948) and affects which are produced by and serve the warning needs of the ego, all as potential objects for the defense. The broadened structural theory of affects, elaborated by Rapaport (1953), can serve as an expanded definition of "affect" for this study. In conclusion we can assume that there is no fundamental difference between those theorists that stress the role of intellectualization in taming the instincts and those that stress its affect-restricting function.

In considering a second definitional dimension, it seems possible to use the term "affects" as Freud (1915) did to refer only to consciously experienced affective states or emotions, or instead to states which barring the work of defense would normally reach consciousness. The metapsychological question raised by Schur (1969) and Pulver (1971) of whether one can speak of unconscious affects is

not however relevant to our discussion in that it relates to the consequences of defense upon affects and not to the process of defense. When looking at the latter obviously it is the predefense, consciously-experienced affect with which we are concerned.

Having thus far extended the definition of "affects" regarding intellectualization so as to include those affects which are not specifically linked to the instincts, and limited the definition so as to exclude unconscious affects, we must now consider whether the definition of affects regarding the defense should be qualified along the dimension of pleasure-unpleasure. That is, since there must necessarily be a motive for the defense against affects, should we then assume that the defended-against affects in intellectualization are those involving unpleasure such as guilt, anxiety and fear, which would provide a motive for the defense?

This seems an unnecessary qualification. While unpleasurable affects would certainly provide a defensive motive, it is also true that even inherently pleasurable affects can have unpleasurable connotations in the context of the individual's overall personality dynamics. An example of this which is often seen clinically is the obsessive-compulsive personality for whom the experience of any strong affect regardless of valence is experienced as a partial loss of control and becomes aversive. In addition, affects can be defended against not because of their intrinsic aversiveness but as a means of avoiding a related psychic event. An individual may defend against experiencing anger for example only because it threatens to bring to consciousness an awareness of narcissistic injury which he would find intolerable, possibly the realization that he had been tricked. It

therefore seems useful to pursue our analysis of the mechanism of intellectualization independently and without regard to the question of defensive motive, and our definition of "affects" need not be restricted to those affects which are inherently aversive.

A final definitional note regarding affects is a consideration of the meaning of the term "defense against affects". As we have previously stated, we take this to mean the defense against conscious or potentially conscious affects which results in their no longer being consciously experienced. Pulver's (1971) important distinction between unconscious and potential affect highlights the fact that the defense against affects can take two forms, either a defense against the activators or stimulators of the affect or alternately a defense against the central feeling state itself, both of which would result in the affect being excluded from conscious experience. Freud (1915) too suggests these two manners of defense. It is important to realize that these two forms of defense against affect can involve radically different psychic mechanisms, although which of these is at work in intellectualization is a question which must await further discussion.

Cognitive Activity and Defense

Implied in the name "intellectualization" is the indication that the defense against affects and impulses is achieved through an emphasis on intellectual functioning. It is less clear however what precisely is meant by this "intellectuality". The basic point of ambiguity follows the lines of the Menninger Project's distinction between defense mechanisms and defenses, as cited in Wallerstein (1967) and Siegel (196°). They suggest the importance of distinguishing

between modes of function or activity which result in defense, and contents (such as ideas, perceptions, fantasies and memories) that are used defensively. With regard to intellectualization this question of function versus content seems to be a point of dispute.

For some theorists intellectualization involves primarily the use of intellectual contents as a defense and an avoidance of affects. In their view "its distinctive feature is its shift from immediate, inner and interpersonal conflict to abstract ideas and esoteric topics" (Schafer 1954), and "Intellectualization includes paying attention to irrelevant detail to avoid perceiving the whole" (Valliant 1971). Intellectualization need not involve an altered degree or manner of cognitive functioning in this view; its defensive power lies in the individual's use of normal thinking, perception and attention to focus on neutral, intellectual contents or stimuli and to avoid attending to nonintellectual, immediate and emotionally-charged stimuli.

Other theorists seem to take a different position. Levitsky (1955) defines intellectualization as "a defense mechanism whereby the individual copes with anxiety by maximizing cognitive functions and employing them as controls", and A.Freud (1966) adds that it refers to "the attempt to bind id energies through secondary process thinking". These and other theorists understand that intellectualization can refer to an emphasis on cognitive functions for the purpose of defense without necessarily a change in contents. A.Freud's previously quoted statement - that intellectualization is not a flight from the drives but instead a turning toward them in thought - directly makes this point, and Shuren's (1967) metapsychological definition of intellectualization as involving "the cognitive ego's...hypercathexis

of its own functions" indicates that he too stresses the role of intellectual functioning rather than intellectual contents in the mechanism of intellectualization.

Although it is clear that both intellectual contents and intellectual functioning can be used for defensive purposes it seems equally clear that the mechanisms involved in each case would be different. The mechanism involved in the use of intellectual contents to defend against affect seems to be simply an avoidance paradigm whereby the affect-laden stimuli are avoided through preoccupation with neutral stimuli. It is a defense against "potential affects" as we have defined them previously. The mechanism at work in the use of heightened cognitive functioning to restrict affective experience is not as readily apparent and will be discussed in the following section.

Not only can both of these defenses occur, but it also seems likely that they often appear together as part of a general intellectualized defensive constellation. This concurrence may explain some of the ambiguity in the literature and the fact that some theorists such as Valliant (1971) seem to include them both in sweeping descriptions of intellectualization. The question for this study then is not which of these alternatives are legitimate defensive maneuvers but rather which should be called "intellectualization", or more modestly, which of these mechanisms would provide a more fruitful avenue for further research in this study of intellectualization. This question will be addressed in the following section.

An additional definitional ambiguity seems to exist in the literature regarding the connotative breadth of the term "cognitive function" regarding intellectualization. Whereas Anna Freud has defined

the instrument of defense narrowly as "secondary-process thinking", Levitsky understands intellectualization more broadly as "the use of all cognitive processes...to defend the self against anxiety". At this point there is no apparent reason to restrict our definition of intellectualization to the narrower function of only thinking.

Intellectualization: The Relation of Cognition to Affect

There is general agreement that intellectualization refers to a dynamic relationship between cognition and affect (as defined in the preceding sections) in which an emphasis on cognition is effected so as to restrict affective experience. This does not mean that intellectualization serves only the above defensive purpose; Schafer (1954) suggests that in keeping with Waelder's (1936) principle of multiple function we would expect that intellectualization would concurrently have adaptational and instinct gratification aspects as well. We will attempt to address only its defensive function and mechanism, however, and to discuss its other functions only as they relate to defense.

A close review of the intellectualization literature reveals that there is considerable disagreement regarding the specific way in which cognitive emphasis is assumed to restrict affective experience. In view of these implicit though significant disagreements it is curious that there has been no acknowledgement of differences between theorists in the literature. This may be partly attributable to the predominantly descriptive nature of writings on intellectualization, which may in turn be a function of its having attracted attention initially in the

arenas of psychological testing and clinical work more than in the theoretical arena. In part this blurring of differences is also attributable to the previously mentioned tendency to focus on the manifestation rather than on the actual mechanism or process of defense, as highlighted by Siegal (1969). In this section an attempt will be made to identify the different models for intellectualization which are implicitly or explicitly suggested in the literature. The merits of the different models for theory and further research will also be discussed briefly.

An initial consideration in our review of models for intellectualization relates to Pulver's (1971) distinction between the defense against unconscious versus potential affects which we have mentioned earlier. According to that distinction models of defense can be divided into two categories: those that see the defensive activity as acting upon the stimuli and arousers of the affective reaction, and those that envision the defense as focusing upon the central affective state directly and restricting or transforming its affective quality or experience. Regarding intellectualization we shall use the term "preventive intellectualization" to refer to defense of the former type and reserve the term "intellectualization of affect" for those models in which the central affective state itself is the focus of the defense.

Since preventive intellectualization represents a "prophylactic" or forestalling strategy toward defense it is probable that its occurence would usually take the form of a broad and pervasive approach to all potential stimuli and would therefore appear as a characterological defense. Intellectualization of affect on the other

hand could easily be envisioned as occuring in response to discrete incidents of affective arousal without necessarily taking the form of an overall characterological stance. In purely theoretical terms however it makes little difference for this analysis whether a defense mechanism is viewed as characterological or discrete.

The first model for intellectualization is suggested by those theorists such as Schafer and Valliant who view intellectualization as involving the defensive use of intellectual contents instead of functions. As we have stated before, according to this view intellectualization involves a "shift in emphasis from immediate, inner and interpersonal conflict to abstract ideas and esoteric topics" and includes "paying attention to irrelevant detail to avoid perceiving the whole". The model suggested by this description is a simple avoidance paradigm whereby potentially charged stimuli are avoided through focusing on other more neutral stimuli or parts of stimuli. The distracting focus can be achieved through perception, memory or even fantasy but in all of these cases the underlying mechanism is assumed to be that of selective inattention. In other words, this avoidance paradigm makes use of the assumption that attention cathexes are by nature limited and that an individual's attending to a certain idea, image or memory necessarily precludes his simultaneously attending to an alternate idea, image or memory.

In this regard it can be said that intellectualization would differ from other defensive phenomena such as psychotic denial, hysterical blindness or actual flight which also involve avoidance paradigms but in which cases the avoidance of the charged stimuli is achieved by means other than selective inattention. Laughlin (1970)

however accentuates the similarity between these different defenses by suggesting that this form of intellectualized retreat be subsumed under the defensive rubrick of "withdrawal".

The avoidance model for intellectualization is most correctly seen as a model only for preventive intellectualization. This is clear from their definitions; these theorists are in fact referring to an avoidance of affective stimuli or cues and not to an avoidance of the internally aroused affective state itself. Theoretically as well it is consistent and necessary to apply the avoidance model only to preventive intellectualization since the defense against potential affects need not account for the quantitative and discharge aspects which must be considered when discussing defenses that focus on the central affective state. With regard to an aroused affective state itself the avoidance model would be an insufficient explanation, since it seems probable that the substituting of one idea for another can have little dissipating effect on the affective charge attached to the prior idea, perception or memory once it has been aroused, and would likely result in a displacement of affect onto the new, "intellectual" idea, as is the case in obsessions and phobias according to Freud (1915). It seems clear then that the avoidance model can only serve as a model for preventive intellectualization.

Although the defensive activity suggested in the avoidance model is certainly viable and frequently occuring there are several reasons for deciding not to choose this as the model and definiton of intellectualization. Firstly as we have already illustrated there are numerous theorists who quite clearly identify the use of cognitive functioning and secondary process thinking as the effective component

in intellectualization and not simply the use of intellectual contents and ideas. Indeed, the very term "intellectualization" implies a function or process and not merely an incidence of intellectual avoidance. This touches upon the second limitation of the model, namely, that it addresses only the phenomenon of defensive intellectualization and not that of intellectualization of affect. Here too it is clear that most theorists include in their definitions an indication that intellectualization refers also (or at least) to a defense against the affective state or experience and not merely to a preventive activity. This certainly is the view of Schafer for example who classifies intellectualization as a subset of isolation, which is unambiguously a defense against the central affective state itself.

Lastly, the avoidance model in effect places intellectualization outside of the group of distinct, intellectual defenses and logically subsumes it under other "avoidance" or "withdrawal" phenomena, as Laughlin points out. Not only does it then become difficult to continue seeing intellectualization as a separate, unique mechanism of defense but it also results in a model of intellectualization which is heuristically sterile. Certainly there is no need to validate experimentally that the avoidance of stimuli which evoke affect will result in a lessening of affect, or to inquire into why this should be so. The avoidance model therefore seems inadequate for a definition of intellectualization, which should share a larger measure of consensual agreement and be heuristically promising as well.

A variation on the above model seems to be implied in Voth's (1968) empirical work in which he proposes that intellectualization involves a "selective deployment of attention cathexis onto thought

processes and away from external reality". This "attention-cathexis" model suggests that the way in which affective stimuli are avoided is through focusing attention onto inner cognitive activity itself and not onto intellectual contents, in a manner of self-observation. Although basically an avoidance model too this approach is nevertheless more useful as a model for intellectualization in that it suggests a unique aspect in which intellectualization differs from other avoidance models (the concept that attention is deployed inward) and also suggests a compromise solution to the question of intellectual contents versus intellectual functions. This model too however is limited to explaining preventive intellectualization alone, and does not address the question of defense against the affective state itself which many theorists see as central to the concept of intellectualization.

At this point then we can proceed to consider models for "intellectualization of affect", in which the defense is viewed as focusing on the central affective state directly.

Adopting a psychoeconomic perspective we can first propose a "displacement" model for intellectualization. In this model it would be suggested that intellectualization involves a displacement of the psychic energy of the aroused affects onto cognitive functioning instead. This results in the removal of the affective "charge" from the original idea and in the vitalization of cognitive activity due to the added hypercathexis. Gitelson (1944) in a description of this defensive style states that "the neurotic intellectual floods his intellectual talent with emotional energy while its discharge through direct interpersonal relations is reduced". Shuren (1967) similarly states that "in intellectualization the cognitive ego siphons off the cathexes

of the experiencing ego and hypercathects its own functions as objects for the drives". The difference between this model and the psychoanalytic model for obsessions and phobias is apparent; whereas in obsessions and phobias the affective charge is displaced onto another thought content or idea in intellectualization it is displaced onto cognitive functions instead.

Bibring (1961) seems to suggest that in addition to the displacement alone of psychic energy, the aim of the affect or impulse may as well be displaced and partly discharged through the thinking process. She states that "Intellectualization is based on thinking as a special and limited variety of doing. It is the thinking process directed against and replacing emotion and impulse. In that thinking has been in one sense defined as experimental action in small and contained degree intellectualization restricts the individual to the realm of testing." Bibring suggests that the transfer of impulse from the realm of experiencing to the realm of thinking in intellectualization involves a limited form of discharge through doing, in addition to the displacement. Although Schafer too acknowledges that intellectualization has its drive discharge aspects, he separates them from its defensive aspects.

There are several objections that can be raised against using the displacement model as our definition of intellectualization. Firstly, as is true with many psychoeconomic explanations it is not particularly clear what is meant by a displacement of affective energy onto cognitive functions. Presumably this bears some relationship to the phenomenon of erotization of thought as conceptualized by Freud (1926) and Oberndorf (1934) though they clearly differ in that in

intellectualization cognitive function is not necessarily disrupted by the hypercathexis but instead may actually be facilitated, as documented from the literature on the Wechsler Intelligence Test. It would therefore seem that an explanation of the displacement model would have to introduce Hartmann's (1952) concepts of instinctualized versus neutralized energy and to include an additional assumption regarding a mechanism for the neutralization of aggressively or libidinally charged affective energy. At this point the model for intellectualization would become both cumbersome and highly inferential.

An additional problem with this model is its inconsistency with other psychoanalytic concepts of thinking. The psychoanalytic concept of thinking suggests that it involves experimental action which is made possible through the displacement of only small quantities of energy (see Freud 1911, Hartmann 1939). To suggest then that the cognitive functions can be the repository for the sum of the aroused affective energy is to significantly alter the psychoanalytic notion of thinking. Freud seems to address this very point when he says that "the greater the quantity seeking discharge the harder for the ego is the activity of thought, which consists of displacement of small amounts of energy" (1895). Bibring's addition that intellectualization also involves a small degree of drive-discharge through thinking does little to dispel this quantitative question.

In addition to the above theoretical objections we can also suggest that the displacement model limits our attempt to view intellectualization as a separate defense mechanism. In this model intellectualization should more appropriately be viewed as a symptom

which results from the defense of displacement in much the same way that obsessions, compulsions and phobias are seen as symptoms which result from displacement and not as independent defense mechanisms. This is not the view of most theorists who consider intellectualization a defense in its own right.

Another alternative to understanding the defense against affect in intellectualization is to entertain the possibility of a two-step process. In its simplest form this model could suggest that the complex phenomenon called intellectualization really includes a separate defense mechanism (repression or isolation) which initially defends against the surfacing affect and which is then followed by the cognitive activity of intellectualization in support of this defense. Within this model there are two ways to understand what role the intellectualized activity would play following the defense against affect, which we will now examine.

One alternative would be to think of the primary defense against the affect as incomplete and to view the intellectualized activity as a repository for remaining drive derivatives seeking discharge. This is similar to the displacement model, but since it allows one to talk about displacement of only a fragment of the defended-against energy it circumvents most of the quantitative problems inherent in the original displacement model.

The other role that we can assign to the intellectualized activity in the two-step model is to view it as the individual's attempt to summon up a series of intellectual contents for the purpose of filling the gap in his gestalt that was created by the original defense. The

intellectualization would then be in support of the defense by eliminating the dissonance that would otherwise be present as a result of reality testing.

This can be illustrated through an example from the analytic situation. When the analyst points out to the patient that an awareness of his strong feelings of hatred toward his father seems to be missing or denied (repression) while it is obvious from his behavior that they are there (reality testing) the patient is left with a defense which is untenable in the face of reality testing. He can then "intellectualize" the insight by acceding the presence of an idea or attitude (intellectual) of hating his father which the patient will see as causing his behavior, and continue to preserve the repression by denying the feelings of hatred. In this way, through intellectualization, he has satisfied the demands of both defense and reality testing. This model attributes to intellectualization a role similar to that of rationalization, which has as its primary purpose the stopping of inquiry into defensively motivated phenomena through the offering of a plausible explanation (see Jones 1908). Laughlin too (1970) suggests that intellectualization and rationalization are related mechanisms.

The limitations of this model for intellectualization are significant. In the two-step model we can no longer consider intellectualization a defense against affect except in the descriptive sense since it is no longer the primary defense against affect but instead a secondary support. In addition, the "rationalization" version of this model would once again bind us to the disadvantage of a definition of intellectualization that emphasizes as the instrument of

defense intellectual contents and not intellectual functioning. The two-step model is therefore an anemic definition and model for intellectualization.

We can lastly propose a "mutual-exclusion" model for intellectualization. The assumption behind this model is that cognitive functioning and affective experience are mutually contradictory modes of psychic functioning and are mutually inhibitory states, regardless and without need of dynamic motive. Thinking invariably restricts one's ability to feel, inversely, to allow oneself an unfetttered affective experience is to exclude the experience of cognitive functioning and to make thinking difficult.

Unlike the preceding models the mutual-exclusion model suggests that there is no unique functional relationship between cognitive activity and affect in intellectualization other than that which is present in ordinary thinking and cognition as well. Similarly, in this model it is also assumed that the defense against affect does not involve a specialized form of cognitive function, unlike in the avoidance, displacement or two-step models. Rather it is suggested that functionally intellectualization is no different than non-defensively motivated thinking, reasoning etc. during which there also occurs an inhibition of affect.

The difference between intellectualization and ordinary thinking in the mutual-exclusion model is a dynamic one. Whereas ordinary thinking has as its motive the use of thinking itself, for example as a problem solving technique, intellectualization is characterized by thinking which is undertaken for its affect-inhibiting potential.

Before considering how cognitive functioning and affective

experience are mutually inhibiting it seems useful to show that this model for intellectualization is in fact supported by a number of theorists coming from different perspectives. Firstly it is clear that many theorists agree that there is no functional difference between the nature of the cognitive activity in intellectualization and that in ordinary thinking. Bibring states that "intellectualization is the thinking process defensively directed against and replacing emotion and impulse". Levitsky reports that "intellectualization is generally understood as the use of all cognitive processes, where the goal is not genuinely to master reality but to defend the self against anxiety". Schafer concludes that "the normal prototype of isolation is logical thinking...(and)intellectualization is basically one form of expression of isolation". These and other theorists agree that the distinction between intellectualization and ordinary thinking is a dynamic one and not primarily a functional one.

More closely to the point, several theorists also suggest that cognition and affective activity involve two modes of psychic functioning and experience which are inherently antithetical. Freud (1895) writes that "the generation of affect inhibits the normal passage of thought, choosing pathways that lead to discharge for example". Rapaport (1950) suggests that whereas affective functioning is under the sway of the pleasure principle, secondary-process thinking requires following the rules of the reality principle. Balkanyi (1964) discusses how the linking of feelings to words, a process necessary for thinking, tames the affects because it disrupts and negates the primary process mode of function.

On a more phenomenological level, Shapiro (1965) writes that the

restriction of affect in obsessive-compulsive persons is not due to a conscious, deliberate effort to control and restrict their experience of affect. Instead, the existence of tension and deliberateness of activity automatically restricts affective experience which requires by its nature an abandonment or relaxation of the attitude of deliberateness, according to Shapiro. Although Shapiro's observation of deliberate activity in the obsessional includes numerous behaviors it clearly also includes the obsessional's emphasis on cognitive functioning which results in an inner state of deliberateness and overcontrolled activity. Beyond this point however it is also relevant that Shapiro argues for a mutual-exclusion model of sorts for the defense against affects, in which the defense is a result of mutually incompatible states and not a result of an external action.

In a related phenomenological vein Peters' (1970) suggestion that "emotions involve states of mind that we connect with...passivity, with things that 'come over us', unlike motives which involve similar states of mind that we connect with activity, with 'things we do'" hints at an additional phenomenological incompatibility between states of cognitive activity and states of affective experience. Whereas the experience of affect is accompanied by an experience of self as passive and reactive with regard to the emotional response, cognitive function involves an experience of self as active, in control, and as volitional agent with regard to that psychic activity. This contradiction in the experience of self in affect and cognition can also serve as a basis of explanation for the mutual-exclusion model of intellectualization. In the world of philosophy as well, as Hillman (1970) points out, the notion that the affective and the cognitive faculties are separate and

opposites has a long history. This is exemplified in Mendelssohn's statement that "we no longer feel as soon as we think".

In light of the above, then, it seems that the mutual-exclusion model for intellectualization is a viable alternative which enjoys a good measure of consensual support. We have mentioned several ways of envisioning the nature of the contradiction between affective and cognitive modes of psychic activity, whether functionally in terms of primary and secondary process, metapsychologically in terms of the reality and the pleasure principles, or phenomenologically in terms of inner states of spontaneity and deliberateness or in terms of passive and active experiences of the self. All of these ideas require significant further development before they can be considered explanations, although such elaborations are beyond the scope of this study. Nevertheless, the form of the mutual-exclusion model even at this point of clarity stands apart from other models explored in this section. It ascribes to intellectualization a unique mechanism rather than merely a variant form of other defense mechanisms, unlike the avoidance, displacement or two-step models. Intellectualization is functionally different from other defense mechanisms in this model.

Heuristically as well the mutual-exclusion model is useful. Theoretically, it raises the question of why or in what way are affective and cognitive experience or function contradictory. Empirically, since this model posits an inherently reciprocal relationship between affect and cognition it is possible to experimentally verify the existence of this functional relationship without the need to infer or prove a dynamic (defensive) motive.

A final note is in order regarding Pulver's distinction between

potential and unconscious affects. Although the mutual-exclusion model is limited to a paradigm for the intellectualization of affect (where the defense is focused on the affective experience itself) and not for preventive intellectualization, it seems possible to integrate this model with Voth's attention-cathexis model of preventive intellectualization in a manner that enhances both of these models. It can easily be assumed that since intellectualization involves an increased emphasis on cognitive functions, the individual's attention will similarly be directed more toward observing and monitoring his inner cognitive activity and less toward observing and reacting to affective stimuli in outer reality.

Summary and Conclusions

Functionally defined, intellectualization is that usage of cognitive functioning which has as its purpose the restriction of the experience of affect, rather than the mastery of reality. In this model, the restriction of affect is seen as a natural and inevitable consequence of all cognitive functioning and activity. Intellectualization is therefore distinguished from non-defensive cognitive functioning only by its purpose.

Intellectualization can involve the use of a wide variety of cognitive functions but does not include a change to intellectual contents as in intellectual avoidance, nor for that matter any change in contents. It is suggested however that the greater attention paid to inner cognitive activity in intellectualization can also serve to mitigate the impact of outer reality and thereby to further prevent the arousal of affect. This latter phenomenon has been called preventive

intellectualization.

Affect, as the object of the defense, is defined as including both unpleasurable emotions as well as those that are typically regarded as pleasurable. The term "affect" includes but is not limited to those emotions which can be attributed to drive derivatives and drive discharge manifestations. The restriction of affect that occurs in intellectualization refers to the restriction of the consciously experienced affective state; the question of unconscious affects is considered irrelevant for the present study. It is assumed however that whereas the physiological indicators of affective arousal may be observed even when there is no conscious experience of affect (and in this sense there may be unconscious affects), the absence or reduction of physioloical arousal signs necessarily indicates a reduction in the conscious affective experience.

The thesis of this paper can be stated as follows:

A) That an increase in cognitive functioning will result in a decrease of experienced affect.

B) That this will be so even when the increase in cognitive functioning is not accompanied by a shift away from the affective stimuli onto more neutral, intellectual stimuli or parts of stimuli.

C) That the increase in cognitive functioning will cause a decrease in experienced affect even when the increase in cognitive functioning is not defensively motivated, i.e. is not motivated specifically by the wish to avoid the experienced affect.

In the next chapter a review of research regarding intellectualization and related methodology will be undertaken from the perspective of the definitional considerations and conclusions presented in this section.

CHAPTER TWO

REVIEW OF RESEARCH LITERATURE

Review of Research on Intellectualization

Research on intellectualization to date has been rather sparce and has followed three general directions. Early research has focused on uncovering the genetic and developmental factors that result in the choice of intellectualization over other defensive styles and that result in its successful, adaptive use. In other studies defensive intellectualization has been viewed as part of a broader behavioral style and attempts were made to identify its correlates among related cognitive and behavioral styles. Lastly and most promisingly, other researchers have attempted to experimentally manipulate intellectualization for the purpose of exploring hypotheses about the psychic processes involved in this defensive activity. These areas of previous research will now be reviewed.

The earliest exploratory study on intellectualization is that of Levitsky (1955). In a two part study Levitsky attempted to construct and validate measures of the mechanism of intellectualization and then tested the validity of an inference about how the mechanism would operate in a learning situation. Levitsky developed an intellectualization inventory consisting of 50 items that were culled from the MMPI and other personality schedules and that were expected to differentiate between intellectualizers and non-intellectualizers. The items addressed themselves to intellectualization directly as well as to personality traits which were assumed to correlate with

intellectualization. Sample items from this inventory to which the intellectualizer would be expected to respond affirmatively are "Do you think society would be better if guided more by rational thinking", "Do you like work that requires considerable attention to detail" and "Are you thrifty and careful about making loans?" (See Appendix B for the full list of items.)

Levitsky validated his inventory by administering it to a patient population and correlating it with an external clinical assessment of the patient's degree of intellectualization. Levitsky hypothesized that subjects who had higher scores on the above measure of intellectualization would be more successful in tasks of incidental learning, and this hypothesis was partially confirmed. The result was discussed in terms of the intellectualizer's strong and constant drive to amass facts.

The second study on intellectualization was done by Weiss (1956) and Selzer (1956) who studied relationships between developmental experiences and choice of defensive behavior. Using Schafer's (1954) criteria for Rorschach analysis subjects were divided into four categories according to their predominant defensive style. Weiss and Selzer found that intellectualizers came from warmer, more accepting homes, had greater over-all family identifications and more identification with the father than did repressors. These studies were important not only for their findings on developmental differences but additionally for their demonstration that Rorschach protocols could reliably be used to determine predominant defense style.

This study was followed by Ledyard's (1960) work which explored the relationship between developmental experiences and successful or

unsuccessful adaptation among subjects who used intellectualization as their predominant defensive style. In Ledyard's study as well, the preselection of intellectualizers was done based on analyses of Rorschach protocols. Valliant (1971) similarly studied the relationsip between level of defense and degree of successful life adjustment, and included intellectualization in his study.

Several studies on intellectualization have approached it as a general style rather than as a discrete defense mechanism, and have sought correlations with other aspects of cognitive or perceptual style. In this regard the considerable body of research on the cognitive correlates of the MMPI-derived repression-sensitization dimension is of interest. (See Byrne 1964 for a review of this literature.) On the surface, the repression-sensitization scale may be thought of as relevant to this discussion in that "sensitization" has been occassionally and loosely identified with intellectualization and an obsessional defense style, as in Mander's (1973) study of defense style and arousal patterns.

On closer examination however it becomes clear that the R-S dimension is more accurately conceptualized as a measure of tendencies of approach versus avoidance defenses and not as a measure of the particular defense of intellectualization; this is also suggested by Byrne (1964). Beyond its relation to intellectualization, Tempone and Lamb (1967) have raised serious questions about the construct validity of the repression-sensitization dimension itself. In view of these questions it therefore seems justifiable to exclude this literature from further consideration and to focus on the cognitive-style research which deals specifically with intellectualization. In this regard the

studies of Schimek and Voth are relevant and will be reviewed.

As part of a wider study exploring the relationship between cognitive style and defense Schimek (1968) tested the hypothesis that the choice of intellectualization as a defense involves the use of characterological modes of functioning that are part of a broader cognitive style. This can only be the case, Schimek asserted, if intellectualization fulfills the two basic assumptions underlying the concept of cognitive style: a) that stylistic differences have long term stability and b) that the characteristics expressed in cognitive style be evident over a variety of tasks and psychological states from the cognitive-perceptual to the motivational. With regard to intellectualization Schimek hypothesized that a) measures of intellectualization which are obtained longitudinally will show significant within-subject correlation, and b) measures of intellectualization will show significant correlation with rod-frame test measures of field-independence, both of which it was assumed would be expressive of a more articulated, differentiated style of cognitive functioning.

Intellectualization in Schimek's study was measured through the rating of Rorschach protocols collected longitudinally over a 14 year period. The operational criteria for intellectualization on the Rorschach were a predominance of good form responses, attention to detail, emphasis on productivity and a detached, impersonal or introspective attitude. Both of the above hypotheses were confirmed, and Schimek suggests that a specific cognitive style can be thought of as a necessary but not sufficient condition for the emergence of defensive intellectualization.

Voth (1968) similarly supported the idea that defense style is a function of or is at least partly derived from enduring ego dispositions , and specifically tested the hypothesis that the defenses of withdrawal, intellectualization and isolation are related to the personality trait called ego-distance. As contrasted with ego-closeness, ego-distance as measured by degree of autokinesis refers to a lessened investment of attention outwardly and a greater capacity to withdraw cathexis from the outside world and become absorbed in subjective experiences. Ego-distant individuals have less need for stimulation from the external environment and are less vulnerable to its pressures than those who exhibit ego-closeness. Voth asserted that the ego closeness-distance dimension reflects a central personality dimension and that it would therefore be involved in the choice of defense. Voth further hypothesized that the defense of intellectualization depends upon the capacity to selectively deploy attention cathexis onto inner thought processes and away from external reality, and consequently will correlate with the personality trait of ego-distance and with a greater degree of autokinesis.

Intellectualization was measured in a patient population by therapists' ratings of predominant defense style, and was found to correlate moderately with ego-distance, as predicted. Voth concluded that defense style derives in part from the basic fabric of personality. Beyond Voth's conclusions this study can also be seen as support for Voth's concept of intellectualization, that it involves in part a selective deployment of attention onto inner thought processes and away from external reality.

A different and most promising direction in which research on

intellectualization has proceeded, and one which is most relevant to the present study, involves attempts to induce and manipulate intellectualization in an experimental setting. The scope of this work is limited at the present time to a series of experimental studies conducted at the University of California at Berkeley between the years 1962 to 1968, in which concepts of psychological defense and ego-defense theory were tested by means of a motion picture method. These studies will be reviewed in detail in historical order.

In a preliminary study Lazarus, Speisman et al (1962) stressed the importance of deriving an effective method for the experimental induction of psychological stress as a precursor to useful research on stress reactions. In this study they undertook a) to document the value of a motion picture film as a laboratory technique of inducing psychological stress, b) to identify appropriate response dimensions for evaluating film-induced stress, and c) to examine interrelationships between the response dimensions.

Lazarus' experiment consisted of three parts. In the first session subjects were administered a variety of personality inventories. In the second session subjects viewed a non-threatening control film, "Corn Farming in Iowa", while measures of arousal were taken. In the third session subjects viewed the stress film "Subincision" while similar measures of arousal were taken. The Subincision film is an anthropological depiction of an important ceremonial of the Arunta tribe and it very vividly presents a sequence of crude operations performed with a piece of flint on the penis and scrotum of several adolescent boys. The running length is 17 minutes and the film is silent.

Two measures of autonomic nervous system activity - skin resistance and heart rate - were used as measures of physiological arousal and were recorded continuously during both films. Following the films three self-report measures of reaction were taken. Subjects were given the Nowlis Adjective Checklist of Mood, responded to an open-ended interview and questionnaire, and were asked to rate their degree of experienced tension during the film on a six-point rating scale.

Significant differences were obtained between the two films on all five of the above measures. All of these response dimensions showed effects of the stressor film in the expected direction, and the authors conclude that the motion-picture technique is effective in producing psychological stress.

With regard to the question of appropriate response measures for evaluating stress it was found that for skin conductance and heart rate the measure of mean level appeared to be the most sensitive of dimemnsions in the comparison between contol and stressor film conditions. On the Nowlis Adjective Checklist the variables of Anxiety, Unpleasantness and Social Unafffectation were the most responsive, and Concentration the least responsive to the effects of the stressor film.

The authors raised questions about the poor intermeasure correlations while noting that this may be caused partly by the limitations of inter-individual correlations rather than intraindividual, and by the limitations of self-report measures taken after rather than during the film. Their conclusion however was that the motion-picture technique and its concommitant measures constitute an effective laboratory technique for the further study of

psychological stress and of stress mastery behavior.

Following along these lines Speisman, Lazarus et al (1964) used the above procedure to explore the theory that stress responses are the results of a process of cognitive appraisal in which the stimulus is appraised by the person as a threat to his welfare. The authors drew a parallel between the processes of cognitive appraisal of threat and those involved in ego defense and contended that a defense can be regarded as a reappraisal of a stimulus so as to be nonthreatening as in the case of denial, or so as to attain a psychologically nonthreatening distance from the event as in intellectualization. They specifically hypothesized that if these defensive appraisals were induced experimentally it would result in a decrease in the stress response.

To test this hypothesis Speisman et al prepared two soundtracks to accompany the Subincision film. The "intellectualization" soundtrack presented a scientific attitude toward the ritual and the events of the film were described in a detached manner without mention of feelings; the "denial" soundtrack denied the threatening aspects of the events and emphasized the positive benefits of participation in the ritual. A sample from each of these soundtracks gives a better feeling for their qualities. While a young boy exhibits some distress during the operation the intellectualization soundtrack comments "As you can see, the operation is formal and the surgical technique while crude is very carefully followed." At the same point in the film the denial soundtrack comments "You will soon see that the words of encouragement offered by the older men have their effect and the boy begins to look forward to the happy conclusion of the ceremony."

Using a trauma track and a silent presentation as controls, Speisman hypothesized that the defense soundtrack conditions would exhibit a decreased stress response when compared to the trauma and silent control conditions. The general procedures and the measures of stress response were similar to those of Lazarus' preceding study. Two subject populations were also used, students and airline executives, to study the possible interaction between personality and defense track effectiveness.

The results of this study were mixed. While mean level statistics for skin conductance were sensitive to significant differences between only the trauma and the defense soundtracks, point-to-point t-test analyses indicated significant differences between the defense and silent soundtracks as well. The results for heart rate were not significant, and point-to-point measures of heart rate also failed to adequately parallel the content of the film. Neither the Nowlis mood variables nor the Tension ratings obtained at the end of the film showed much evidence of differences between experimental conditions. The authors conclude that their hypothesis was confirmed on the basis of the skin conductance data, and they discussed the inadequacy of heart rate and of postfilm self-report measures as indices of stress. There was also evidence of a significant correlation between personality style and the effectiveness of different defense tracks. It was suggested that the defense tracks were most effective for individuals whose disposition inclined them toward the defense that was being induced.

In a study on the effects of intellectualization and identification upon psychological stress reaction, Jones (1963)

replicated the above study with several improvements. Jones recorded high-intellectualization and low-intellectualization soundtracks to accompany the film and controlled for matching of contents and timing across soundtracks. In addition to the Tension rating scale and other measures of stress used by Speisman, Jones included various rating scales among which was a "Disturbance" scale which asked subjects to rate how disturbing it was for them to watch the events in the film.

A comparison of the dependent measures for the high and low intellectualization conditions showed more significant results than in Speisman's original study. Like in the original study measures of mean-level for heart rate and skin conductance produced no significant differences between the high and low intellectualization conditions, but point-to-point comparisons for five high-stress points during the second operation produced significant differences for skin conductance. A measure of differences between the standard deviations for the two groups was significant for skin conductance (P=.10) and for heart rate (P=.01).Nowlis Anxiety was significantly lower for the high intellectualization group, as was the Disturbance score, and also showed a smaller variance. It was suggested that the lower variances in the high intellectualization condition reflect the use of an intellectualizing cognitive framework which imposes order on the stimulus situation and which can therefore be expected to result in a more consistent reactivity. Jones' study can be seen as adding to the preceding work of Speisman in the use of a low intellectualization soundtrack control rather than a silent control, in soundtrack improvements, and in the addition of the Disturbance scale and the tests of differences between variances.

Lazarus and Alfert (1964) extended the above studies to explore whether the reduction in stress reaction as a result of the defense soundtracks is in fact due to the induction of a defensive cognitive-reappraisal orientation as hypothesized or is an artifact which is caused by the relaxing or distracting effects that would be present when running any commentary during the film. They further questioned whether the above experimental manipulation is effective enough to produce stress reduction even when the defense-orientation soundtrack is presented as a preceding introduction and not as an ongoing commentary.

To answer both of these questions Lazarus and Alfert utilized the denial-reaction formation soundtrack to prepare an introductory defense-orienting narrative which could be presented before a silent presentation of the Subincision film. Lazarus and Alfert then compared the effects of the introductory narrative condition with those of the soundtrack commentary and silent conditions on measures of stress reaction. Results showed that the defense-orienting narrative if presented as an introductory statement before the film begins is at least as effective as the commentary soundtrack in reducing both physiological and self-report evidence of stress reaction. This was taken as evidence of the effectiveness of this manipulation, and also as evidence that the reduction in stress in these studies is a result of the induction of a particular defensive orientation which occurs even in the absence of any running film commentary. Lazarus and Alfert also found that the denial soundtrack worked more effectively for those subjects who scored high on independent measures of denial tendencies than for low deniers.

Review of Research on Related Methodology

Although there are no further studies in this vein that directly relate to intellectualization it is necessary at this point to review additional studies which address inportant methodological problems related to the above experimental procedure, specifically, the problem of response discrepancies.

Lazarus (1970) in his review of methodological problems in research on emotion calls the frequently reported lack of agreement among response indices one of the most vexing research difficulties. It is vexing because it threatens to call into question the validity of the measurements or constructs that result in these discrepancies, although Lazarus offers alternate explanations for the lack of agreement. With regard to physiological and psychological measures of stress reaction three studies are particularly helpful in isolating the factors that contribute to a poor inter-index correlation.

Lazarus, Speisman and Mordkoff (1963) asserted that failures of repeated research to establish significant correlations between autonomic nervous system indices of arousal or stress have resulted partly from the use of inappropriate methods of obtaining correlations - specifically, from interindividual procedures which do not take into account the autonomic response specificity differences between subjects. Lazarus et al employed an intraindividual approach (using intraindividual composite correlations across point means, during the Subincision film) and found substantial relationships between heart rate and skin conductance.

Mordkoff (1964) cited the general lack of agreement between verbal

report and physiological measures of stress reaction. While noting that verbal report is particularly susceptible among other things to the operation of defensive distortion on the part of the subject, Mordkoff suggested that a primary source of variance can be attributed to the measurement procedures. Whereas physiological measures are generally taken continuously throughout the stress period, psychological self-report measures have typically been taken only once, and that too at the end of the stress period. Mordkoff hypothesized that intraindividual self-report measures obtained continuously throughout the Subincision film would show a significant correlation with physiological measures in an intraindividual analysis similar to that done by Lazarus. A procedure for obtaining ongoing self-report ratings was developed and the results indicated a substantial relationship, as hypothesized.

Weinstein, Averill, Opton and Lazarus (1968) investigated the influence of defensive style on discrepancies between self-report and autonomic indices of stress, through a reanalysis of six experiments. As predicted, repressors showed relatively greater autonomic than self-report reactions to stress (utilizing the Subincision film technique), while sensitizers tended to show the opposite pattern of response. Since both repressors and sensitizers were equally effective in controlling autonomic reactions, it was concluded that the above results were due primarily to the influence of defensive style on self-report.

Critical Summary and Conclusions

To date research on intellectualization has focused on establishing the psychohistoric factors that contribute to the choice of the defense of intellectualization and has also explored the correlates of intellectualization in cognitive styles and personality dispositions. Additionally, the experimental work of Lazarus and his collaborators on psychological stress and cognitive appraisal has demonstrated that a particular form of intellectualizing behavior when induced experimentally is effective in reducing psychological stress reactions.

At this point it is useful to consider in which ways the preceding research contributes to the aim of this study to explore the process of the defense mechanism of intellectualization.

There are two obvious drawbacks inherent in both the psychohistoric and the cognitive-style research which limit their relevance to the present study. Firstly, since all of these studies are correlational in nature their explanatory power is restricted. For example, Voth's (1968) research proved that a correlation exists between ego-distance and intellectualization, but it is not possible to conclude that ego-distance (e.g. a turning inward of attention) is necessarily involved in intellectualization since the data is just correlational; both of these factors may actually be caused by a third dispositional determinant. Similar problems exist in the other studies, and limit their explanatory power as well.

A second factor which limits the applicability of the psychohistoric and cognitive-style research to this study is the manner in which intellectualization has been operationally defined. Whereas

this study intends to focus on intellectulization as a discrete psychic behavior or mechanism, the above studies tend to operationalize intellectualization by measuring a broader personality style which includes a variety of intellectualized and obsessive-compulsive defenses and traits in addition. The scoring of good form level (+%) on Rorschach protocols as a measure of intellectualization is an example of this, as also is Levitsky's intellectualization inventory which includes items such as "Are you thrifty and careful about making loans?" While these may be adequate definitions for research on intellectualization as a personality disposition they are inadequate definitions for the discrete focus of this study. We have previously mentioned similar ambiguities in the use of the MMPI repression-sensitization scale as a measure of intellectualization.

The various studies of Lazarus, Speisman, Mordkoff and Weinstein on the other hand are less vulnerable to the above criticisms. Since in their procedures intellectualization is induced and manipulated experimentally, the effects on the dependent stress variables can properly be construed as being caused by intellectualization, and can serve as evidence for hypotheses regarding the workings of the defense. In addition, intellectualization in these studies has been operationally defined as that discrete behavior which is elicited by the experimental manipulation rather than as a broad personality style.

The contributions of Lazarus and his followers to the present study will now be outlined. Methodologically, Lazarus' procedure for inducing psychological stress has proven effective and useful in testing hypotheses emerging from ego defense theory. They have validated the effectiveness of both ongoing soundtrack commentaries and

preceding narrative introductions as methods for inducing a variety of defensive operations. Their search for appropriate indices for the measurement of changes in psychological stress has resulted in more sensitive statistical and methodological procedures, including point-to-point correlations and continuous measurement techniques for physiological and self-report variables. They have supported the validity of these stress indices by detecting major causes of intermeasure discrepancies. They have also begun to explore the interactional relationships between dispositional defense style and the ability to induce experimentally particular defensive activities.

With regard specifically to their work on intellectualization, however, it must be concluded that Lazarus' work does not constitute a test or experimental demonstration of the mechanism of intellectualization as it has been defined in the previous chapter, for the following reason.

Lazarus' conception of intellectualization arose out of his theory of cognitive appraisal and defense which refers to the individual's reappraisal of stimuli in a nonthreatening way or at a nonthreatening distance. To achieve this end, the intellectualization soundtrack was aimed at suggesting to the subject nonthreatening, distancing, intellectualized contents which focused the viewer's attention onto the technique or details and away from the pain and the boy's distressed look. Lazarus' concept of intellectualization parallels closely that mechanism which has been defined in the previous chapter as intellectual avoidance, and which refers to the individual's focusing on intellectual contents for the purpose of avoiding the affect-arousing stimuli that may be present in the same situation.

In contrast, the mutual-exclusion model of intellectualization which is supported by numerous theorists emphasizes the role of cognitive functioning and activity itself (rather than a switch to intellectual contents) as the inhibitor of the central affective state and experience. Clearly, the Lazarus and Speisman intellectualization soundtrack does not induce cognitive activity such as thinking or concentrating and as a result their research can not be construed as addressing the mechanism of intellectualization that is implied in the mutual-exclusion model.

The aim of the present study is to demonstrate the aforementioned model for intellectualization. This will be pursued by adapting Lazarus' and Speisman's procedures to fit the mutual-exclusion model by changing the film introduction from one that suggests specific intellectual contents to one that fosters general cognitive activity while focusing on the events of the film. In this way the resulting procedure will constitute a test of the hypotheses outlined at the conclusion of the preceding chapter and a demonstration of the mutual-exclusion model of intellectualization.

In view of previous findings that suggest the presence of a synergistic interaction between defense manipulations and personality or defensive styles, an attempt will also be made to study these interaction effects for the present defense manipulation. Levitsky's Intellectualization Trait Questionnaire will be used to divide subjects into groups of Intellectualizers and Repressors, and the effects of the defense manipulation will be examined and compared for the two groups.

Lastly, a methodological improvement will be undertaken of obtaining and including into the data analyis baseline or prefilm

measures of the self-report stress indices, similar to the procedures for the physiological indices. The expectation is to improve the sensitivity of the self-report indices which have shown no results in previous research.

CHAPTER THREE

METHOD

Subjects

48 male undergraduate students were recruited from courses in psychology, bio-medical studies and engineering. Subject ages ranged from 17 to 50, with the mean of 24. All subjects were told they would be asked to watch a film and to answer questions about it. At the time of recruitment subjects were told that they would be paid for their participation, and were given Levitsky's 49 item Intellectualization Trait Questionnaire to complete, which was labeled simply "Trait Questionnaire" on top (see Appendix A). Subjects were matched according to their scores on the questionnaire and according to race and were then randomly assigned to either the experimental, intellectualization group or to the non-intellectualization control group.

Experimental Groups

Two experimental conditions were created by employing the subincision film as the stimulus, with variations dependent upon the nature of the introduction to the film and the instructions to the subjects.

Subjects in the intellectualization, experimental group were told prior to the film presentation: "This is a study of the ways in which different people understand films. As you watch the film that is about to begin, try to think about what is happening, concentrate on the events of the film, try to understand what the people in the film must be feeling, thinking or experiencing. People understand the film in

different ways; I am interested in your theory and understanding of the film. After the film you will be asked questions about your particular way of understanding it."

Subjects in the non-intellectualization control group were told: "This is a study of film-watching styles and behavior. As you view the film that is about to begin, allow yourself to watch it and to become involved as you would with any other film. Try to imagine that you are sitting down in front of a T.V. set, sitting down to view a program. Nothing else is asked of you; just watch the film."

Only the first 9 minutes and 50 seconds of the 17-minute Arunta film were used in this study. The three principle operations are included in this portion along with the points of highest physiological reactivity as indicated by previous studies. The presentation ends with a close-up of the third initiate sitting before a fire following his operation, and with a hair-tying ceremony.

Measures of Stress Response

Both behavioral and physiological indices of stress reaction were measured as a function of the experimental conditions. On the behavioral level, three self-report measures were obtained. An abbreviated form of the Nowlis Adjective Checklist of Mood (Nowlis 1956,1970) was administered to all subjects upon entering the room and again immediately following the film presentation and was scored for the four mood factors of Anxiety, Concentration, Activation and Deactivation, with the Anxiety factor serving as one measure of stress reaction. The instructions, total adjective pool and scoring system are reported in Appendix B. In addition to the Anxiety measure,

self-ratings of "Tension level" and "Disturbance level" on a five-point scale were also requested before and after the film.

The physiological variables measuring stress reaction consisted of two autonomic nervous system indices, heart rate and skin resistance. Heart activity was recorded on a Medcraft eight-channel polygraph, and heart rate was calculated by averaging the heart rate across three-beat intervals. Skin resistance was measured on an Enting Instruments Conductron 330 which provides a digital readout in micromhos conductance, accurate to .1 micromhos, and was read into a tape recorder at 10-second intervals. Both heart rate and skin conductance were obtained and recorded continuously as the subject watched the film.

Procedures

The procedures followed were broadly similar to those outlined by Lazarus (1962), Jones (1963) and Speisman (1964).

Upon arrival for the experimental session subjects were seated in a comfortable tilt-back chair and were asked to complete the Nowlis checklist and to rate their present levels of tension and disturbance. Subjects were then told:

> This is a study of the ways in which individuals watch films. We are also studying the ways in which people respond to films.

For the experimental group the following introductory statements were made:

> This is a study of the ways in which individuals understand films. We are also studying whether there is any relationship between the way people understand films and the way they respond to the film.

For both groups the instructions continued:

> During this session you will be viewing a 10-minute film, and while you are watching the film we will be recording aspects of your body functioning, such as heart rate and skin resistance. The equipment is well-designed so there is no danger to you whatsoever.

At this point heart rate electrodes were attached to the subject's right arm and to both legs, and skin conductance electrodes were attached to the middle and index fingers of the subject's left hand. The following instructions were then read to the subject:

> From here on, you will not be surprised in any way during the procedure. I will keep you informed so that you will always know what comes next.
>
> Now we will begin an 18 minute adjustment period. This will give the electrodes time to become adjusted to you. Before the 18 minutes is over we will already have begun recording. Try to get as comfortable as you can in the next few minutes so that you won't have to move any more than necessary during the film. The less you move the better the recording we can do.
>
> The introduction to the film will begin in about 18 minutes. The introduction will consist of two minutes of talking that will orient you to the film and will give you instructions on how to watch the film. This lamp on your left will go off a few seconds beforehand to let you know that the introduction and the film are about to begin.
>
> As you sit waiting, please keep your eyes open. I will be in the adjoining room running the instruments and I will reenter the room after the film.

The subject was left undisturbed for a 15-minute adjustment period after the electrodes were in place. Three minutes of recorded baseline followed. During the baseline period and through the film presentation the autonomic variables were continuously recorded, though not during the tape recorded film introduction. After the baseline period and before the start of the film introduction a floor lamp was turned off by a remote switch. This warning signal was used to reduce the surprise effect produced by the start of the talking.

A few seconds after the lamp was switched off, the introduction

soundtrack was begun. The tape-recorded soundtrack consisted of a film orientation segment followed by a film instruction segment. The film orientation segment was identical for the experimental and control groups:

> The film you are going to see today will not be a pleasant one. If at any point you feel that you do not want to watch the rest of it, let me know by tapping on the glass on your right and I will stop it.
>
> The pubertal rites you are about to see were conducted by the Arunta tribe, a primitive people of Central Australia. The ceremony involves painful cutting underneath the penis and into the scrotum. Just before the ritual is to begin two elders are selected to direct the activities. Although a slip of hand can result in permanent injury, some of the elders are inexperienced and may be doing the cutting for the first time. The elders make little preparation and seem to rely on only a few rough guiding rules. At the beginning of the film the elders are making last minute preparations. Time for the ritual is nearing. In a small group, the young men sit awaiting their turn.

The film orientation segment was followed by the film instruction segment which was different for the experimental and control groups. As reported in the "Experimental Conditions" section of this chapter, the instruction for the experimental, intellectualization group stressed the importance of trying to understand the film; the instruction for the control group stressed the importance of simply watching the film.

After completion of the film the electrodes were quickly removed from the subject. The subject was asked to remain in his chair and was handed a clip-board on which to fill out the Nowlis Adjective Checklist and the Tension and Disturbance scales once again (see Appendix B). Following this the subject was interviewed and asked to discuss his reaction and his coping strategy toward the film, as well as his usual coping style. The subject was then paid a small fee and was requested not to discuss the experiment with anyone until the study was completed.

Experimental Hypotheses

In view of the theoretical positions previously discussed, this study is designed to test the following experimental hypotheses:

1) Subjects in the experimental (intellectualization) group will show lower stress responses, measured by lower scores on physiological and self-report indices than subjects in the non-intellectualization control group.

2) As a result of the experimental manipulation, subjects in the experimental group will show higher scores on the Concentration and the Activation factors of the Nowlis Adjective Checklist than subjects in the control group.

3) The stress reducing effects of the intellectualization instruction will be greater for subjects who score high on the Intellectualization Trait Questionnaire (the Intellectualizers) than for those who score low (the Repressors).

CHAPTER FOUR

RESULTS

Experimental Conditions: Main Effects

With regard to the two experimental conditions it was hypothesized that subjects in the intellectualization condition would show lower stress responses, measured by lower scores on physiological and self-report indices than subjects in the control, non-intellectualization condition.

It was further hypothesized that as a result of the experimental manipulation subjects in the intellectualization condition would show higher scores on the Concentration and the Activation factors of the Nowlis Mood Checklist than subjects in the control condition.

To determine whether these hypotheses have been supported the results will be examined separately for the physiological and the self-report measures.

Treatment of Physiological Measures Data

The physiological data obtained in this experiment for each subject consisted of:

a) 3 minutes of GSR readings taken at 10-second intervals during the baseline period.

b) 10 minutes of GSR readings taken at 10-second intervals during the film.

c) 3 minutes of heartbeat continuously recorded during the baseline period.

d) 10 minutes of heartbeat continuously recorded during the film.

The 18 GSR baseline readings were averaged and a mean baseline score (GSRPRE) was obtained for each subject. Likewise, the 60 GSR film readings were averaged to obtain a mean film GSR score (GSRFILM).

The heartbeat record was translated into heart rate by calculating the average rate across four beats, at 10-second intervals throughout the 13-minute record. The resulting 18 baseline scores and 60 film scores were averaged to obtain mean baseline heart rate (HRPRE) and mean film heart rate (HRFILM) scores for each subject.

GSR Results

The GSR results are listed in Table #1. As can be seen, GSRFILM scores were higher for the intellectualization group subjects than for the control subjects, although the difference was not significant. The baseline scores must be taken into account as well, however, and here too the intellectualization group subjects exhibited higher GSRPRE scores than control subjects although again the difference was not significant. Since the film and baseline scores were highly correlated ($r=.75$) and were unevenly distributed between the experimental groups it seemed necessary to reanalyze the GSRFILM scores after correcting for the effects of differing baseline scores.

Two methods were used to correct for individual baseline differences. Firstly, a score reflecting the increase from baseline to film was calculated by subtracting GSRPRE from GSRFILM for each subject. This new score was labeled "GSRDIF".

A second adjusted score was calculated based on the presence of a linear relationship between baseline and film scores, as is evident from the strong correlation between these scores. The least-squares

TABLE #1

Comparison of Skin Conductance Scores by Experimental Condition.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
Prefilm GSR	24	131	85	24	108	107	.83	n.s.
Film GSR	24	187	138	24	167	113	.53	n.s.
GSR Difference	24	56	87	24	60	81	.17	n.s.
GSR Residual	24	-2	87	24	2	81	.15	n.s.

regression line of GSRFILM on GSRPRE was calculated for combined groups and predicted-GSRFILM scores were obtained for each subject's baseline score. The predicted-GSRFILM scores were then subtracted from the actual GSRFILM scores, and the residual error of prediction was thus obtained for each subject. This second adjusted score was labeled GSRRESID.

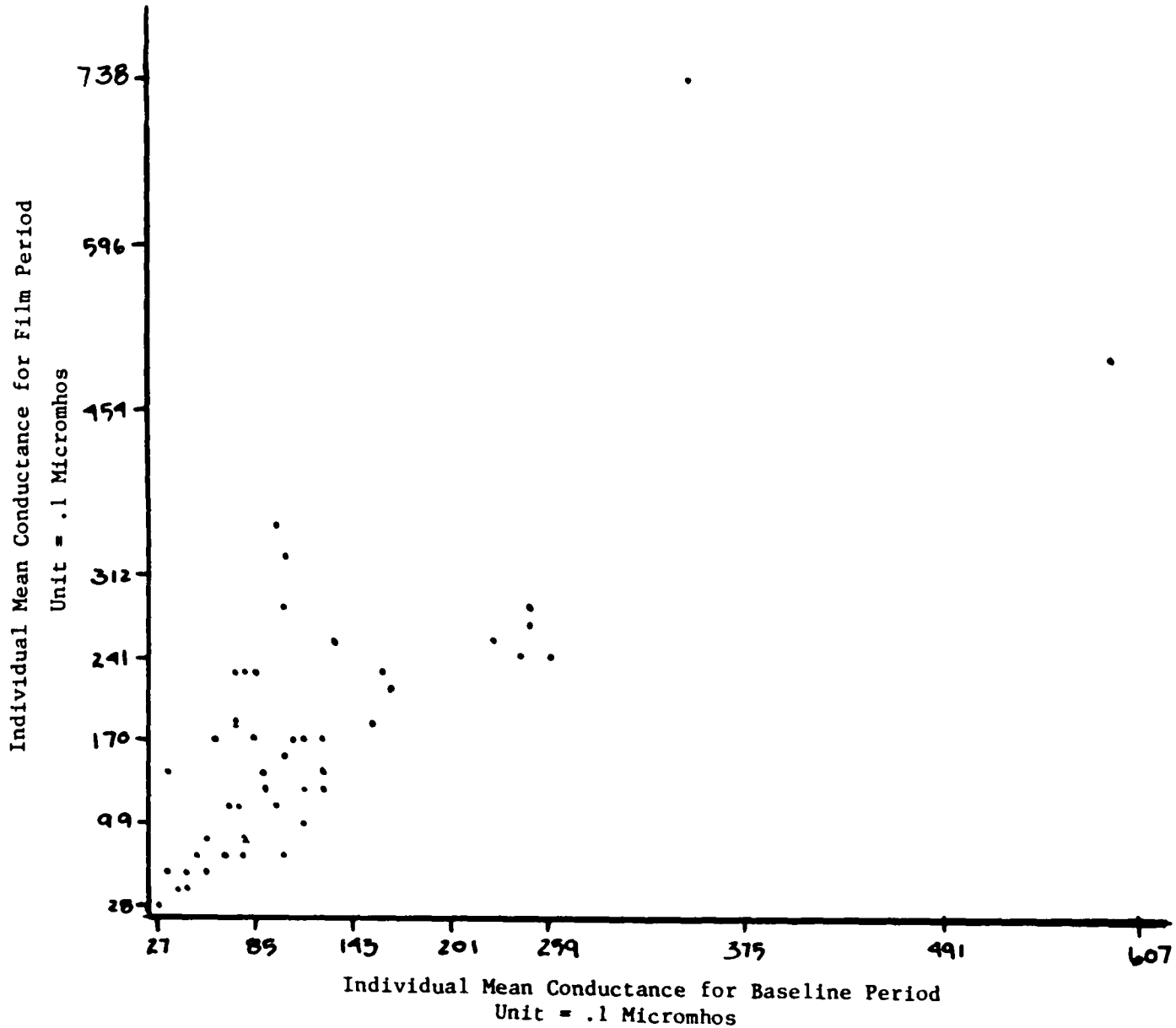
Reviewing these adjusted scores, (Table #1) it emerges that the intellectualization subjects had lower GSRDIF and GSRRESID scores than did the control subjects. Although the direction of these scores are now as hypothesized the differences are once again not significant.(All reported t-test significances in this study refer to 2-tailed significances, even when the results are in the hypothesized direction.)

Since GSR has previously been found to be the most sensitive of the stress measures in experimental paradigms similar to this, it would be worthwhile to explore the factors that contribute to this lack of significance. The considerable variability present among both experimental groups stands out as the primary factor, and suggests a closer look at the causes of this variability.

A quick glance at a scattergram of the data (Figure #1) reveals one major source of variability. Subject #23 from the intellectualization group and subject #40 from the control group each exhibited baseline and film GSR scores that were dramatically higher than any of the other subjects. Consequently, their extreme scores contributed unduly to the overall variability as well as to the group means. Because of this distortion an argument can be made for excluding these subjects from the data analysis.

FIGURE #1 Scattergram of Film Conductance by Baseline Conductance.

(N = 48)



With extreme subjects excluded the difference between the intellectualization group and the control group on GSRDIF increases and the variance decreases (see Table #2). A t-test performed on the group means approached significance at p=.19 (two-tailed).

A review of the GSRDIF scores reveals another phenomenon which contributed to the large degree of variance in the data. Contrary to expectations, 8 subjects had negative GSRDIF scores. These subjects actually had lower GSR readings during the film than during the baseline period. To understand this data one must look toward the postfilm interview data. In the debriefing interview the negative-GSRDIF subjects generally reported finding the baseline waiting period stressful, unlike most other subjects. Typical comments were "I get restless and impatient just waiting, not doing anything", and "I was more anxious waiting than during the film, knowing something was going to happen but not knowing what."

For these subjects then the experimental paradigm was in effect very different from the intended one. Rather than measuring stress arousal from baseline what was measured was the difference between one type of stress (ambiguity, the unknown) and another, lesser type of stress (the film). It can further be argued that for these subjects the film was less of a stress stimulus than for other subjects since it also provided a welcome relief from the tension of the baseline waiting period. Consequently, there is a strong rationale for excluding the data from these 7 subjects from the data analysis. (1 of the 8 was already excluded as an extreme score; of the remaining 7, 3 belonged to the intellectualization group, 4 to the control group.)

Table #3 shows the results of excluding both extreme and negative

TABLE #2

Comparison of Skin Conductance Scores by Experimental Condition

with GSR-Extreme Subjects Excluded.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
GSR Difference	23	41	49	23	66	77	1.32	.19 *

TABLE #3

Comparison of Skin Conductance Scores by Experimental Condition

with GSR-Extreme and GSR-Negative Subjects Excluded.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
GSR Difference	20	50	45	19	81	76	1.57	.12 *
GSR Difference for High-Stress Points	20	53	46	19	90	85	1.70	.09 *

* = two-tailed probability

GSR subjects upon the data. Once again, the difference between the lower scores of the intellectualization group and the higher scores of the control group becomes greater, and the variance is decreased. A t-test of GSRDIF scores between groups approaches significance at p=.13 (two-tailed test, N=39).

Another factor that may be responsible for obscuring significant GSR results is the calculation of the GSRFILM scores for each subject based on an averaging of all 60 film points. The rationale for including only selected data points into the average can be presented briefly. The pattern of skin conductance over the course of the subincision film has been found to closely follow the film's content (as documented in Lazarus et al, 1963) showing high points corresponding to the very threatening operations and low points at places in the film where relatively benign events were taking place. Since the intellectualization instruction should not be expected to reduce stress reaction where there is none, obtaining general means for the entire film including these points could easily mask significant effects. Figure #2 illustrates the changes in GSR over the course of the film, and also suggests that the differences between the intellecualization and control groups were in fact more pronounced during the high-stress points of the film than at low-stress points.

As a result of this argument Speisman (1964) suggested the usefulness of a point-to-point analysis. Rather than undertake a point-to-point analysis for all 60 film points in this study, however, two segments of five consecutive reading points were selected which occur at peak stress points during the first and second operations and the GSRDIF scores for these ten points were averaged to create a

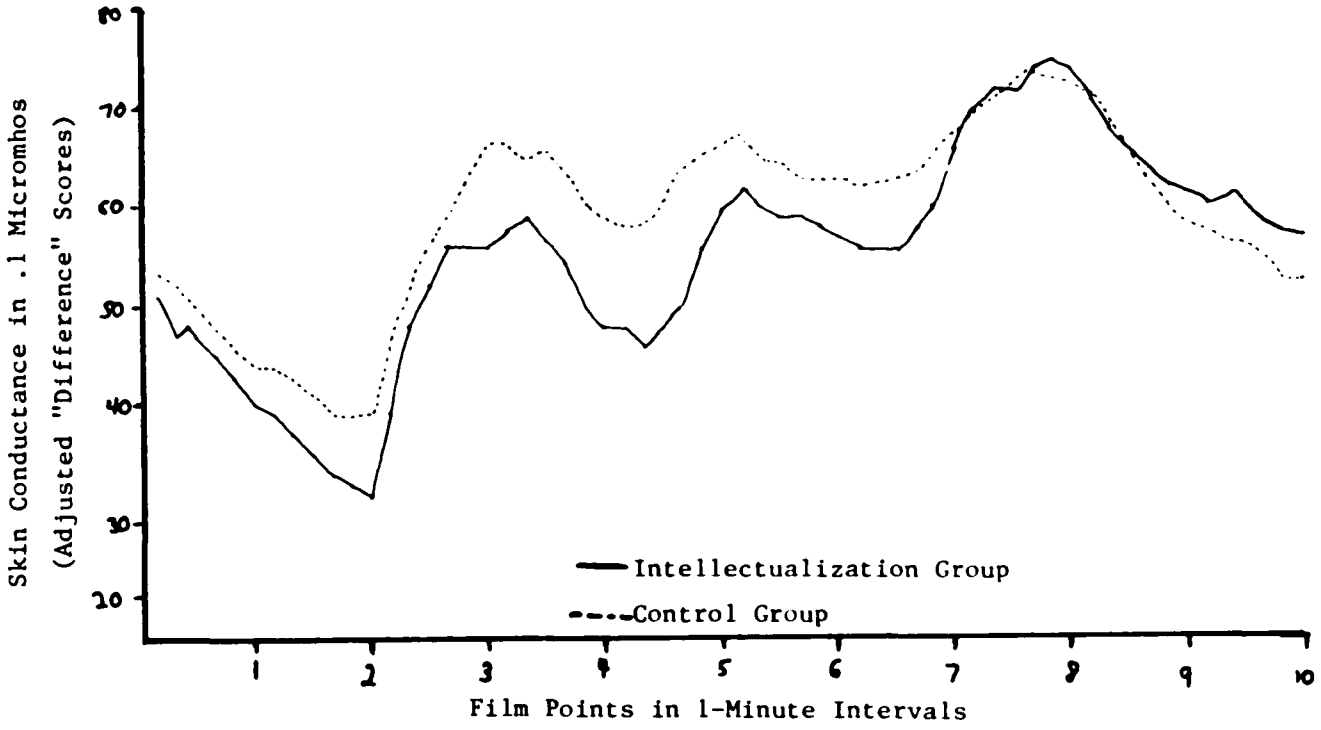


FIGURE #2 Skin Conductance During Film for Experimental Conditions.

N = 24 for Each Curve.

measure of GSRDIF for high-stress points for each subject.

Table #3 shows the results of the high-stress GSRDIF scores (with extreme and negative GSR subjects excluded) separately by experimental group. Once again the difference between the lower intellectualization group scores and the control group scores increases in the hypothesized direction. A t-test between the groups becomes significant at p=.097 (two-tailed). The variance for the high-stress GSRDIF scores is greater than the GSRDIF variance, however, as a result of the exclusion of the more stable, low-stress data points.

Although the main experimental hypothesis has been supported by the GSR data after controlling for confounding influences, the question remains whether there are other undetected variables which may have affected the experimental results. To explore this possibility the 48 subjects were divided into two statistical groups based on GSR results. Group one included those subjects whose GSR results were in the predicted direction for their experimental group; group two included those subjects whose GSR results were contrary to the predicted direction for their experimental group. T-tests were performed between these groups on all variables.

As shown in Table #4 t-tests revealed that for subjects in the intellectualization group, those who had low GSR scores (as predicted) scored significantly higher on Nowlis Postfilm Concentration (p=.09, two-tailed) and on the interview measure of "cognition during film" (p=.05) than high-GSR subjects. The higher Concentration scores reflected an increase in concentration from Prefilm to Postfilm measures rather than a stable personality trait; the increase from Prefilm to Postfilm Concentration for low-GSR subjects was

TABLE #4

Comparisons Between Low-GSR and High-GSR Intellectualization Group Subjects on Concentration and Cognition Measures.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
Postfilm Concentration	12	22	5	12	19	4	1.76	.09 *
Concentration Difference	12	5	4	12	.75	4	2.11	.05 *
"Cognition During Film" Rating	12	4.3	1	11	3.3	1	2.12	.05 *

* = Two-tailed probability

significantly greater than for high-GSR subjects.

It seems reasonable to suggest that those subjects who showed an increase from Prefilm to Postfilm Concentration were those for whom the experimental manipulation was effective, since control group subjects demonstrated as a group only a slight and non-significant increase. The role of personality factors in helping to determine for which subjects the "intellectualization" instruction was effective and for which it was not will be explored in the section titled "Personality Groups". The evidence from the present analysis however indicates that the GSR main effect was weak because of the variable effectiveness of the "intellectualization" instruction and not because of the weakness of the experimental hypothesis.

Heart Rate Results

The heart rate results (Table #5) are much more ambiguous than the GSR results. No significant differences between the experimental groups were found for HRFILM scores. As with GSR, a measure of heart rate which controls for differing baseline scores was calculated by subtracting HRPRE from HRFILM for each subject. On this new measure as well (HRDIF) the two experimental groups did not differ significantly. 16 subjects had negative HRDIF scores. Unlike with GSR, however, negative HRDIF scores could not be excluded as aberrant since previous research has indicated that a decrease in heart rate may also indicate a stress response in certain individuals.

Although it appears as if the experimental hypothesis was not supported by the heart rate data, it is possible that this is due to the insensitivity of heart rate as a measure of stress reaction in this

TABLE #5

Comparison of Heart Rate Scores by Experimental Condition.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
Prefilm Heart Rate	24	69.5	9.5	24	72	12.2	.79	n.s.
Film Heart Rate	24	71.8	6.8	24	73.2	10.6	.55	n.s.
Heart Rate Difference	24	2.2	5.0	24	1.1	5.8	.69	n.s.

paradigm. The longitudinal data lends support to this possibility. Figure #3 illustrates the changes in HRDIF over the course of the film, separately for each experimental group. The chart shows that there were few points at which the two groups diverged in their scores, and that there were many points of convergence and reversal especially during the high-stress points of the film. More importantly, the chart shows that the pattern of increases in Heart Rate did not tend to follow the film's contents, and that with the exception of the first two film minutes the HR graph remained relatively flat across both high-stress and low-stress points. It appears that Heart Rate was not a sensitive measure of stress reaction in this study.

Self-Report Measures

The self-report measures obtained from this experiment were the 17-item Nowlis Mood Checklist, the five-point tension scale and the five-point disturbance scale. Each of these measures was obtained twice for each subject, once at the beginning of the experiment and once immediately following the film presentation.

The Nowlis Checklist was scored for four mood factors: Anxiety, Concentration, Activation and Deactivation. For each subject there were a total of six prefilm measures (ANXPRE, CONCPRE, ACTPRE, DEACTPRE, TENSEPRE & DISTPRE) and six postfilm measures (ANXPOST, CONCPOST, ACTPOST, DEACTPOST, TENSEPOST & DISTPOST). Unlike GSR and HR, the self-report stress measures were taken after the film and not during the film, hence the suffix "post" instead of "film".

The main experimental hypothesis was that the experimental group would score lower on the self-report stress measures than the control

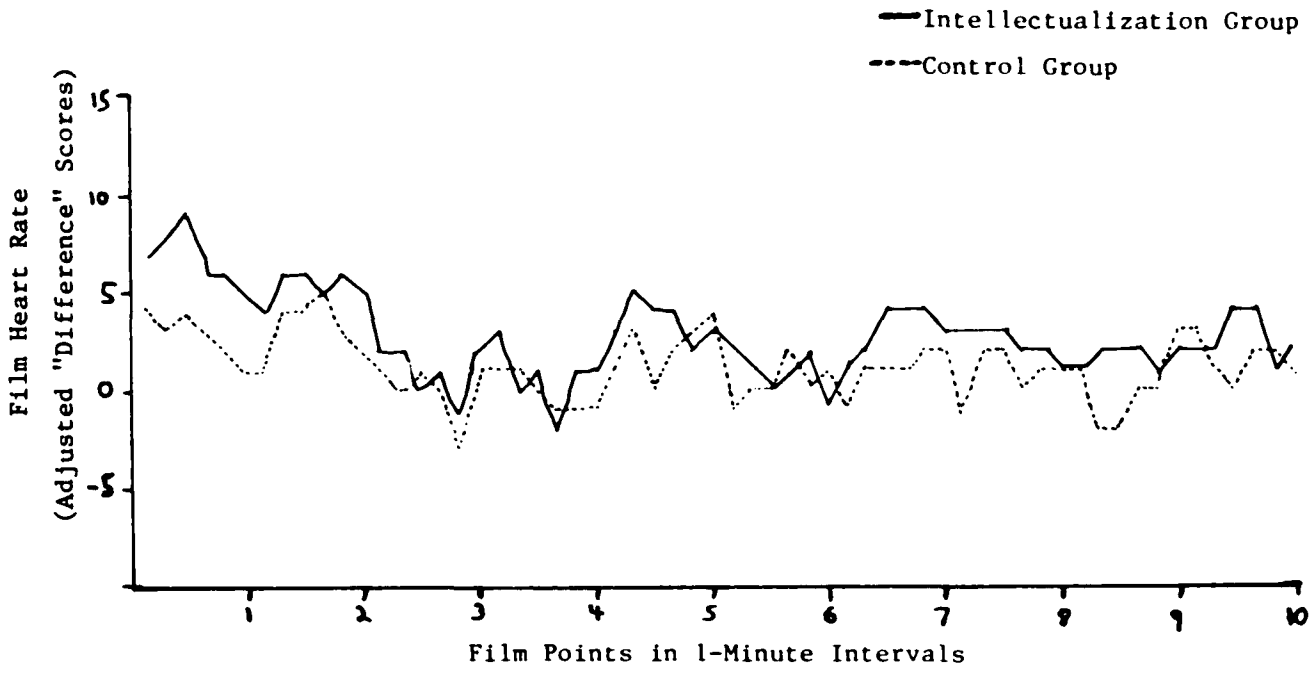


FIGURE #3 Heart Rate During Film for Experimental Conditions.

N = 24 for Each Curve.

group, as a result of the intellectualization instruction. To test this hypothesis experimental and control group subjects' scores on ANXPOST, TENSEPOST and DISTPOST were compared. As can be seen from Table #6, on all three measures the experimental group scored slightly higher than the control group, although the difference was far from significant. Unlike for the physiological measures, the prefilm scores for the self-report stress measures showed virtually no correlation with postfilm scores, so that the "difference" scores (ANXDIF, TENSEDIF and DISTDIF, obtained through subtracting prefilm from postfilm scores) of the experimental group were also slightly higher, contrary to what was hypothesized (see Table #6). This finding is explored further in the section on "Interaction Effects".

The second experimental hypothesis which relates to the two experimental groups predicts that as a result of the experimental manipulation (the intellectualization instruction) the experimental group would show higher scores on Nowlis Concentration and Activation factors and on the interview variable of "cognition during film" than subjects in the control condition. This was meant as a test of whether in fact the intellectualization instruction had the desired effect of increasing the subject's cognitive activity.

A moderate-to-strong linear correlation was found between prefilm and postfilm scores on the Nowlis Concentration, Activation and Deactivation measures. To adjust for the effects of differing baseline scores the residual error of prediction was calculated for each subject using the least squares regression line of Postfilm on Prefilm, as was done for Heart Rate and GSR. The resulting residual scores (CONCRESID, ACTRESID & DEACTRESID) were tested for significance. As can be seen

TABLE #6

Comparison of Self-Report Stress Measures by Experimental Condition.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
Postfilm Anxiety	24	8.5	4.1	24	8.2	3.5	.27	n.s.
Postfilm Tension	24	2.6	1.4	24	2.5	1.3	.11	n.s.
Postfilm Disturbance	24	3.2	1.1	24	3.0	1.5	.66	n.s.
Anxiety Difference	24	3.0	4.0	24	2.0	4.1	.92	n.s.
Tension Difference	24	.63	1.1	24	.54	1.4	.23	n.s.
Disturbance Difference	24	1.6	1.3	24	1.1	1.8	1.12	.27 *

* = two-tailed probability

from Table #7, the experimental group did indeed show a greater increase in concentration and showed greater activation and less deactivation than did control group subjects, with the differences on CONCRESID and DEACTRESID reaching significance. On the interview variable of "cognition during film" as well the experimental group scored significantly higher than did the control group, as hypothesized.

Personality Groups: Main Effects

No main effect differences between the two personality groups were hypothesized. T-tests between the groups however revealed that Repressors scored significantly higher on HRDIF ($p=.05$) and higher on ANXDIF ($p=.13$, two-tailed) than Intellectualizers. While one can conjecture that perhaps the Subincision film was easier to watch for Intellectualizers than for Repressors the absence of any such results on the other self-report and physiological stress measures makes this conclusion questionable. Furthermore, Repressors also scored significantly lower ($p=.03$) on HRBASE so that the greater "Difference" score may indicate that the baseline period of uncertainty was more stressful for the Intellectualizers, rather than that the film was less stressful. Additionally, since Heart Rate was the only measure which was significantly different one must also consider the possibility of constitutional differences in patterns of physiological arousal between Repressors and Intellectualizers as an explanation for the results.

Experimental Condition by Personality Group: Interaction Effects

The third experimental hypothesis was that the stress-reducing

TABLE #7

Comparison of Concentration, Activation and Cognition Measures

by Experimental Condition.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
Concentration Residual	24	.92	4.1	24	-.93	3.5	1.67	.10 *
Activation Residual	24	-.14	2.4	24	.13	2.18	.40	n.s.
Deactivation Residual	24	-.54	1.8	24	.53	2.0	1.97	.06 *
"Cognition During Film" Rating	23	3.8	1.2	24	2.9	1.6	2.28	.03 *

* = two-tailed probability

effects of the intellectualization instruction manipulation would be greater for subjects who score high on the Intellectualization Trait Questionnaire (the Intellectualizers) than for those who score low (the Repressors). Operationally, it was predicted that the difference between experimental and control group scores on the five stress measures would be greater for Intellectualizers than for Repressors.

Since the main experimental hypothesis of lower stress scores for experimental group subjects was validated only with regard to the GSR results it is only for GSR scores that the interaction effect hypothesis is still relevant. Using a two-way Analysis of Variance, no interaction effect between experimental condition and personality group was found for GSR or for any of the other five stress measures in the predicted direction. Unexpectedly, the variable TENSEDIF did show a significant interaction effect in the reverse direction. That is, Intellectualizers in the experimental group had higher TENSEDIF scores than did control group Intellectualizers, while the reverse was true for Repressors.

The interaction effect observed for the TENSEDIF measure can be best understood by looking at simple main effects, that is, by examining the differences in TENSEDIF scores between the experimental conditions separately for the two personality groups. For repressors there was no significant difference between the experimental conditions on TENSEDIF. For Intellectualizers on the other hand experimental group subjects scored significantly higher on TENSEDIF than control group subjects ($p=.05$).

In view of this finding it seems useful to reexamine the results on the other self-report stress measures separately for each

personality group. It can be recalled from Table #6 that for combined personality groups those subjects who were in the experimental group exhibited higher ANXDIF, DISTDIF & TENSEDIF scores than did control group subjects, and that this result though not reaching significance was contrary to what was predicted. Tables #8 and #9 show the breakdown of these scores for each personality group. As can be seen for Repressors there was little difference between the two experimental conditions on all three measures, and whatever differences did exist tended to be in the predicted direction of lower stress scores for the experimental group. For Intellectualizers however experimental group subjects tended once again to score higher on all three stress measures than did control group subjects with the differences being significant at p=.05 to p=.11 (two-tailed).

Clearly there was an interaction effect then between the intellectualization instruction and personality style such that the instruction had a greater impact on those subjects whose general defensive style leaned toward intellectualization, although the impact was seemingly opposite from what was predicted. One might suggest the possibility that for some Intellectualizers the instruction to think about the film caused them to think about it in a way that increased their stress by identifying with the boy undergoing the operation, and there is some support for this possibility from the interview data ("I tried to put myself in his shoes to see how it would look and feel"). It is also possible that Intellectualizers in the experimental group may have tended to report greater stress than they actually felt in order to manifest their compliance with the instruction to think about the film, whereas on GSR and Heart Rate they did not score

TABLE #8

Comparison of Self-Report Stress Measures by Experimental Condition for Repressor Personality Subjects.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
Anxiety Difference	12	3.3	4.5	12	3.4	4.6	.04	n.s.
Tension Difference	12	.42	1.2	12	1.1	1.6	1.18	n.s.
Disturbance Difference	12	1.5	1.3	12	1.5	2.0	0.0	n.s.

TABLE #9

Comparison of Self-Report Stress Measures by Experimental Condition for Intellectualizer Personality Subjects.

	Intellectualization Group			Control Group				
Variable	N	Mean	SD	N	Mean	SD	t	p-level
Anxiety Difference	12	2.8	3.6	12	.5	3.1	1.63	.12 *
Tension Difference	12	.83	1.0	12	0.0	.95	2.06	.05 *
Disturbance Difference	12	1.75	1.4	12	.75	1.4	1.76	.09 *

* = two-tailed probability

significantly higher than control group subjects.

A closer look at the prefilm scores and at the data for Repressors however reveals the presence of another personality variable which may explain these results more convincingly. Comparing the four cells of experimental condition by personality group it becomes apparent that the above difference was not the result of an interaction between an Intellectualized personality and the intellectualization instruction, but was instead the result of the lower ANXDIF, DISTDIF and TENSEDIF scores of the control group Intellectualizers. Not only were this group's scores lower than the experimental group's, they were also significantly lower than other control group subjects who were Repressors. This group was also unique in that its prefilm scores on the three self-report stress variables were also significantly higher than those of the experimental group Intellectualizers or the control group Repressors. The control group Intellectualizers also had lower postfilm scores on these measures, but only the "Difference" scores were significantly different from the other groups.

The above data suggests the conclusion that due to sampling anomalies the control group Intellectualizers were a group characterized by significantly higher prefilm stress and lower postfilm stress, based on self-report measures. This in no way reflects the effects of the experimental condition since subjects were not indoctrinated into their experimental group until after they had completed the prefilm questionnaire. Instead, this reflects a personality trait which can be called "stress anticipation" in which these subjects anticipated and were reacting to the anticipation of a future stress before it was actually presented, thereby exhibiting an

increased stress response preceding the film and a lessened stress reponse during the film than did other subjects. The work of Lazarus and Alfert (1964) demonstrates that such a pattern does in fact result from the anticipation of stress.

It can be convincingly argued that the confounding personality variable of "stress anticipation" which was present in control group Intellectualizers not only was responsible for generating a nonexistent interaction effect, but also contributed to masking the main experimental effect of lower scores for experimental group subjects on the self-report stress measures.

Other Variables Influencing Stress Reaction

In order to detect other variables which may have played a role in determining the magnitude of subjects' stress reactions an analysis of extreme subjects was undertaken. T-tests on all variables were performed between those subjects who reported finding the film most disturbing based on DISTPOST scores (N=6) and those subjects who reported being the least disturbed by the film (N=9). The t-tests revealed that those subjects who reported little film impact scored significantly lower on Prefilm and Postfilm Concentration (but not on Post-Pre difference score) and on the interview variables of "Cognition during film" and "Normdefense". Normdefense was a measure of the subject's report of how he/she would normally deal with stress; a low score meant that the subject's normal defensive style was an approach/intellectualizing one rather than an avoidance/repressing one. These results suggest the possibility that those subjects who tend to use intellectual defenses were generally able to deal with this film

better, or at least reported doing so, although it is unclear why this should be so. It is interesting to note that these findings were duplicated in both experimental groups.

The strongest single factor emerging from the comparison of these two extreme-subject groups was the importance of subject age as a variable. Low-distress subjects tended to be older than high-distress subjects ($p=.01$). For the entire subject pool, there was a strong inverse correlation between subject age and Postfilm Tension and Disturbance ratings, and a mild inverse correlation between subject age and GSR, Heart Rate and Nowlis Anxiety scores.

Older subjects also tended to be more intellectualizing than younger subjects. Subject age was strongly correlated with Prefilm and Postfilm Concentration, and modestly correlated with the interview variables "Cognition during film" and "Normdefense".

In view of the correlation between subject age and an intellectualizing defense style it seems more probable that the lower stress reaction for subjects who displayed an intellectualizing defense style was primarily a function of subject age and not of the defense style which is an incidental covariate. This possibility is supported by data from the subject interviews in which several older subjects explained their low stress response saying "I've seen worse than that in my lifetime".

SUMMARY

The main experimental hypothesis was that subjects in the experimental group would show lower scores on the two physiological and three self-report stress measures than control group subjects. GSR

results were not significantly lower when all subjects were included. A rationale was provided for excluding extreme subjects and subjects who showed a decrease in stress response from baseline to film. With these subjects excluded, GSR scores reflecting the high-stress points of the film were lower for the experimental group, with the difference approaching significance ($p=.09$, two-tailed). In addition, those subjects in the experimental group who tended to exhibit lower GSR scores were those for whom the intellectualization instruction seemed to have had the most impact, as evidenced by increased concentration and thinking during the film.

The Heart Rate data was inconclusive, as were the results from the three self-report stress measures. Although control group Intellectualizers exhibited significantly higher scores on the self-report measures than experimental group Intellectualizers, the data suggests that this was primarily a function of a personality variable which was labelled "stress anticipation" and which was unevenly distributed between the groups. It was suggested that this may have masked significant results for the self-report measures.

No evidence was found to support the hypothesis of an interaction effect between the intellectualization instruction and personality defense style. Subject age was found to correlate inversely with degree of stress reaction.

CHAPTER FIVE

DISCUSSION

The present study attempted to extend the findings of Jones (1963), Spiesman (1964) and others who defined and demonstrated a concept of intellectualization which stressed only the role of intellectual contents in an "avoidance" paradigm, rather than stressing cognitive functioning itself. The results of the present study upon initial analysis do not seem to support the concept that cognitive functioning itself can result in a reduction of affective reaction, and that cognition and affect are two different and mutually-inhibiting modes of psychic activity, as has been suggested by numerous theorists. As in previous studies, the Heart Rate and Self-Report data were especially inconclusive.

On closer examination however it becomes apparent that significant GSR results were obscured by the presence of a great degree of within-group variance, a problem which has been encountered by previous researchers using this paradigm. Previous researchers have undertaken point-to-point analyses to circumvent this difiiculty; in this study an attempt was made instead to identify those subjects and subject variables which may have contributed unduly to the variability. The fact that post-hoc analyses (with negative-GSR subjects excluded) yielded significant results can therefore be taken as lending some support for the main hypothesis. Although the main effect in the post-hoc analysis was clear, future research efforts could undertake to strengthen these results by developing a priori measures for identifying the relevant subject variables.

One question that must be considered is whether the reduction in anxiety was a result of an increase in cognitive activity as predicted, or whether in fact it was once again the consequence of a switch to other "intellectual" contents which may have been a side effect of the intellectualization instruction. While it is hard to get a direct measure of the extent to which subjects were thinking about the events of the film rather than about peripheral aspects of the film the interview data nevertheless indicates that the increased cognitive activity of the experimental group was not "avoidant" behavior. A measure of "identification" was obtained for each subject from the interview data which reflected to what extent the subject reported being identified with the Arunta boy undergoing the operation in the film (e.g. "I tried to put myself in his shoes" or "I kept on thinking that we were different cultures, that it couldn't happen to me"). Subjects in the experimental group tended to identify with the Arunta boy even more than did subjects in the control group, with the difference approaching significance. The interview data then suggests that if the intellectualization instruction had any effect on the contents, it was to direct subjects' thinking toward the traumatic elements of the film rather than away from it.

The results show that when the intellectualization instruction was effective in stimulating cognitive activity stress reaction was significantly reduced, yet not for all subjects was the intellectualization instruction effective. The question of which variables determined for which subjects the instruction was effective has important implications for some of the cognitive and behavior therapies which focus on "instructing" new attitudes or strategies for

dealing with anxiety. Unexpectedly, no correlation was found between personality disposition toward intellectualization and the effectiveness of the instruction to stimulate cognition. It may be that subjects who experienced the greatest degree of stress from the film tended to abandon the externally-imposed instruction in the face of their anxiety, and this may suggest that "instructional" therapies may be more effective in states of low anxiety than of extreme anxiety. Further research is necessary however before any conclusions about this can be drawn.

The present study also sheds some light on one of the problems raised by previous researchers utilizing paradigms similar to that of this study: the question of poor intercorrelations between stress response indexes. The intercorrelations listed in Appendix C reveal similarly only mild correlations between Heart Rate and GSR and between the physiological and self-report stress measures, although the three self-report measures correlated strongly with each other. Rather than draw the conclusion that the measures of stress are either unreliable or invalid previous researchers (Lazarus 1962, 1970) have presented the explanation of "Individual Response Specificity" which suggests differing individual physiological patterns of arousal. Mordkoff (1964) offers a different explanation for the poor correlations between self-report and physiological measures. The present study contributes another perspective to this problem. Although intercorrelations between indexes were low when compared for all subjects, a different picture emerges when only the extreme subjects are selected and compared. In the previously-discussed analysis of extreme subjects it emerged that subjects who reported being extremely disturbed by the film had higher

scores on all five stress measures than subjects who reported being relatively undisturbed by the film, with the differences being highly significant. This data suggests then that much of the discrepancy between stress measures occurs in measuring the more ambiguous, middle range of stress responses and not at the extremes, and is the result of a lack of sensitivity in this range rather than an overall lack of validity or reliability.

The importance of subject age as a variable in stress response experiments is highlighted by the data in this study. Firstly, there seems to be a correlation between increasing age and the tendency to experience certain stimuli as less stressful, either because of an accumulation of desensitizing experiences or through the development over time of more effective defenses older subjects tended to find the subincison film less stressful.

Equally as interesting is the finding that older subjects in this study tended to exhibit personality and defense styles which were weighted more toward intellectualization than did younger subjects. While it is possible that this may reflect only upon the nature of older college students whose motivation to remain in or return to school is likely greater than that of younger students and among whom one can expect to find a greater investment in intellectual activities, it may also be the case that certain shifts in defensive styles may be part of the process of adult development. Schimek (1968) has documented that defensive styles tend to be relatively stable from adolescence to young adulthood; the present study suggests that changes may occur from that point to middle adulthood. In addition, Schimek did not discuss whether those changes that did occur tended to follow a particular

direction, as was the case in the present study. One of the serious qualifications of the results of this study is the small number of subjects representing the "older" age group.

A final point which deserves attention is the notion of baseline readings as a method of adjusting for individual differences. With regard to the self-report variables, the utilization of prefilm scores in this study for the purpose of obtaining "difference" measures was useful for some of the non-stress measures such as Concentration, and for the Tension measure, for all of which there existed at least a moderate correlation between prefilm and postfilm scores. For the self-report variables of Disturbance and Anxiety however there seemed to be virtually no relationship between prefilm and postfilm measures and it therefore seems likely that the prefilm measures reflected more than just baseline measures of non-stress dispositional anxiety.

Even stronger reservations can be raised with regard to the baseline readings obtained for the physiological stress measures, and particularly for GSR. As has been described, for several of the subjects the baseline period in itself represented a stress-inducing situation quite apart from and even greater than the film, in that subjects were asked to sit passively and await some unknown experience for which they had been wired. Both fear of the unknown and anxiety over not being in control were described by subjects in discussing the baseline waiting period. The data from the self-report variables further suggested that some subjects were "stress anticipators" who used the baseline period to anticipate and adapt to the possible stress in advance.

It can be argued then that the baseline measures elicited from the

current experimental paradigm which has been used in numerous other studies as well are far from accurate measures of dispositional anxiety levels, despite the significant correlations between baseline and film scores, since the baseline period involves particular stresses of its own. One implication for future research would therefore be to attempt to obtain baseline readings that are more truly stress-free in the hope of improving the sensitivity of the stress-arousal "difference" measures. Beyond this immediate focus however the baseline period phenomena just described are in themselves worthy of additional study. The question can be raised as to why certain subjects experienced the ambiguity of the waiting period as particularly stressful whereas others did not; similarly, certain subjects seemed to attenuate their response to the film by engaging in anticipatory activity during the waiting period whereas other subjects tended to be caught more suddenly by the film. A study of these baseline phenomena may shed further light on the ways in which personality dispositions can influence defensive styles.

The unexpected finding of the presence of a defensive style of "stress-anticipation" is in itself worthy of additional attention. For some subjects this defensive activity proved more effective than intellectualization or avoidance in decreasing stress reaction. Further research is suggested to explore the mechanism of this defense and its relationship to counterphobic and other personality tendencies.

With regard to the main thesis of this study, that the defense mechanism of intellectualization can be defined as involving an increase in cognitive function which inhibits affective experience, the following observations are relevant.

Support has been provided for the notion that cognition and affective experience may in fact be mutually-inhibiting modes of psychic functioning, and this finding is suggested to be the functional relationship which underlies the defense mechansim of intellectualization. At this point we are free to speculate as to why cognition and affective experience should be mutually inhibiting. Subjects in this study who tried to capture their subjective experience of this relationship talked about how thinking gave them either "distance" from or "control over" the film (though not through simple avoidance). This is in agreement with some of the possible explanations touched upon in Chapter One which discuss the phenomenology of thinking and feeling in terms of the experience of action versus reaction and of self as volitional agent. These ideas have not been developed in this study; the further clarification of the relationship between cognition and affect must await future theoretical and empirical exploration.

A secondary objective of this study, and in a sense its implicit thesis, was to illustrate the usefulness of precise theoretical definitions when undertaking research on psychoanalytic concepts of defense. In particular, an attempt was made to follow Eissler's (1959) and Siegel's (1969) suggestions to define defense mechanisms in terms of the actual mechanisms assumed to be operating, rather than remaining on a descriptive level alone. The present research effort grew out of an analysis of intellectualization which highlighted the fundamentally different ways in which intellectualization has been defined in the theoretical and research literature. This definitional analysis provided both a useful focus for the research and a clearer framework for the understanding and interpretation of the results. This study

represents a small beginning; it may be that a more comprehensive exploration of the range of defense mechanisms will have to await the development of clearer and more systematized definitions that will address the actual mechanisms assumed to be operating and that will therefore differentiate more effectively between one defense mechanism and another.

APPENDIX A

INTELLECTUALIZATION TRAIT QUESTIONNAIRE

A TRAIT QUESTIONNAIRE

Subject No. _____

Instructions: The following statements ask about yourself or your opinions and preferences. Most of them are answered by YES or NO, some by AGREE or DISAGREE, some by A or B. Please circle the appropriate answer at the column to the right of the statement.

1. Can you always think of a good excuse when the situation demands it?	YES	NO
2. Do you always know what to do next?	YES	NO
3. Would you rather be an artist than a political organizer?	YES	NO
4. Do you like to study and read about things that you are working at?	YES	NO
5. Are you systematic in caring for your personal property?	YES	NO
6. Do you like work that requires considerable attention to detail?	YES	NO
7. Are you well described as a happy-go-lucky, nonchalant person?	YES	NO
8. Does it embarrass you a great deal to say or do the wrong thing in a social group?	YES	NO
9. Do you feel that you are lacking in self-control?	YES	NO
10. Do you cry rather easily?	YES	NO
11. Do you feel that you have an unreliable memory?	YES	NO
12. Do you find it interesting to spend time analyzing the motives of people in various social situations?	YES	NO
13. Do you remember names of people fairly well?	YES	NO
14. Are you afraid of snakes?	YES	NO
15. Do you like love scenes in a movie or play?	YES	NO
16. Do you suspect that your friends think you are a difficult person to get to know really well?	YES	NO
17. Is it difficult to "lose yourself" even at a lively party?	YES	NO
18. Are you often inclined to go out of your way to win a point with someone who has opposed you?	YES	NO
19. Can you stick to a tiresome task for a long time without being prodded?	YES	NO
20. Do you go about your business: (A) rushing actively from one thing to another,,e.g. eating fast, walking fast etc.? (B) in a deliberate, methodical fashion?	A	B
21. Do you ever rewrite your letters before mailing them?	YES	NO
22. Do you make special plans whenever possible to avoid waste of time between jobs?	YES	NO

(Trait Questionnaire, Page 2. Subject. No._____)

23. Do you subscribe to the philosophy "Eat, drink, and be merry, for tomorrow we die"?	YES NO
24. Do you often run over in your mind the events of the day before going to sleep at night?	YES NO
25. Do you usually have to stop and think before you act even in trifling matters?	YES NO
26. Is your motto (A) "Laugh and be Merry"? (B) Take matters of everyday life with proper seriousness?	A B
27. Do you tend to be on your guard with people who are somewhat more friendly than you had expected?	YES NO
28. Do you believe that you know your own characteristics about as well as most people know theirs?	YES NO
29. Do you like science?	YES NO
30. Do you ever heckle or question a public speaker?	YES NO
31. It is essential for learning or effective work that our teachers or supervisors outline in detail what is to be done and exactly how to go about it.	AGREE DISAGREE
32. Do you check the condition in which personal property is returned by or to you?	YES NO
33. Are you inclined to be overconscientious?	YES NO
34. Do you believe the world would be better run if we depended more on our emotions and less on logical reasoning?	YES NO
35. Do you express such emotions as delight, sorrow, anger, and the like, readily?	YES NO
36. Do you like to be in a situation with plenty of excitement and bustle?	YES NO
37. Do you usually prefer to keep your feelings to yourself?	YES NO
38. Are you inclined to avoid complicated problems of any sort?	YES NO
39. Do you prefer the study of mathematics and science to that of literature and music?	YES NO
40. Do you think society would be better if guided more by rational thinking and less by sentimental traditional consideration?	YES NO
41. Do you have a habit of counting things that are not important such as bulbs on electric signs, and so forth?	YES NO
42. Are you annoyed when a boisterous person attracts attention to himself in public?	YES NO
43. Do upsetting circumstances or sights move you to tears?	YES NO
44. Do you like to read newspaper editorials?	YES NO
45. Would you rate yourself as an impulsive individual?	YES NO
46. Are you inclined to live in the present, leaving the past and the future out of your thoughts?	YES NO

(Trait Questionnaire, Page 3. Subject No._____)

47. Do you practically always succeed in keeping the expression of your feelings under very good control? YES NO

48. Are you thrifty and careful about making loans? YES NO

49. in conversation do you like to deal thoroughly with one topic at a time instead of bouncing from topic to topic? YES NO

Buffer Items are Questions Nos. 1, 2, 3, 10, 14, 15, 30.

APPENDIX B

NOWLIS MOOD CHECKLIST

PREFILM MOOD CHECKLIST

Subject No._____

Instructions: Each of the words in the following list has been used at some time or another to describe feelings or mood. I would like you to use this list to describe your feelings at this moment. Mark each word with a number from 1 to 5 in the space provided to the left of the word, according to the following instructions:

1 - I definitely do not feel this way at all, right now.
2 - I feel this way slightly, right now.
3 - I feel this way moderately, right now.
4 - I feel this way fairly strongly, right now.
5 - I feel this way very strongly, right now.

_____ENERGETIC	____CONCENTRATING
____CONTEMPLATIVE	____ACTIVE
____JITTERY	____DULL
____DROWSY	____CLUTCHED-UP
____INTROSPECTIVE	____SERIOUS
____VIGOROUS	____SLEEPY
____ENGAGED IN THOUGHT	____STARTLED
____FEARFUL	____EARNEST
____TIRED	

How Tense are you feeling right now? (Circle the number)

1	2	3	4	5
not at all				extremely

How disturbing do you find your present situation and environment to be right now?

1	2	3	4	5
not at all				extremely

POSTFILM MOOD CHECKLIST

Subject No._____

Instructions: Each of the words in the following list has been used at some time or another to describe feelings or mood. I would like you to use this list to describe your feelings at this moment. Mark each word with a number from 1 to 5 in the space provided to the left of the word, according to the following instructions:

1 - I definitely do not feel this way at all, right now.
2 - I feel this way slightly, right now.
3 - I feel this way moderately, right now.
4 - I feel this way fairly strongly, right now.
5 - I feel this way very strongly, right now.

_____ENERGETIC	____CONCENTRATING
____CONTEMPLATIVE	____ACTIVE
____JITTERY	____DULL
____DROWSY	____CLUTCHED_UP
____INTROSPECTIVE	____SERIOUS
____VIGOROUS	____SLEEPY
____ENGAGED IN THOUGHT	____STARTLED
____FEARFUL	____EARNEST
____TIRED	

How Tense are you feeling right now?

1	2	3	4	5
not at all				extremely

How disturbing was it to watch the film?

1	2	3	4	5
not at all				extremely

Nowlis Adjective Checklist Factors - Scoring System

Anxiety	Activation
Jittery	Energetic
Fearful	Vigorous
Clutched-up	Active
Startled	

Concentration	Deactivation
Contemplative	Drowsy
Introspective	Tired
Engaged in Thought	Dull
Concentrating	Sleepy
Serious	
Earnest	

APPENDIX C

INTERINDEX CORRELATIONS

Appendix C

Interindex Correlations on Measures of Stress Reaction

	Postfilm Anxiety	Postfilm Tension	Postfilm Disturbance	GSR Difference	Heart Rate Difference
Postfilm Anxiety	1	.75	.63	.07	.25
Postfilm Tension	—	1	.69	.20	.18
Postfilm Disturbance	—	—	1	.29	.40
GSR Difference	—	—	—	1	.24
Heart Rate Difference	—	—	—	--	1

REFERENCES

Balkanyi, C. On verbalization. International Journal of Psychoanalysis, 1964, 45(1), 64-74.

Bibring, G., Dwyer, T., Huntington, D., & Valenstein, A. A study of pregnancy - Glossary of defenses. Psychoanalytic Study of the Child, 1959, 14, 62-71.

Byrne, D. Repression-sensitization as a dimension of personality. In B. A. Maher (Ed.). Progress in Experimental Personality Research. Vol. 1, New York: Academic Press, 1964.

Eissler, K. R. On isolation. Psychoanalytic Study of the Child, 1959, 14.

Freud, A. The ego and the mechanisms of defense. London: Hogarth Press, 1937.

Freud, A. Obsessional neurosis: A summary of 24th Congress. International Journal of Psychoanalysis, 1966, 47(2-3), 116-122.

Freud, S. Project for a scientific psychology (1895). Standard Edition of the Complete Psychological Works of Sigmund Freud, translated and edited by James Strachey. London: Hogarth Press, 1953.

Freud, S. Formulations regarding the two principles of mental functioning (1911). Standard Edition, Vol. 12, 215-226.

Freud, S. The unconscious (1915). Standard Edition, Vol. 14, 177-180.

Freud, S. Inhibitions, symptoms and anxiety (1926). Standard Edition, Vol.20, pp. 111, 119, 157.

Gitelson, M. Intellectuality in the defense transferences. Psychiatry, 1944, 7. 73-86.

Hartmann, H. Ego psychology and the problem of adaptation. (translated by D. Rapaport.) New York: International Universities Press, 1958. (Originally published, 1939.)

Hartmann. H. Comments on the psychoanalytic theory of instinctual drives (1948). In Essays on Ego Psychology, New York: International Universities Press, 1964.

Hartmann, H. The mutual influences in the development of the ego and the id (1952). In Essays on Ego Psychology, New York: International Universities Press, 1964.

Hillman, J. C. G. Jung's contributions to feelings and emotions. In M. Arnolds (Ed.), Feelings and Emotions, New York: Academic Press, 1970.

Jones, C. A. Jr. Effects of intelectualization and identification upon psychological stress reaction (Doctoral dissertation, University of California at Berkeley, 1963). Dissertation Abstracts International, 1964, 24(9), 3836. (University Microfilms No. 64-02074)

Jones, E. Rationalization in everyday life. Journal of Abnormal Psychology, 1908, 3, 161-169.

Khan, M. M. R. Vicissitudes of being, knowing and experiencing in the therapeutic situation. British Journal of Medical psychology, 1969, 42(4), 383-393.

Kline, P. Fact and fantasy in Freudian theory. London: Methuen & Company, 1972.

Laughlin, H. P. The ego and its defenses. New York: Appleton-Century-Crofts, 1970.

Lazarus, R. S. and Alfert, E. Short-circuiting of threat by experimentally altering cognitive appraisal. Journal of Abnormal & Social Psychology, 1964, 69, 195-205.

Lazarus, R. S., Averill, J. R., & Opton, E. M. Towards a cognitive theory of emotion. In M. Arnold (Ed.), Feelings and Emotions, New York: Academic Press, 1970.

Lazarus, R. S., Speisman, J. C., & Mordkoff, A. M. The relationship between autonomic indicators of psychological stress: Heart rate and skin conductance. Psychosomatic Medicine, 1963, 25, 19-30.

Lazarus, R. S., Speisman, J. C., Mordkoff, A. M., & Davison, L. A. A laboratory study of psychological stress produced by a motion picture film. Psychological Monographs, 1962, 76(34), Whole No. 553.

Ledyard, F. M., Developmental differences between successful and unsuccessful intellectualizers (Doctoral dissertation, University of Houston, 1960). Dissertation Abstracts International, 1960, 20(11), 4439. (University Microfilms No. 60-01318)

Levitsky, A. A study of the defense mechanism of intellectualization (Doctoral dissertation, University of Michigan, 1955). Dissertation Abstracts International, 1955, 15(04), 628. (University Microfilms No. 00-11309)

Mander, J. E. Arousal to neutral and sexual stimuli as a function of defense style and stress (Doctoral Dissertation, Boston University, 1972). Dissertation Abstracts International, 1973, 33(12-b), 6086. (University Microfilms No. 73-14,161)

Mordkoff, A. M. The relationship between psychological and physiological response to stress. Psychosomatic Medicine, 1964, 26, 135-150.

Oberndorf, C. P. Depersonalization in relation to erotization of thought. International Journal of Psychoanalysis, 1934, 15, 271-295.

Peters, R. S. The education of the emotions. In M. Arnolds (Ed.), Feelings and Emotions, New York: Academic Press, 1970.

Pulver, S. Can affects be unconscious? International Journal of Psychoanalysis, 1971, 52, 347-354.

Rapaport, D. On the psychoanalytic theory of thinking. International Journal of Psychoanalysis, 1950, 31, 161-170.

Rapaport, D. On the psychoanalytic theory of affects. International Journal of Psychoanalysis, 1953, 34, 177-198.

Schafer, R. Psychoanalytic interpretation in Rorschach testing. New York: Grune & Stratton, 1954.

Schimek, J. G. Cognitive style and defenses: A longitudinal study of intellectualization and field independence. Journal of Abnormal Psychology, 1968, 73, 575-580.

Schur M. Affects and Cognition. International Journal of Psychoanalysis, 1969, 50, 647-653.

Selzer, S. Relationships between developmental experiences and choice of defensive behavior: Study II, females. Unpublished doctoral dissertation, University of Houston, 1957.

Shapiro, D. Neurotic Styles. New York: Basic Books, 1965.

Shuren, I. A contribution to the metapsychology of the preanalytic patient. Psychoanalytic Study of the Child, 1967, 22, 103-136.

Siegel, R. S. What are defense mechanisms? Journal of the American Psychoanalytic Association, 1969, 17, 785-807.

Speisman, J. C., Lazarus, R. S., Mordkoff, A. M., & Davison, L. A. Experimental reduction of stress based on ego-defense theory. Journal of Abnormal and Social Psychology, 1964, 68, 367-380.

Tempone, V. J., & Lamb, W. Repression-sensitization and its relation to measures of adjustment and conflict. Journal of Consulting Psychology, 1967, 31, 131-136.

Valliant, G. E. Theoretical hierarchy of adaptive ego mechanisms. American Medical Association Archives of General Psychiatry, 1971, 24, 107-118.

Voth, H. M. Choice of defense. American Medical Association Archives of General Psychiatry, 1968, 18, 36-41.

Waelder, R. The principle of multiple function. Psychoanalytic Quarterly, 1936, 5, 45-62.

Wallerstein, R. Panel report: Development and metapsychology of the defense organization of the ego. Journal of the American Psychoanalytic Association, 1967, 15, 130-149.

Weinstein, J., Averill, J. R., Opton, E. M., & Lazarus, R. S. Defensive style and discrepancy between self-report and physiological indexes of stress. Journal of Personality and Social Psychology, 1968, 10, 406-413.

Weiss, B. A. Relationships between developmental experiences and choice of defensive behavior: Study I, males. Unpublished doctoral dissertation, University of Houston, 1956.