AVERSIVE LEARNING WITH PUBLIC OFFENDERS

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AVERSIVE LEARNING WITH PUBLIC OFFENDERS

by

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CHAPTER I

Introduction

The purpose of this study is to conduct a limited investigation into the behavior of habitual public offenders. The behaviors of interest are selected features of a learning situation. There has been support in the literature for the general statement that these individuals have difficulties in the area of learning, particularly learning from past experience (Cleckley, 1959). Early notions of criminality presented a tentative interpretation for this on the basis that mental deficiency was the fundamental cause of the criminal activity (Goddard, 1914; Goring, 1913). It later became apparent that this explanation lacked merit. With the increased use of measuring devices, it was found that the average intelligence quotient of individuals committing criminal offenses is not appreciably below that of the general population (Glueck & Glueck, 1952; McCord, McCord, & Zola, 1959). Therefore, factors other than offender's level of intelligence must be essential in accounting for their difficulties, learning included. Of fundamental concern to this research is the additional observation that many offenders commit repeated

offenses against society throughout their lifetimes. This not only suggests possible defects in learning, but also raises the question of the efficacy of procedures used in the attempt to alter this learning, thereby modifying the related behavior.

This study proposes that difficulties in learning and, more important, the apparent inconsistency of measures used in attempting to modify this learning, are related to personality factors in the offender. More precisely, these problems may be partially understood in terms of the degree and quality of the offender's super-ego development. Clinical formulations with respect to this issue are diverse, ranging from an assumed absence of super-ego in the offender (Karpman, 1961), to a view of the offender's super-ego as harsh and punitive (Dalmau, 1955).

Learning may occur under a number of conditions. Those to be considered in this research include neutral conditions, i. e., those in which no external consequences are applied during performance, and punishment conditions, i. e., those in which unpleasant consequences are applied to an individual's performance. With respect to the latter, it was assumed that a relationship between punishment and super-ego exists and that this is an influential factor in performance.

The more specific intent of this study, therefore, is to investigate whether personality factors related to super-ego development, combined or interacting with conditions under which learning may occur, are responsible for differences in performance. It is expected that the occurrence of such differences will, in turn, contribute to our clinical understanding of the offender.

In the experiment that follows, three groups of habitual public offenders, identified as dyssocial, anti-social, and asocial, and based upon criteria developed in the theoretical formulation of this research, were established. These individuals were exposed to a number of learning tasks, under specified conditions of learning, in an attempt to determine whether and how these groups differed in the performance of these tasks.

CHAPTER II

Background of the Problem

Although criminal activity cannot be explained totally apart from sociological considerations, it is felt that the fundamental factors influencing this behavior exist within the individual and that this, therefore, is an appropriate frame of reference from which to conduct an investigation. A brief review of dynamic theory is presented in order to provide a basis for the classification of offenders into three distinct, if not mutually exclusive, categories.

Dynamic Theory of Criminality

The writings of Aichhorn (1936), with the emphasis upon personality structure, were instrumental in influencing current conceptions of criminality. He felt that a common cause of such behavior was the internalization by the individual of a distorted or criminal set of social standards. This may have resulted either from parental or environmental sources. The essential point, however, was that values so conceived are not conducive to behavior consistent with socially and legally appropriate norms.

Other investigators have stressed similar

factors in the etiology of crime. Redl and Wineman (1951) and Healy and Bronner (1936) emphasized strong identification with delinquent parental and neighborhood codes. These approaches are alike in that they imply relatively normal personality development in the individuals involved. The criminal behavior appears to be both ego and super-ego syntonic, that is, it is compatible with both the motives and value systems of these individuals.

A quite different view concerning offender etiology had its roots in the writings of Sigmund Freud (1950). Although his contribution with respect to criminal behavior was relatively limited, he introduced the notion of "criminality from a sense of guilt". This referred to anti-social activity unconsciously intended to provoke punishment from external sources, thereby relieving the overburdening guilt resulting from deep and hidden conflicts. In a similar vein, Alexander and Staub (1956) suggested that anti-social behavior is committed as a defense against unconscious instinctual temptation. Donnelly (1964) made reference to the individual with a strong super-ego who attains gratification only by repeated acts in opposition to his own and his parents' value systems. This criminality has a distinct ego-alien character in that such

activity appears to be without apparent motivation and is often against his best interests. Johnson and Szurek (1952) presented the notion that an individual's criminal behavior is unconsciously provoked by parents seeking vicarious gratification for their own repressed impulses.

A common theme apparent in these and similar formulations is that behavior seems to be inconsistent with both the conscious motives and value systems of the offenders.

Criminal activity expressed solely as a means of achieving pleasure and satisfaction was the view presented by Eissler (1948). An individual of this type has experienced extreme deprivation of early object relationships, with a resultant inability to "structure his personality in accordance with any value system [p. 7]." An outstanding defect in this offender is his inability, past and present, to form meaningful relationships with others. Bowlby (1946) stressed early disturbance in the mother-child relationship, Bender (1947) spoke of early institutional or foster-home commitments, and Redl & Wineman (1951, p. 206) mentioned a lack of adequate models with which to identify as important influencing factors. As a result of these deficiencies, criminal behavior in the

offender occurs primarily in an attempt to gratify his instinctual demands. It appears to bear little relationship to standards of any kind.

Review of Super-ego in the Offender

It is recognized that no behavior or activity can be attributed to a single factor. However, a good deal of significance, thus far, has been placed upon the role of values or standards in criminal behavior. Since value systems are at the core of the super-ego, it is suggested that a common link among the various theoretical approaches might be a consideration of the degree and quality of super-ego structure and function in the offender. A number of investigations, including several heretofore considered, have made explicit reference to the role of the super-ego in the etiology of crime.

One such view is that offenders, due to their inability early in life to form meaningful relationships with others, have minimal bases for the development of guilt feelings and therefore are lacking or possess a weak super-ego. The Gluecks (1950) in distinguishing delinquents from non-delinquents, suggested, in psychoanalytic terms, that the former lack "desirable sources for emulation and the construction of a consistent, well-balanced, and socially normal super-ego

during the early stages of character development [p. 282]." A weak or defective super-ego was also mentioned in the writings of Bovet (1951). Friedlander (1949) felt that if anti-social behavior occurs early in the life of the individual, "the character defect is very pronounced and super-ego formation therefore is correspondingly defective [p. 209]."

Schmideberg (1955) described the super-ego of the offender as inconsistent rather than absent. That is, it may range from being generally weak to being harsh and punitive, the latter causing criminal behavior designed to relieve the tensions engendered by unconscious guilt.

Johnson (1949) indicated that acting-out individuals rarely possess a universally weak super-ego development, rather there is an absence of super-ego in certain distinct areas of behavior, a phenomenon which she termed "super-ego lacunae". This suggests a corresponding lack of an integrated system of morality manifested by the discharge of criminal behavior in the lacunae.

A well-internalized but hypermoral super-ego is implicit in the formulations of Freud (1950) and Alexander and Staub (1956). They proposed that a certain type of offender may have strong unrelieved guilt

feelings around impulses related to Oedipal resolution. Lampl De Groot (1949) held that a severe super-ego leads to criminal behavior as well as symptom neuroses. This writer contrasted the effects of this severe super-ego depending upon whether ideal formation is strong or weak. In the latter circumstance, there is an inability to prevent the discharge of aggressive impulses and "the sadistic super-ego is acted out against the environment [p. 252]." Finally, Friedlander (1947) did not overlook the more neurotic anti-social characters. In these individuals, the conflict between aggressive impulses and a severe conscience results in neurotic symptoms manifested in anti-social behavior.

Up to this point, considerations of super-ego development have emphasized structural defects of varying intensity. There is, however, substantial support for a view of the offender's super-ego as adequately formed in a dynamic sense. Bovet (1951, p. 31) made reference to cases in which the moral precepts that the future offender incorporates during super-ego development are criminal. That is, they are based upon the values of criminal rather than socially appropriate individuals. In other words, strong identification with a criminal model is likely to result in norms

and values consistent with the model but deviant in terms of the larger culture. Healy and Bronner (1936), and Cohen (1955) proposed that individuals exist in whom the internalization of deviant values has been normally accomplished, that is, the super-ego functions normally. The deviant features are a reflection of the particular social codes and behaviors of parents and associates. Therefore, criminal conduct, although internally sanctioned and consistent with the standards of a delinquent subculture, is inappropriate according to society's laws. The essential point in these notions is that conflict arises not between the offender's criminal impulses and his super-ego, but between his value system and that of the general society (Redl and Wineman, 1951, p. 202).

A word of caution is indicated. Any attempt to present a single, definitive statement concerning the relationship between super-ego and criminal behavior is futile. It would be presumptuous and totally incorrect to assume that the investigators cited have made this attempt. Although each has been linked with a particular point of view, the great majority recognized that both qualitative and quantitative aspects of criminality vary, thereby necessitating shifts in position with respect to the quality and quantity of

related super-ego factors. It is felt, however, that one is justified in distinguishing among three types of offenders on the basis of super-ego development. These types have been designated dyssocial, anti-social, and asocial offenders.

Super-ego Development

In this section, a summary of factors that influence super-ego formation in the dyssocial, anti-social, and asocial offender is presented, with a view toward emphasizing its role in later criminal activity. These thoughts are based, primarily, upon the writings of Friedlander (1945, 1947, 1949) and Freud (1927, 1933).

Dyssocial development. The formulation of dyssocial super-ego development closely corresponds with normal super-ego development. In early childhood, the dyssocial individual presumably has received consistent and affectionate care. A healthy mother-child relationship exists in which gratification for the child's instinctual life is furnished. The child is therefore able to temporarily delay his demands for gratification so that they correspond closely with the wishes of the mother. This conformity represents a yielding to authority rather than an acceptance of it. The child has little conception of morality and internalizes these demands and wishes in order to insure the

receipt of her affection and avoidance of her punishment. These identifications at first require her presence and are effective while the healthy relationship between them exists (Friedlander, 1947, p. 46). This period sets the stage for the super-ego's appearance and differs from its later control of behavior in that it involves the conscious suppression of behavior (Josselyn, 1948, p. 56). Although this stage is filled with inconsistencies and temporary failures, it has accomplished the preliminary acceptance of parental prohibitions, standards, and ideals. Later, at the Oedipal stage, the child usually identifies primarily with the parent of the same sex. (According to Fenichel (1945, p. 104), everyone bears features of both parents in his super-ego.) The successful resolution and, with it, the firm establishment of the super-ego is enhanced by the child's increasing identification with the father. The father's ideals, morals, and values as well as his commands, threats, and prohibitions are internalized by the boy and become part of his own will. A super-ego consisting of both the rewarding and punishing qualities of the parents has now been established. The earliest parental functions are assumed by the super-ego and,

according to Freud (1933, p. 89), independently guide the ego as the parents once guided the child. However, identifications in later childhood, and to some extent, those in adulthood may still influence the character of the super-ego (Schmideberg, 1955, p. 102). It is proposed that the moral precepts and value systems which the dyssocial offender has incorporated are deviant or criminal ones. Strong identification with criminal parents or peers results in the child's sharing, during his early years, of those characteristics not conducive to conventional expressions of aggression (Sontag, 1955, p. 256). Therefore, his super-ego, although normally developed, contains elements in conflict with those of the general culture. Since he has modeled his value system upon that of criminal individuals, later indulgence in criminal behavior is likely.

Anti-social development. This individual has been described as one whose behavior, at least partially, represents the symbolic expression of internalized conflict. It is likely that during infancy and early childhood, his instinctual demands are somewhat frustrated (Friedlander, 1947, p. 68). Although his needs are generally provided, maternal demands and restrictions upon him are often unreasonable. The child therefore represses a great deal of his instinctual

behavior which results in tension not gradually dispersed, but, of necessity, built up inside the child. Later, the child has difficulties relinquishing his Oedipal desires, resulting in their repression and incomplete resolution. In addition, the child at this time becomes more aware of the presence of his father in the situation. If the child perceives his father as overly frustrating, a condition which may or may not be so, aggressive tendencies may then be directed toward the father. Should fear of castration or loss of love result, the child then redirects these forces inward, and the introjected father is a severe and punitive one (Friedlander, 1947, p. 47). The likely result is a harsh and severe super-ego, due either to the strength of the child's hostility, the harshness of the parents, the unresolved Oedipus Complex, identification only with commands, etc. A parental value system is likely to have been internalized but not necessarily accepted, that is, the demands of the value system may be alternately adhered to and ignored or defied depending upon the individual's internal state. The anti-social individual may, on occasion, resort to a symbolic acting out of the unconscious conflict in order to reduce the accompanying tension. In other words, the individual tends to indulge in

criminal behavior, and seeks the punishment it provides as a means of relieving an unconscious and overpowering sense of guilt.

Asocial development. This individual has been described as one who has been offered minimal opportunity for identification with models of any kind and whose behavior appears to be almost exclusively activated by the desire for impulse gratification. During infancy and early childhood the asocial individual is assumed to have received an inconsistent and ambivalent type of care (Friedlander, 1945, p. 202). The mother-child relationship is such that the child's needs for gratification are often secondary to those of the mother. At times the child is indulged and his demands immediately provided. At other times they are ignored. As a result the child has difficulty delaying instinct gratification since the availability of relief is always in doubt (Friedlander, 1949, pp. 206-207). The child, therefore, must first gratify his own needs without concern for maternal demands or other possible consequences. This expedient but dubious solution may disrupt the course of later super-ego development. Further complications arise if, at the stage of Oedipal resolution, a clearly defined male model with whom the child can identify is unavailable.

If a father or father surrogate is not present, the internalization of the threats, prohibitions and values necessary for successful Oedipal resolution is unlikely. In addition, individuals in this offender group often undergo several separations, real or psychological, from the parents through placement in foster homes and institutions. Such separations during infancy and early childhood are especially likely to lead to an ultimate failure or weakness in super-ego development since each separation results in a weakness in future relationships (Bennett, 1960). Should the child, therefore, enter the Oedipal stage with an inability to give up or delay instinct gratification and without a model of the same sex with which to identify, the likely result is little or no desire or opportunity for absorption of parental values and prohibitions. The emergence of internal control over impulse gratification has been undermined, and there will be not only defects in the individual's ability to regulate his conduct, but no recognizable loyalty to standards of any kind. Whatever super-ego exists will be highly dependent upon the external control of the parents or other representatives of authority (Friedlander, 1947, p. 72).

Relationship between Super-ego and Punishment

The utility of super-ego formation and structure as a means of discriminating offenders has been described in some detail. The effects of punishment on these individuals has yet to be considered. This brief section is intended to indicate the existence of a relationship between the concepts of super-ego and punishment.

It is presumed that in the early life of the individual, punishment, or the threat of it, is an essential factor in establishing conformity to standards. Children are directed, controlled, frustrated, and deprived some time before the reasons for such actions are clear to them. These functions are undertaken by parents or surrogates in an attempt to dominate or direct the childs behavior, and compliance with these attempts are essential if unpleasant consequences are to be avoided. At first, the presence and support of external sources are vital in insuring compliance. It remains for intra-psychic forces to assume this responsibility. The final internal acceptance of the once externally imposed restrictions and punishments forms the basis of the mature super-ego (Freud, 1933, p. 89). Clearly, punishment is a necessary though not sufficient process in this development. The super-ego

forces, in turn, fulfill a prohibiting and punishing role within the personality. The guilt that is generated over discrepancy between values and desires or behavior performs a punitive function that is useful in controlling behavior. Under these circumstances, self-disapproval is expressed in a manner consistent with the ways in which disapproval was once expressed by the parents, and with similar results. Punishment, therefore, is essential both in the establishment, and as an instrument, of the super-ego.

Theoretical Review of Punishment in Offenders

In a broad sense, punishment refers to a penalty inflicted upon an individual as a retribution for wrong doing, and only incidentally as a means of prevention or alteration of such activity (Webster's Dictionary, 1960). However, punishment also may be defined as a technique for the control or modification of an individual's behavior. According to the original Law of Effect (Thorndike, 1927) non-reward or punishment ("an annoying state of affairs") served to weaken the association between a stimulus and a response. It later became apparent that punishment generally does not weaken the association, rather it causes the temporary suppression of a learned association (Estes, 1944). In so doing, it allows for the possible buildup

of competing ones. Another view suggests that the results of punishment are indirect, that is, factors associated with it become fear or anxiety arousing, thereby motivating the organism or individual to respond in the manner most likely to reduce this (Mowrer, 1947). A majority of observers agree, however, and it is the position of the current research, that punishment generally encourages variability of behavior which, in turn, increases the possibilities of alternate performance (Dinsmoor, 1954).

Several views with respect to the efficacy of punishment procedures in attempting to alter the behavior of the offender have appeared in the literature. Aichhorn (1936) was disdainful of the use of punishment as a correctional measure in the treatment of delinquency, thinking it not only unjust but inappropriate and illogical. The majority of psychoanalytically-oriented writers feel that much of criminal behavior or activity represents an unconscious means of seeking punishment. One might presume, therefore, that offenders of this type welcome the receipt of punishment. Alexander and Staub (1956) best represented the view of these investigators by suggesting that punishment not only is unable to prevent wrongdoing in offenders of this type but, paradoxically,

encourages it. They therefore recommended the "abolition of all forms of punishment" for these individuals [p. 210].

Although the term "psychopathy" suffers from a diversity of meanings and usages, it has been useful in describing certain types of criminal individuals. Cleckley (1959), and the McCords (1956) listed several suitable characteristics, including aggressive and impulsive actions, minimal guilt feelings, inability to profit from experience, and little or no concern for the consequences of behavior, all of which are descriptive of a group of offenders to be examined in this research. There is a general lack of agreement concerning their reactions to punishment. Although most investigators feel that "psychopaths" are largely unmodifyable by punitive or corrective means, the reasons for these observations vary. Bergler (1961) maintained that a need for and expectation of punishment is implicit in every criminal act. Devereux (1951), on the other hand, felt that "true self-punitive mechanisms are fairly rare in the habitual criminal [p. 80]." A common notion is that punishment or the fear of ultimate punishment may be helpful in providing external controls, thereby limiting the expressions of criminal activity (Shapiro, Cohen, & Bugden, 1959, p. 255).

Under certain conditions, however, and with particular types of offenders, punishment may be an effective means of bringing about change. Alexander and Staub (1956) in discussing "normal criminals", i. e., those in whom the super-ego is criminal, proposed that only the fear of punishment is effective in preventing or reducing their criminal activity. Sanford (1943), on the contrary, felt that individuals of this type are least deterred by punishment or the threat of it. Their convictions that society is unjust may be confirmed, thereby intensifying the probability of defiant and rebellious reactions.

The consensus suggests that punishment or the prospect of it is, at best, of questionable effectiveness in altering the criminal behavior of offenders. In fact, in most cases, it is felt to be detrimental to the modification of such behavior.

Review of Empirical Evidence

It has been noted that although punishment may eliminate or diminish certain types of behavior, the likelihood exists that it will have the opposite effect, that is, it may serve to increase the behavior. At times, it may have no effect at all. Extensive reviews by Church (1963) and Solomon (1964) suggested that the effectiveness of punishment on behavior is

influenced by many factors, including its intensity, the number of times it has been applied as well as its pattern of application, the time interval between response and aversive stimulation, the strength of the response to be punished, the availability of alternate responding, the complexity of the learning task, and various motivational and attitudinal variables. However, it was generally concluded that moderate punishment, immediately and consistently applied, will be generally effective if alternate responses are available.

Studies involving the use of electric shock as a punishing stimulus have tended to yield ambiguous results. One reason is that shock has been shown to generate strong emotion, including disruptive anxieties, desires to escape the situation, and hostility (Tomkins, 1943). In some cases, tension and distress up to and including paralytic states may result. However, early experiments (Bernard and Gilbert, 1941; Bunch, 1928; Gilbert, 1936) indicate that electric shock as punishment for incorrect responses facilitates maze learning in humans. With respect to performance of humans in verbal tasks, the role of electric shock is more obscure. Studies of this type, as reported by Spence (1958), are often contradictory and generally inconclusive,

due, in part, to the interaction of complex factors such as anxiety level, competitiveness of word-associate lists, and task-relevance. The author, in his conclusion, alluded to the many gaps and deficiencies that exist in this area of behavior study.

Experimental evidence more pertinent to the concern of this study, i. e., effects of punishment upon the learning behavior of offenders, is relatively scarce. That which is available has emphasized the issues of conditionability and avoidance learning.

Several investigations involving "psychopathic" and "sociopathic" offenders, (termed "asocial" in this study), so identified on the basis of Cleckley's (1959) criteria of this concept, have been reported. Lykken (1957) offered evidence that primary sociopaths, as distinguished by Karpman (1941), are markedly inferior to more neurotic sociopaths in avoidance learning. Shachter and Latané (1964) reported that "normal" criminals are able to avoid electric shock in an avoidance conditioning task more effectively than sociopathic criminals.

Hare (1965; 1966) has presented a series of studies designed to examine the effects of shock upon psychopathic criminals. The findings may be summarized in the following way: (a) the effects of

shock and the aversive influence of future pain and punishment are relatively small for the psychopath; (b) his behavior may be affected to some extent by immediate punishment, but when applied after some delay, it is generally ineffective.

Blaylock (1966), in testing Eysenck's hypotheses that psychopaths are characterized by poor conditionability (1964), presented evidence that conditioning, using verbal punishment as the reinforcer, does occur in the psychopath. No difference was found, however, between the conditioning performances of psychopathic and non-psychopathic groups of prisoners.

As suggested earlier, the majority of these studies may be primarily interpreted as a reflection of the difficulties in conditioning psychopaths via painful stimulation. They do add to the prevalent view that the psychopath, in particular, does not learn as readily as normals when punishment is involved (Hetherington and Klinger, 1964). However, the reader is no doubt left with the notion that empirical studies of the effects of unpleasant consequences upon offenders, in general, has resulted in relatively few opportunities to offer conclusive statements.

CHAPTER III

Theory and Hypotheses

It has been proposed that the quality of super-ego development is an essential variable in the behavior of habitual offenders. If it has occurred in a normal manner to maturity, the individual generally attempts to meet the customary super-ego demands in order to avoid the likelihood of receiving punishment in the form of guilt feelings. If super-ego development results in severe and hypermoral demands, the individual generally is unable to meet these demands and is likely therefore to receive punishment in the form of guilt feelings. He, in turn, attempts to reduce or escape them by seeking the punishment provided by external sources. If super-ego development is weak or non-existent, the demands that exist are minimal, and therefore generally ignored by the individual. The control of behavior, through the use of punishing guilt feelings, is not likely to occur.

The literature review indicated that both parents contribute significantly to personality and,

in particular, super-ego development. However, there is evidence to support the contention that the quality of identification with, and the control exercised by, the parent of the same sex is more crucial in determining criminality than are aspects of the relationship with the opposite sex (Andry, 1960; Bach and Brenner, 1947; Bennett, 1960; Seigman, 1966). Therefore, in classifying offenders into the proposed groups, emphasis was placed upon the availability and characteristics of the same sexed parent, in this case, father. Although there is likely to be some overlap and interrelatedness in any classificatory scheme, the following typology was based upon varying forms of faulty super-ego development in offenders.

It is proposed that the behavior of the dyssocial offender, although compatible with his personal standards, is in conflict with the norms of the general society. The super-ego is a deviant or criminal one because the internalized norms have been deviant or criminal. This study maintains that this is due, in part, to identification with a criminal father. (It has been noted that the child identifies with the father in order to reduce the likelihood of his disapproval and the punishment this implies. Once having internalized his conception of the father's value system,

the child then judges himself by, and attempts to behave according to, these standards). Personality, and in particular super-ego, development has occurred in a normal manner psychodynamically, and functions similarly, but the model for this behavior is socially deviant. The motivation behind criminal activity, however, is understandable within the offender's frame of reference, and may result in displays of activity consistent with his objectives. At the same time, it is likely that he is cognizant of society's resistance to these objectives. However, internal discrepancy and conflict between behavior and super-ego demands is minimal. There is little need, therefore, to either strengthen or weaken these demands, and the offender attempts to avoid and/or modify the behavior that leads to the receipt of external punishment.

The anti-social offender is thought to indulge in behavior not only incompatible with the norms of society, but incompatible with his personal standards as well. Although the super-ego contains elements consistent with the values of the general society, it is likely to have become rigid and severe during its development. It is proposed that the opportunity for identification with a possibly frustrating but non-criminal father was present. This frustration may

have led to hostility towards the father directed inward toward the self. The resultant super-ego, although moral, is a severe and punitive one, and is manifested in actions, at times, consistent with the norms of the major society and, at other times, contrary to them. (The latter is thought to at least partially represent the symbolic expression of internal conflicts, and may be a means of relieving an unconscious sense of guilt). Much internal discrepancy and conflict between this behavior and the super-ego occurs and is accompanied by feelings of guilt. This results in activity calculated to reduce the tension of the punishing guilt feelings. In other words, these offenders are likely to attempt to escape from or weaken super-ego demands and the accompanying guilt by actively seeking the punishment provided by external sources. This is accomplished by repeating the behavior that leads to the receipt of external punishment.

The behavior of the <u>asocial offender</u> is felt to be independent of norms of any sort. This individual generally possesses few, if any, standards of behavior since standards and values in general have had little chance to be internalized. He lacked the opportunity to identify with stable male models and was unable therefore to achieve the firm and lasting emotional rela-

tionships necessary for complete super-ego development. The establishment of internal controls is dependent upon first experiencing control by external sources. The minimal absorption of prohibitions and values of any kind in early life therefore reduces the likelihood of internal control over deviant behavior. The criminal activity appears largely to represent the immediate satisfaction of impulses. In this offender, super-ego is either absent or so weakly formed that its demands are slight. Thus, an offender of this type displays little need to limit or regulate his behavior in accordance with these demands. This not only suggests a likely inability to anticipate external punishment as a consequence of behavior, but its receipt has little, if any, effect upon the possible avoidance or modification of that behavior.

The implications of this discussion make possible the following general predictions. The application of punishment as a consequence of behavior differentially affects this behavior among dyssocial, anti-social, and asocial groups of offenders. More specifically, the punishment results in (a) a decrease of this behavior on the part of the dyssocial offender, (b) an increase of this behavior on the part of the anti-social offender, and (c) no change in this behavior on the part

of the asocial offender.

It has been suggested that super-ego factors partially responsible for offender behavior also partially influence the offender's reaction to the application of punishment. The behavior of the offender is represented in this study by his learning behavior which, in turn, is determined by his performance on a variety of tasks.

One expressed view led to the conclusion that if an alternate response satisfies an existing motive at the same time that it avoids unpleasant consequences, punishment may be generally effective in reducing undesirable responses in favor of more acceptable ones. Dyssocial offenders are assumed to possess the normal capacity to avoid behavior that leads to unpleasant consequences provided by external sources. It is proposed that, in these individuals, when punishment follows a response, that response tends to be weakened. It is expected, therefore, that they react to a punishing or aversive stimulus in a manner which decreases the occurrence of the response leading to it, resulting instead in the adoption of alternate responses. In other words, the overall performance on a task is more effective, in terms of the established criteria, when punishment is involved.

It has been reported, however, that in certain situations punishment may result in rigidity of responding (Maier, 1956). In extreme cases, this fixated responding is suggestive of compulsive submission to the unpleasant consequences. Anti-social offenders are assumed to actively seek and engage in behavior that leads to unpleasant consequences provided by external sources. It is proposed that, in these individuals, when punishment follows a response, that response tends to be strengthened. It is expected, therefore, that they react to a punishing or aversive stimulus in a manner which increases the occurrence of the response leading to it, resulting in a tendency to repeat these responses. In other words, the overall performance on a task is less effective, in terms of the established criteria, when punishment is involved.

The notion has been presented that, in certain circumstances, punishment may initially result in trial and error responding. However, it may later serve as a cue or emphasizer (Tolman, 1932), thereby increasing the likelihood of avoiding responses that lead to it. Asocial offenders are assumed to have a weaker than average ability to avoid punishment provided by external sources as a consequence of behavior. It is proposed that, in these individuals, punishment has little or no immediate effect upon the responses that elicit it. It is expected, therefore,

that they react to a punishing or aversive stimulus in a manner suggestive of chance responding, thereby neither increasing nor decreasing the probability of responses leading to such stimulation. Put another way, the overall performance on a task is equally effective, in terms of the established criteria, whether or not punishment is involved.

A synthesis of the foregoing comments permits a restatement of predictions in the form of hypotheses:

> H: Unpleasant consequences applied to offenders' performance on learning tasks results in differential performance in these tasks on the part of dyssocial, anti-social, and asocial offenders.

With respect to each of the offender groups, the hypotheses are as follows:

> H_1: Dyssocial offenders perform more effectively in learning tasks under punishment conditions than under neutral conditions.
>
> H_2: Anti-social offenders perform less effectively in learning tasks under punishment conditions than under neutral conditions.
>
> H_3: Asocial offenders perform equally as effectively in learning tasks under punishment conditions as under neutral conditions.

CHAPTER IV

Methods and Procedure

Experimental Design

The experimental design selected for the investigation of research variables is the Pretest-Posttest with Control Group Design (Campbell and Stanley, 1966, pp. 13-24). In this design, each subject's performance on a dependent variable is measured both before and during exposure to the experimental variable. Since the order of treatments is not counterbalanced, the use of control subjects was desirable. Each control subject is measured at the same times as the experimental subjects but not exposed to the experimental treatment. Results are analyzed by computing and comparing pretest-posttest change scores for each group.

Subjects

A total of 60 inmates of the Massachusetts Correctional Institution at Walpole participated as subjects in the present study. This institution is the Commonwealth's maximum security facility and houses at any one time an approximate average of 575 adult felons, i. e., those whose criminal offenses are punishable by

a minimum sentence of 2½ years. The official folder of every third inmate was taken from the administration files and evaluated. Inmates whose records indicated psychotic histories, epilepsy, heart disease, chronic alcoholism, or various physical disabilities were excluded from further consideration. Also excluded were those whose recorded intelligence quotient was below 90, or who were below 18 or above 40 years of age. It was felt that these subjects may have possessed some impairment in functioning that would tend to interact with the experimental variables in ways not relevant to the concern of this study.

The term habitual public offender refers to that individual whose recorded past behavior has included repeated acts in conflict with the laws of society, resulting in sentencing to and confinement in a correctional institution on two or more separate occasions. (For the purpose of this study the term "criminal" is understood as synonymous with that of offender.) Therefore, in order to be considered as a subject in this study, each inmate must have been incarcerated in a county, state, or federal correctional institution on at least one prior occasion. From this pool, subjects were placed into each of the three offender groups in equal numbers and classified as dyssocial, anti-social, or asocial offenders.

Previous reference to offender types emphasized the dynamics of development based upon considerations from personality theory. The following section includes a composite descriptive sketch of the characteristics of offenders in each group, as well as a listing of the objective criteria felt to be most crucial in discriminating among them. The former information is based upon personal impressions gained during a substantial period of contact with and treatment of prison inmates. It includes a synthesis of characteristics generally consistent with those reported by other investigators who have presented criminal typologies (Hewitt and Jenkins, 1949; Redl and Wineman, 1951; Sanford, 1943; Schrag, 1961).

The final inclusion of an offender into one of the groups depended upon two factors. First, it was necessary that he meet each of the objective criteria of one of the groups. Secondly, in a number of cases, the decision was aided by material and additional information, both clinical and historical, which, in the judgment of the investigator, presented clear evidence of the existence of qualities and attributes descriptive of members of that particular group.

Dyssocial Offenders. This category includes

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offenders who are from families with other delinquent members and who live primarily in areas with a high incidence of crime. Because of identification with criminal family members and peers, their behavior is consistent with deviant norms and values. Although resistance to and revolt against customary social standards is apparent, factors such as within-group loyalties and group cohesiveness do exist. This is evidenced by such traits as group cooperation and conformity, subordination to the needs of the group, and guilt when group codes are violated. The dyssocial offender, although proud and aggressive, is able to relate to others and is usually popular with, and respected by, individuals within his group. The family constellation is likely to include an overprotective and accepting mother, a hostile and often abusive father, and criminal or delinquent siblings. However, close ties with and support between family members is characteristic. The criminal career of this offender moves through stages of increasing seriousness, with early behavior marked by aggression towards school and legal authorities as well as delinquent acts against the larger society. When discussing his offenses, he tends to most regret being apprehended, and attempts to justify his behavior by statements such as

"everyone has his price," and "only fools work for a living." In an institution, the dyssocial offender associates closely with many inmates, is jail-wise and "regular" and the majority of his disciplinary difficulties occur as a result of well-motivated, goal-directed behavior. Although contacts with staff members are minimal, there is often a hint of mutual respect. Family members remain loyal, visit regularly, and correspond frequently while the offender is incarcerated.

Objective Criteria

Ia: Mother and father together and present to the 14th birthday of the subject.

Ib: Father or both mother and father with a significant criminal record (minor auto violation and drunk arrests not included).

Ic: No foster home, may be institutionalization prior to 14th birthday.

Id: May or may not be court appearance or police record prior to 14th birthday.

The bases for the establishment of these criteria are assumptions drawn from the personality development of the dyssocial offender. The models for the internalization of a value system are available, but this value system is a socially deviant or criminal one (Ia, Ib). There may be a physical separation in the parent-

child relationship before adolescence (Ic). Criminal behavior may occur either before or during adolescence. Although the ability to delay the early expression of socially deviant impulses is present, this expression may be consciously or unconsciously sanctioned by the models (Id).

Anti-social Offenders. Descriptively, this type consists of offenders from relatively middle-class families in which criminal activity is rare or non-existent among other members. The opportunity for introjection of socially and legally appropriate norms and values is present and results in behavior at times socially acceptable and conforming. However, due to intense internal or external pressures, criminal activity periodically erupts and leads to conflict between the value system and this activity, accompanied by tension and guilt. This, in turn, is dissipated by criminal activity unconsciously designed to lead to punishment. In addition to chronic guilt feelings, the anti-social offender tends to be apprehensive and anxious, passive, submissive, and shy. Although the family is a socially conforming one, there is evidence of early inconsistency of parental discipline. The mother is both over-protective, and cold and repressive, while father is likely to be rigid,

conforming, and demanding, while remaining generally aloof. This combination results in ambivalence and resentment towards the parents, although ties with them remain strong. The offender usually achieves success in various areas, and the onset of criminal activity occurs relatively late in life. Since he is aware of and believes in legitimate norms, the anti-social offender readily expresses his guilt, expects to receive and accepts punishment, and convincingly states his intention not to repeat. He adjusts adequately, although unhappily, to an institution, and while primarily a loner, he does maintain a few contacts with inmates similar to himself. On the other hand, he has relatively broad contacts with the administration, cooperates with them, and rarely becomes involved in activity leading to disciplinary action. As was the case with dyssocial offenders, family members remain loyal, visit regularly, and correspond frequently with the incarcerated anti-social offender.

Objective Criteria

IIa: Mother and father together and present to the 14th birthday of the subject.

IIb: Neither parent with a criminal record (Minor automobile violations not included).

IIc: No foster home or institutionalization prior to the 14th birthday.

IId: No court appearance or police record prior to the 14th birthday.

In the anti-social offenders, models for the internalization of a value system are available, and this value system is apparently based upon socially appropriate norms (IIa, IIb). There is no physical break in the parent-child relationship prior to adolescence (IIc). Criminal behavior does not occur until adolescence since the early expression of socially deviant impulses may be delayed throughout latency. It later becomes manifest because of the increased pressures upon ego defenses, from both external and internal sources, that occur at puberty (IId).

Asocial Offenders. Offenders of this type come from extremely unstable home backgrounds, or are reared in a series of foster homes or institutions. The opportunity for identification with stable and loving individuals is unavailable, consequently these offenders are neither aware of nor do they believe in norms or values of any kind. In addition, all people are seen as threatening and unfriendly, and loyalties to either individuals or groups are absent. As a result, the asocial offender is uncooperative, insecure,

bitter, rude, provocative, and emotionally flat. The family background includes the absence of father during the offender's early years, extreme maternal rejection and neglect, often combined with drunkenness and promiscuity, and the aforementioned early placement in the first of several rejecting foster homes. Rarely successful in any area, the asocial offender has a history of severe behavior disorders early in life, and this and later criminal activity appears bizarre and illogical. He views this activity with neither guilt nor remorse and is unable to explain this haphazard behavior other than by blandly referring to a "need for money," or "wish for excitement," or a vague "desire for revenge." In fact, he often sees himself as the victim rather than the initiator of his difficulties with the law. The asocial offender is incapable of, or unwilling to develop relationships with either inmates or staff of correctional institutions. As a result of his lack of cooperative ability and resentment towards everyone, he is generally an impulsive, unmanageable agitator whose defiance against the administrative system invariably meets with failure. He is unable to plan effectively for the future due to the absence of close ties with family or friends as well as his irrational, explosive nature.

Objective Criteria

IIIa: Father absent and mother and father separated from the 3rd birthday or before of the subject.

IIIb: Father or both mother and father with or without a criminal record (Minor auto violations not included).

IIIc: Foster home or institutionalization prior to 14th birthday.

IIId: Court appearance or police record prior to 14th birthday.

In the asocial offender, there is little or no opportunity for the internalization of a value system, since a break in the parents-child, and particularly the father-child, relationship occurs before or during the Oedipal stage and again in latency (IIIa, IIIc). Whether or not the model's value system is deviant is immaterial since, in this offender, there is no basis for loyalty to standards of any kind (IIIb). The early expression of socially deviant impulses is not delayed, in fact, this may be the exclusive goal of behavior (IIId).

Inmates whose records provided insufficient material for classification, or who failed to meet each of the established criteria for inclusion in a group were eliminated from participation in the study. In

cases where the criteria were structurally ambiguous, e. g., Ic, decisions as to one's suitability depended upon the examination of additional data pertinent to the general qualities of offenders in the particular group. For example, several dyssocial offenders possess histories indicating a period of institutionalization prior to 14 years of age. In these cases, judgment was reached on the basis of appropriate evidence supporting the existence of family and intragroup cohesiveness and loyalty, such as number of family member visits, amount of correspondence, and number and quality of object relationships, both within and outside of the institution. In other words, although there may have been a physical separation between parents and the youthful dyssocial offender, supplementary evidence suggested that the emotional ties between them were maintained.

It is apparent that offenders per se are a heterogenous group of individuals. Although offenders within any particular group vary from each other in some ways, they also have many qualities in common. The arrangement that has been proposed in this research suggests only that a particular pattern predominates in that offender. It is not meant to imply that the offender possesses that pattern to the degree that it

completely excludes characteristics of other offender types.

Previous investigators (Kahn, 1961; Verven, 1959) have considered the ages of 11 and/or 12 as appropriate separation points in the determination of classificatory schemes. This was based primarily upon the significance of criminal activity during latency in Friedlander's (1947) typology of anti-social characters. In the current study, official data with respect to behavior on or before the age of 12 was limited. Therefore, 14 was selected as the distinguishing point due, in part, to the relative abundance of official material with respect to this period in the subjects' lives. In addition, it was expected that a vast majority of the subjects had reached puberty by that time.

Each of the three offender groups consisted of twenty subjects. Within each of the offender types, subjects were evenly and randomly assigned to experimental and control groups. Appendix A presents the data for age and intelligence for subjects in each of the six groups. Since age and intelligence variables are significant in learning activity, it was important to indicate whether the subjects differed in these variables. Appendix B lists the means and standard devia-

tions of this information, and statistical analyses of these data made tenable the assumption that the groups represent samples drawn from a common population with respect to age and intelligence.

Learning as the Dependent Variable

An approach involving the use of a learning paradigm was decided upon. It was felt that this would lead to a more effective systematization, and investigation of the issues that have been raised. In addition, an assumption of this research held that criminal behavior is, at least partially, learned behavior. What an individual is or does was determined not only by internal psychic factors, but also by the effect of various external factors. A review of relevant theory has indicated that criminal behavior is often maintained by the consequences to which it leads. Much of learning behavior is maintained in the same way. If, as has been suggested, punishment variously inhibits, sustains, or increases criminal activity in offenders, one, therefore, is justified in supposing that punishment similarly influences their learning behavior.

Learning has been defined as a change in performance that occurs as a result of training, practice, or experience (Morgan and King, 1966, p. 773). If one

is able to measure an individual's performance on a particular task, one may inferentially determine the status of learning in this individual. For this reason, particular learning tasks were selected with the intent of scoring performance and progress, rather than investigating theoretical learning issues.

Learning Tasks. The adequacy of any research finding generally involves having available several related operations, each designed to measure similar attributes. In order to make statements concerning learning in the offender, one must take into account the relevance of a variety of skills. These include, among others, verbal, motor, perceptual, serial anticipation, discrimination, and trial and error skills. The tasks employed were thought to represent a cross-section of abilities that constitute to some degree the concept of general learning ability.

The subjects in this study, as well as offenders in general, are generally acknowledged to be action-oriented individuals. Therefore, the inclusion of a motor performance task was appropriate. The pursuit rotor is a relatively simple type of activity with which an individual, presumably, has had little, if any, previous experience. It is almost exclusively a gauge of motor skill and its use is designed to indicate both

motor-eye coordination and changes as a result of practice.

It has been reported that offenders exhibit more generalized deficiencies in verbal skills than in motor skills (Glueck and Glueck, 1950, Chap. XVI; Wechsler, 1944). This factor in conjunction with the obvious significance of verbal material in human behavior required the inclusion of a task of verbal performance. The method chosen was paired-associate learning, which involves the learning of a series of discrete syllable pairs so that the appearance of the first member of the pair elicits the second member. This procedure suggests as its counterpart the ability to anticipate, associate, and connect related events in one's environment.

Finally, a method that implicitly taps a variety of specific abilities was selected. Although primarily a perceptual-motor task, a maze may be a measure of serial learning in that one turn may signal the direction of succeeding turns. It may represent discrimination learning in so far as it is seen as a series of individual discriminations. The entire procedure is suggestive of trial and error learning. Performance in a maze to some extent parallels an individual's general ability to make his way in his environment

(Woodworth and Schlosberg, 1961, p. 646).

The selected tasks fulfilled the additional conditions: each is likely to be a relatively novel task for the majority of subjects, resulting in minimal transfer from everyday experience; each is a measure of instrumental learning since responses must be made before consequences are applied; the reliability of these tasks is reported to be high in human subjects (Hilgard, 1951, p. 539); knowledge of improvement in performance on each task is available to the subject; and performance in these tasks is relatively easy to measure.

Apparatus

Paired-associate task. The paired-associate lists consisted of nine pairs of consonant-vowel-consonant syllables selected from Glaze's 1928 list (Hilgard, 1951, p. 543). The association value of each stimulus syllable was 33%, while paired items comprise syllables with association values of 40%. The lists were constructed according to specified rules and are depicted in Appendix C. The order of associated pairs was randomly varied within a list in order to counteract serial position affects. Each list, therefore, consisted of 4 arrangements with the condition that the same pairs did not appear consecutively.

A Gerbrands Memory Drum[1] with a presentation rate such that one turn of the drum occurred every 3 seconds was used. Its use required that the syllables be typed exactly 1/3 of an inch apart on 2 3/4" wide adding machine paper formed into a loop by fastening the ends with scotch tape. After the last paired items of one arrangement and before the first stimulus item of the next, 3 crayon marks, each a different color, were drawn exactly 1/3 of an inch apart.

In this procedure, a stimulus item appears alone in the aperture of the drum and on the succeeding turn of the drum it appears again with its associated item. The conditions, described above, resulted in the exposure of a stimulus item every 6 seconds with a 2.67-second period before exposure of the associated pairs. A 9-second interval interval was provided between successive presentations of the list.

Five different paired-associate lists of equal difficulty were constructed in order to neutralize the possible effects within the inmate population of item familiarity.

Maze task. The mazes adapted for use in this investigation were of the Warden (1924) U-type and had a

[1] Ralph Gerbrands Scientific Instruments. Arlington, Mass.

series of 14 choice points. Plastic coated wire, mounted upon a 12 1/2" by 16" wooden board, formed the pathway over which the subject traces his finger. All of the choice-points were in a horizontal plane and at a 90 degree angle to the right or left with respect to the general direction from starting point to goal. Each unit of true pathway was 1 1/2" in length horizontally and 1" in length in a vertical direction. Thumbtacks marked the starting point and goal. A visual reproduction of one of the mazes as well as the directions of the correct choices for each maze is presented in Appendix D.

Human subjects are able to recall a great amount of a maze path and, in some cases, can draw a copy of it after it has been learned (Woodworth and Schlosberg, 1961, p. 654). To obviate this possibility, as well as to reduce the possible experimental contamination factor if this information was transmitted to the general inmate population, five similar but distinct mazes of equal difficulty were used in this study.

Pursuit Rotor. This instrument essentially consists of an electrically driven, phonograph-like, bakelite turntable 10" in diameter. Embedded flush with the surface of the turntable, and with its center 3 7/8" from the turntable center, is a metal target 1/2"

in diameter. The turntable, mounted at a total height of 36" from the floor, rotates in a clockwise direction. It can be set at three different speeds, one of which was used in this experiment.

The subject's task is to pursue and maintain contact with the target by means of a metal pointer. The pointer, excluding its handle, is 6" in length and bent at about an 80 degree angle 1 1/2" from the tip. It is hinged at the handle to prevent the exertion of pressure on the target. Contact between the tip of the pointer and the target activates a timing device which records his length of time of contact per trial.

Punishment as the Independent Variable

In a preceding section, the situations or procedures that constitute punishment were vague. Implicit in these approaches, however, was the notion of unpleasant consequences inflicted upon the offender. They may comprise imprisonment, restriction of freedom, deprivation of privileges, threats, prohibitions, physical pain, etc. For purposes of this research, a punishment procedure was represented by the introduction of painful consequences to behavior in order to eliminate, suppress, or alter that behavior. It was essential that this procedure be aversive and that it be applied to

relatively motivated behavior (Deese, 1952, p. 136). In the experiment that follows, electric shock was employed as the punishment technique. It was selected because it is generally physically painful, and it is felt that individuals tend to avoid it. It was further assumed that the large majority of subjects involved in this study have been exposed to physical punishment in the past. Individuals classed as behavior problems generally receive considerably more physical punishment than do non-behavior problems (Bandurra and Walters, 1959, p. 220; Glueck and Glueck, 1950, Chap. XI). Finally, electric shock is highly amenable to measurement and control.

Shock Apparatus

The realities of a maximum security correctional institution limited the apparatus available for introducing electric shock to subjects. This resulted in a self-contained source of shock.[2]

The unit consisted of three 1.5 volt A cells, assembled in an aluminum chassis 12.5 x 10 x 15 cm. in size. Mounted and exposed on the outer surface of the chassis was a potentiometer dial with its full range

[2]The author is deeply indebted to Mr. Albert Forgione, graduate student of Psychology at Boston University, who is responsible for the construction of the shock apparatus and all technical data pertaining to it.

divided into 9 equal intervals. Three double-poled, single-throw, switches controlling the amount of voltage entering the primary cell were also mounted on the outer surface. A concentric disc electrode with cellulose sponges, as described by Tursky (1965) was attached to subjects by rubber straps. Shock was delivered by means of a manually-operable, push-button switch.

A diagram of the shock apparatus is shown in Appendix E. The primary coil (A) consisted of 180 turns of .015" 26 gauge wire around a soft iron core .5 cm. in diameter and 4.5 cm. in length. The secondary coil (B) consisted of 8500 turns of .0035 39 gauge wire. The wires were wound between two plastic washers spread 3.8 cm. apart on the core.

The metal vibrating key (C) was of light spring steel 3.8 x .8 cm. in size, and contact with the primary coil occurred 1.5 cm. from the free end.

In parallel with the secondary coil were two resistors, one of them (D) providing a fixed resistance of 5000 ohms, the other (E) capable of manual variation from 0 to 5000 ohms. Leads from this circuit led directly to the disc electrode.

In this manner a press on the manual push-button switch completed the circuit between battery and

primary coil, resulting in the delivery of high-voltage alternating current to the subject.

Description of Shock Stimulus. In order to determine output voltage and stimulus configuration as well, the shock leads were fed directly into a Tektronix model 581 oscilloscope. Two sets of readings taken independently by two investigators were averaged and the voltage recorded. In no case did readings differ by more than 10 volts. Closing switch 1 while switches 2 and 3 remained open (Switch Position I) resulted in a range of 80-400 volts (Range I). Closing switch 2 while switches 1 and 3 remained open (Switch Position II) resulted in a range of 130-660 volts (Range II). Closing switch 3 while switches 1 and 2 remained open (Switch Position III) resulted in a range of 170-860 volts (Range III). The closing of the appropriate switches, combined with the adjustment of the potentiometer in 9 equal intervals, regulated the amount of voltage received by the subjects. This procedure resulted in the three ranges of readings shown in Appendix F.

The wave form depicted in Appendix G was typical for all ranges. For demonstration purposes, an arbitrary 400 volt setting in Range III was used. The peaks 1, 2, 3, and 4 varied in the proportion

300:100:230:200. The duration of the cycle was 8 milliseconds. Appendix G lists proportions found at arbitrary voltage settings in Ranges I and II as well.

From this information, it is apparent that although the frequency of the shock stimulus remains the same within a range, it increased from Range I to Range III. Thus, shock in this experiment included variables of both voltage and frequency. This difficulty was inherent in the apparatus. However, it was entirely unlikely to interfere with the intended purpose of varying this stimulus to the point at which it was subjectively painful. A final consideration concerned the discharge of an accompanying buzzing sound by the apparatus each time that shock was delivered. Its possible confounding effect, however, was neutralized by the fact that this occurred for all subjects in all groups.

Pre-Experimental Procedure

Prospective subjects (those who fulfilled the criteria for inclusion) were individually summoned to the Counseling Service Office at the institution and read the following information:

> I'm conducting a research study under the auspices of Boston University and the Department of Corrections. I plan

> to compare the learning ability of Walpole inmates with individuals on the street who have similar intelligence levels. In going through inmates' records I have found that you have sufficient intellectual capacity to have graduated from high school and possibly to have done some college work. I'd like to compare your performance on several learning tasks with non-inmates who have completed high school and done college work. The general purpose is to see if differences exist and, if so, to give us ideas about how methods of instruction in institution schools and schools in high delinquency areas can be improved.
>
> The testing may include the use of physically harmless electric shock that you may set to a point at which you wish to receive nothing stronger. At the completion of the study you will be advised of your results in relation to those of other subjects as well as the overall results of the research. Participation is entirely voluntary and your name will not be made known. It will take a couple of hours of your time on two separate occasions. There is no reward for participation. What do you say?

Although several individuals voiced reservations, particularly around issues of confidentiality and the relationship, if any, of this study to the parole board, only ten refused to participate. Of this number, five had been candidates for the dyssocial offender group, four for the asocial offender group, and one for the anti-social offender group.

If agreeable, the subject was taken to the

experimental room and the shock level was set. Intensity of punishment is an important variable in determining the course of responding. The essential property of punishment in this study was that the unpleasant consequences be physically painful. However, the tolerance for physical pain varies a great deal among individuals. If intensity of shock is arbitrarily decided by the experimenter, the result might be that while extremely painful to one individual, the shock is merely unpleasant to another. It was decided, therefore, to use the level of intensity that each subject reported as the maximum amount of pain he could endure. In this way, intensity was, theoretically, qualitatively similar for all subjects. This level was established in each subject prior to the experiment proper. An electrode was attached to the inner portion of the subject's non-preferred forearm. A good contact was obtained through the use of Sanborn Redux Paste rubbed into the arm at this point (see Tursky and Watson, 1964). The subject was informed that a series of brief electric shocks, starting at very low intensities and slowly increasing in magnitude, would be applied. He was asked to report the point at which he felt he could not tolerate a shock of greater strength.

Shock level was set as follows: With the apparatus at Switch Position I, the resistance was varied from 5000 to 0 ohms at two-step intervals by means of the potentiometer dial. The subject received shocks of approximately .5 seconds duration. Intensity was gradually increased, through Switch Positions II and III, if necessary, in a similar manner until maximum toleration was reached. (In Switch Positions II and III, the intensity was increased at one-step intervals). At maximum endurance, the dial reading was recorded and the subject assured that he would receive no shock of greater intensity throughout the experiment. The amount of voltage tolerated by each subject is shown in Appendix H. In a few instances, subjects requested a slight change in intensity during the actual experiment. These later readings are included in the listings. Statistical measures applied to the data indicated that the groups did not differ with respect to the intensity of shock endured.

Attention is called to the existence of two possible sources of error in these readings. First, it is conceivable that the subjects (four in number, one in each of the experimental groups) who accepted shock to the fullest intensity provided by the apparatus

may not have reached their threshold for pain. Although each of them reported that the stimulus was quite painful, they expressed a willingness, for whatever reasons, to accept higher levels. Secondly, the readings do not provide a fully accurate view of the shock endurance of the subjects. For example, a subject setting his limit at 490 volts in Switch Position III was able, in fact, to tolerate more noxious stimulation than a subject refusing to accept higher intensity than the 520 volt level in Switch Position II, even though the listings in Appendix H indicate otherwise. To clarify, in order for a subject to reach Switch Position III, he would have had to endure the upper limit or maximum voltage existing in Switch Position II, or 660 volts. This occurred in several instances. It was due, unfortunately, to shortcomings inherent in the apparatus, namely, increasing frequencies from Range I to Range III. However, there is insufficient evidence to dispute the assumption that the electric shock was equally unpleasant, subjectively, for all subjects.

The shock apparatus was removed and the subject was then provided with explanations of and practice on each of the learning tasks, similar to but distinct

from those used in the actual experimental procedure. The practice consisted of nine trials in paired-associate learning, three blindfolded trials on a finger maze, and a two-minute practice period on a pursuit rotor set at 35 Revolutions Per Minute. With respect to the latter, the subject was instructed to pay no attention to the clicking sounds that occurred during performance. It was explained that these sounds occurred only when the pointer made or lost contact with the target, and that score was only determined by the amount of time the pointer was actually on target.

Experimental Procedure

Testing was individually administered by the same experimenter for each subject. All received the paired-associate, maze, and pursuit rotor tasks under each of two overall test situations, designated Trial I and Trial II. For experimental group subjects, Trial I involved performance under neutral conditions and Trial II involved performance under punishment conditions. Control group subjects performed under neutral conditions in both Trial I and Trial II. A diagrammatic representation of the procedure is depicted in Table 1. Under the neutral condition, no external consequences were introduced during the subject's performance on the learning tasks. Under the punishment condition, unpleasant consequences in the form of electric shock were applied to a subject when his responses were either incorrect or below experimental expectations during performance on the learning tasks.

The same procedure was followed for all subjects in both trials, with the exception that experimental subjects in Trial II received electric shock as a consequence of incorrect responding. Trial I and Trial II were administered exactly one week apart for each subject. Subjects participated in all three learning tasks during a single experimental session, therefore

TABLE 1

Conditions of Learning under Trial I and Trial II for Experimental and Control Subjects.

SUBJECTS n-60		TRIAL I	TRIAL II
DYSSOCIAL OFFENDERS	Experimental Group n-10	Neutral Condition	Punishment Condition
n-20	Control Group n-10	Neutral Condition	Neutral Condition
ANTI-SOCIAL OFFENDERS	Experimental Group n-10	Neutral Condition	Punishment Condition
n-20	Control Group n-10	Neutral Condition	Neutral Condition
ASOCIAL OFFENDERS	Experimental Group n-10	Neutral Condition	Punishment Condition
n-20	Control Group n-10	Neutral Condition	Neutral Condition

the order of these tasks was counterbalanced so that equilibrium of possible practice effects might be achieved. Appendix I lists the order of tasks for subject 1 through 10 in each of the six subgroups. Five different paired-associate lists and five different mazes were used in this study. They were rotated so that each list was employed equally often for each condition of learning. This arrangement is also shown in Appendix I.

Trial I. Each subject was recalled at the scheduled time, led into the experimental room, and seated. He was first informed that electric shock would not be used during that experimental session. The learning tasks were then administered in the appropriate pre-arranged order with an interval of 5 minutes between each task. Instructions (Howland, 1939) for the paired-associate task were as follows:

> Shortly after the apparatus starts you will see a three-letter syllable in the window (indicated by experimenter). After a few seconds a pair of these syllables will appear, the first of which is the same as the one appearing alone. The one next to it is its partner, or associate. Together they are a pair. Pronounce aloud each of the syllables as they appear in the window. You are to learn to associate the two so that when the first appears alone you can say its partner or associate before it appears. The pairs themselves will

not follow each other in any particular order but the same two members of the pair will always appear together.

Following the first complete exposure of the entire series of pairs you are to begin to anticipate the second syllable of the pair before it appears, while the first is still showing alone. If you think you know what the syllable is, but are not sure, guess, because it will not hurt your score any more than saying nothing and if you get it right it will count as a success. If you anticipate a syllable incorrectly, correct yourself as soon as it appears. Between trials call out the colors that appear in the opening. Do not attempt to memorize them.

If the syllables do not appear exactly in the opening, adjust yourself so that you can still see them. I may find it necessary to adjust the apparatus slightly during the experiment. If so, continue to respond as you've been instructed. Do not touch the apparatus.

Once the experiment is underway, I will not answer any questions. Are there any now? Do your best.

The anticipation method was used in presenting the items with an item exposure time of 2.67 seconds. Each subject received one presentation trial which was not scored. (This trial provided a check on pronunciation). The subject continued to respond until he reached the criterion of learning, which was two consecutive trials without error. Performance was scored

by total number of trials to criterion. A response was correct when the subject gave the correct associate to the stimulus item within the 2.67-second presentation interval. A 9-second period between successive trials was provided during which the subject named the colors that appeared in the aperture of the memory drum. At the conclusion of this task, the subject was given a 5-minute rest interval.

At the end of this interval, the subject was asked to blindfold himself for the maze portion of the experiment. The instructions, taken in part from Thompson and Witryol (1946), were as follows:

> On the table in front of you is a finger maze. It is similar but not identical to the one you previously inspected. The object of the experiment is for you to learn to go from the entrance of the maze to the end or goal without making any false turns.
>
> Which hand do you use? Now I'll take your index finger and place it here. Your finger is resting on a wire. This wire is the path. As your finger goes up here you notice that there are two ways it may go. When you go this way your finger runs off the wire. This means you should have turned the other way. (demonstrate). You see?
>
> There is one place on the maze where you can't go any further because of the obstacle. That is the end of the maze or the goal. There is only

one correct path from the beginning of the maze to this goal. In addition to the correct path there are a number of places where your finger may run off the wire. An error will be counted each time this happens. An error will also be counted for any attempt at retracing. (Explain). Your object is to learn to follow the correct path without making any errors. Call out the direction of the turn as you make it.

Now put your finger on this spot. This is the beginning of the maze. When you reach the end or goal let your hand rest in your lap until I replace it at the beginning. You will be timed and stopped on each trial after 1 1/2 minutes with any unfinished turns being counted as errors.

I will not answer any questions once the experiment is underway. Do you have any now? Do your best.

It has been reported that subjects use one of three chief methods in learning a maze (Warden, 1924). These are motor, visual imagery, and verbal counting. The latter was found to be the most successful means of self-assistance in maze performance. To encourage a uniform approach, all subjects were asked to indicate orally the direction of the turn as it was made.

All runs through the maze were scored. Performance was measured by the total number of trials to

a criterion of two consecutive errorless trials. An error was recorded whenever the subject's finger reached the end of a cul-de-sac. A 15-second interval between trial runs was provided. At the conclusion of this portion of the experiment, the subject received a 5-minute rest period.

The instructions for the next portion of the Trial I session, the pursuit rotor, were as follows (see Huston and Shakow, 1949):

> This device is the same instrument that you previously practiced on. On it you show your ability to learn a new movement. Hold the pointer like this (Demonstrate). With your wrist and the pointer in a straight line, standing straight up and well balanced, keep the pointer on the target as it turns around. Do not press down hard on the pointer. If you let the pointer get off the target, catch up with the target again, moving the pointer steadily until you get on it. Your score is higher the more you make contact with the target. Keep your hand in front of the turntable box throughout the trials, do not let it go to the side. Let the other hand rest slightly on the edge of the turntable box.
>
> When I say "ready", stand and pick up the pointer. When I say "start", place the pointer on the target and follow it as best you can until I say "stop". Then put the pointer down, be seated, and relax until I again say "ready". There will be several trials.

Are there any questions? Do your best.

If instructions were violated, the subject was asked to correct his technique during performance. The turntable was adjusted so that target rotation occurred in a clockwise direction at a speed of 48 R.P.M. Time was allowed for the turntable to reach this speed. Total performance consisted of seven 60-second trial periods with 30-second rest intervals between each trial. The subject received the ready signal approximately 7 seconds before the starting signal for each trial. Performance was scored by the total amount of time on target for the last six trials.

When all phases of Trial I were completed, each subject was thanked, and informed of his appointment time for participation in the next portion of the experiment (Trial II).

Trial II. Trial II was administered in the identical manner as Trial I for all control group subjects. Although subjects were provided with a different paired-associate list and different maze, the entire experimental procedure, including instructions, was the same.

All experimental subjects, however, were

first informed that electric shock would be included in the Trial II portion of the experiment. The electrode was attached as before and the shock intensity was slowly increased until the subject's maximum intensity level was reached. If a subject voiced a desire that the level be lowered or raised, this, although discouraged by the experimenter, was accomplished. These requests were rare. When desired, however, the amount of intensity change was slight. Each subject was presented the learning tasks in the same order as in Trial I.

In the paired-associate task, the following additional instructions were provided: "You will receive an electric shock as a punishment for every fifth error that you make." The shock of approximately 1/2 second in duration was applied immediately at the end of the 2.67 anticipation interval if a response was either incorrect or not presented. Auditory stimuli inherent in the apparatus signaled this point.

In the maze, the following additional instructions were provided: "You will receive an electric shock as a punishment for every third error that you make." A shock of 1/2 second duration was immediately

applied after the subject's finger reached the end of a cul-de-sac. The point was visually determined by the experimenter. In cases where the electric shock resulted in the subject's removing his finger from the pathway, it was replaced at the point of liftoff by the experimenter.

Two points of this procedure require clarification. The first concern was that shock applied for each error might perform an informative or cue function. It was felt, therefore, that shock applied at fixed-ratio intervals would serve to eliminate this possible guidance factor (Gilbert, 1936). Secondly, a review of empirical findings indicated that a gradient of temporal delay of punishment exists (Hare, 1966). It was felt, therefore, that shock introduced immediately after the response to be punished occurred would be most appropriate in this study. It was so applied, at least within the limits of human error.

Additional instructions for the pursuit rotor were as follows:

> Your scores on the previous attempt have been recorded and compared with both general performance norms and the performance of other subjects in this experiment. From this information, I have tabulated

> a level of scores that I expect you to achieve on today's trials. You will receive a shock as punishment every several seconds if your scores do not reach this level. The shock may occur whether or not you are on target at that particular time. Are there any questions?

Shock was applied to all experimental subjects at the following set intervals regardless of performance: the first trial was a practice trial, no shock was applied; test-trial 1: shock every 10 seconds, a total of 5 shocks; test-trial 2: every 12 seconds, a total of 4 shocks; test-trial 3: every 15 seconds, a total of 3 shocks; test-trials 4 and 5: every 20 seconds, a total of 2 shocks; test-trial 6: one shock at 30 seconds.

This constant application of electric shock was included because of evidence that responding is related to the amount of punishment received (Church, 1963). In the paired-associate and maze tasks, more responses resulted in more shocks. It was felt that the method outlined above provided some degree of control of this factor.

After all testing was concluded, subjects were asked their impressions of the experiment. Each was then moderately praised for his performance, thanked,

and assured that receipt of a full accounting of the performance as well as the overall results of the study would be forthcoming.

CHAPTER V

Results and Conclusions

The hypotheses of this study are:

H: Unpleasant consequences applied to offenders' performance on learning tasks result in differential performance in these tasks on the part of dyssocial, anti-social, and asocial offenders.

More specifically:

H_1: Dyssocial offenders perform more effectively in learning tasks under punishment conditions than under neutral conditions.

H_2: Anti-social offenders perform less effectively in learning tasks under punishment conditions than under neutral conditions.

H_3: Asocial offenders perform equally as effectively in learning tasks under punishment conditions as under neutral conditions.

Appropriate operational hypotheses, amenable to statistical analyses, have been derived from the following performance expectations: (a) dyssocial offenders who receive electric shock for errors perform more effectively, i. e., take fewer trials to reach criterion in paired-associate and maze learning, and spend a greater amount of time on a pursuit rotor target, than dyssocial offenders not shocked for errors;

(b) anti-social offenders who receive electric shock for errors perform less effectively, i. e., take more trials to learning criterion and spend less total time on target, than anti-social offenders not shocked for errors; (c) asocial offenders who receive electric shock perform equally effectively, i. e., take the same number of trials to criterion and spend the same amount of time on target, as asocial offenders not receiving electric shock.

Therefore, in terms of the operations used in this study, the hypotheses to be tested are:

Ho_A: When shock is applied for errors in a paired-associates task, the difference in mean trials to criterion from Trial I to Trial II differs among groups of dyssocial, anti-social, and asocial offenders.

More specifically:

Ho_{A1}: In a paired-associate task, the difference in mean trials to criterion from Trial I to Trial II is more positive for dyssocial offenders who receive shock for errors (experimental group) than for dyssocial offenders who do not (control group).

Ho_{A2}: In a paired-associate task, the difference in mean trials to criterion from Trial I to Trial II is less positive for anti-social offenders who receive shock for errors (experimental group) than for anti-social offenders who do not (control group).

Ho_{A3}: In a paired-associate task, the difference in mean trials to criterion from Trial I to Trial II is the same for asocial offenders who receive shock for errors (experimental group) as for asocial offenders who do not (control group).

In the interest of brevity, operational hypotheses have been stated regarding only one of the three learning tasks. Similar hypotheses with respect to the remaining tasks were tested.

Test scores for all subjects under Trial I and Trial II for all tasks are shown in Appendix J. The mean trials to criterion for Trials I and II and the differences between them in each of the learning tasks and for all offender groups are presented in Tables 2, 3, and 4. These data are represented graphically in Figures 1, 2, and 3.

The experimental design used in this research was the Pretest-Posttest with Control Group Design. Since the data included repeated measurements of each subject, the most acceptable method is to first compute pretest-posttest difference scores, also referred to as change scores. The significance of differences between experimental and control subjects in these scores was then tested by means of F or t-tests (Campbell and Stanley, 1966, p. 23).

TABLE 2

Difference Between Mean Trials to Criterion in the Paired-Associate Task for All Groups on Trial I and Trial II.

GROUP	TRIAL I	TRIAL II	DIFFERENCE
Dyssocial Experimental	32.8	33.7	-.9
Dyssocial Control	31.2	29.7	1.5
Anti-Social Experimental	33.5	38.9	-5.4
Anti-Social Control	33.3	30.2	3.1
Asocial Experimental	36.0	36.6	-.6
Asocial Control	33.8	31.9	1.9

TABLE 3

Difference Between Mean Trials to Criterion in the Maze Task for All Groups on Trial I and Trial II.

GROUP	TRIAL I	TRIAL II	DIFFERENCE
Dyssocial Experimental	26.9	17.3	9.6
Dyssocial Control	24.1	18.4	5.7
Anti-Social Experimental	18.8	19.1	-.3
Anti-Social Control	22.7	13.8	8.9
Asocial Experimental	24.5	17.4	7.1
Asocial Control	23.4	15.3	8.1

TABLE 4

Difference Between Mean Amount of Time on Target in the Pursuit Rotor Task for All Groups on Trial I and Trial II.

GROUP	TRIAL I	TRIAL II	DIFFERENCE
Dyssocial Experimental	74.1	129.7	55.6
Dyssocial Control	83.4	126.2	42.8
Anti-Social Experimental	72.9	114.9	42.0
Anti-Social Control	77.8	121.8	44.0
Asocial Experimental	67.4	113.8	46.4
Asocial Control	73.3	118.4	45.1

FIGURE 1

Mean Number of Trials to Criterion in Paired-associate Learning for Experimental and Control Groups under Trial I and Trial II

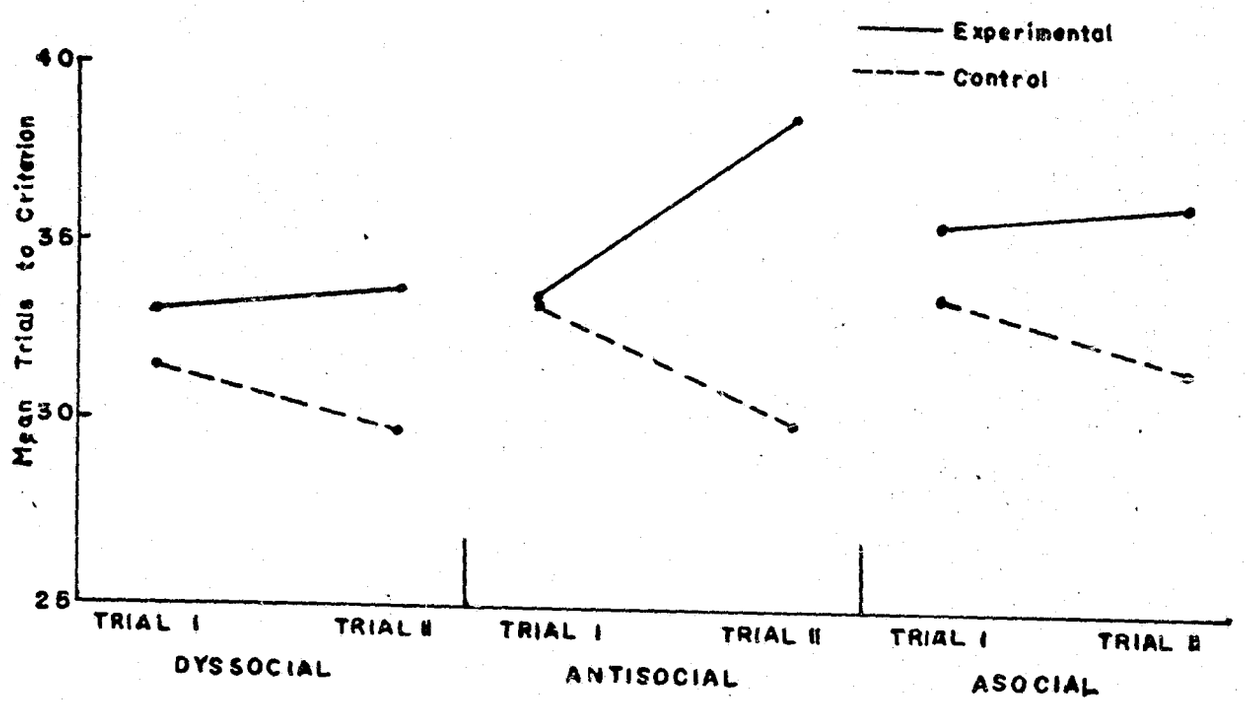


FIGURE 2

Mean Trials to Criterion in a Maze Learning Task
for All Subjects under Trial I and Trial II

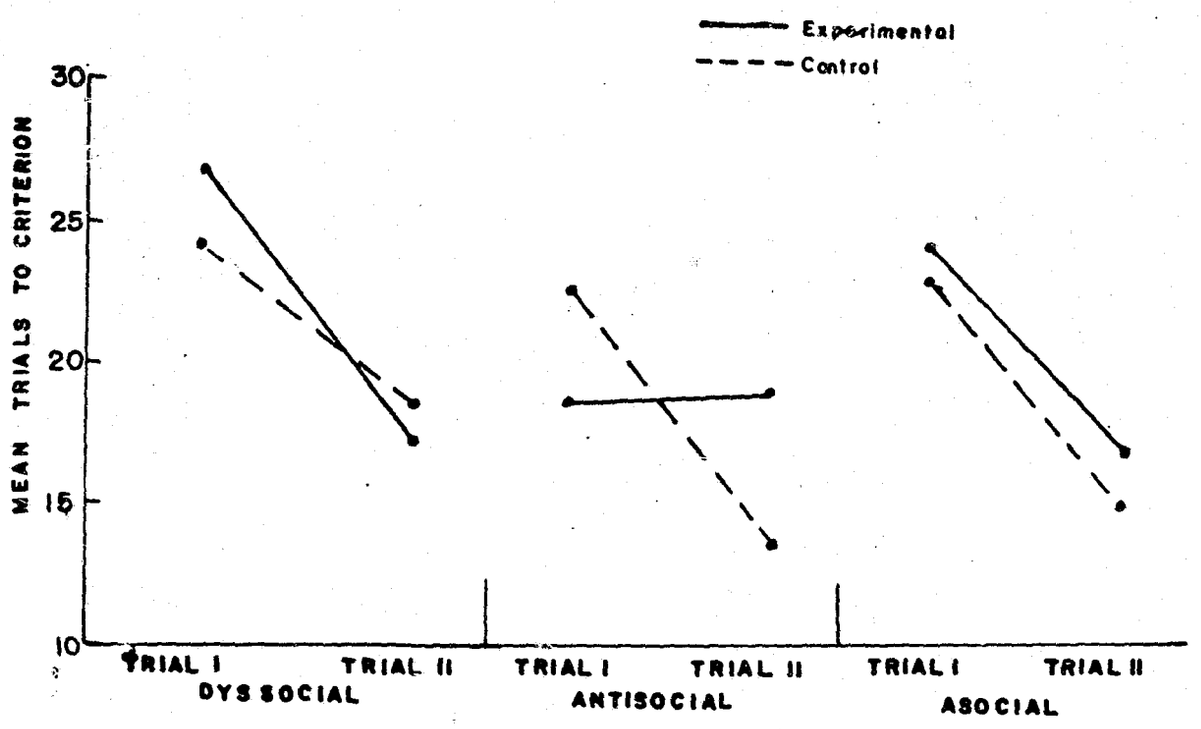
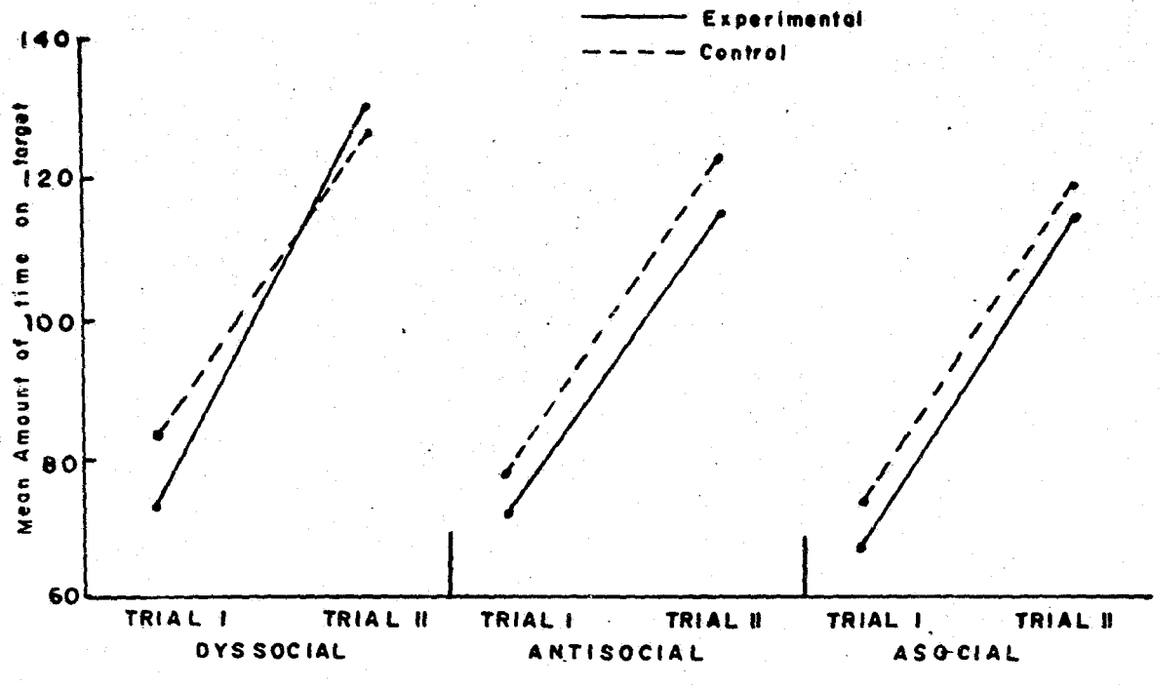


FIGURE 3

Mean Amount of Time on Target for All Subjects in a Pursuit Rotor Task under Trial I and Trial II



Paired-Associate Results

A one-way analysis of variance was applied to the change scores from Trial I to Trial II for the experimental and control groups of the three offender types (Table 5). Results led to the conclusion that these change scores did not differ significantly among the groups. The use of the F-test was based upon the usual assumptions underlying the appropriateness of parametric procedures. Bartlett's test (Edwards, 1960, pp. 125-128) was applied to the data and indicated homogeneity of variance.

The principle concern of this research, however, was to examine the differences between the experimental and control groups within each of the offender groups. For this purpose, t-tests were applied to the change scores between Trial I and Trial II for the experimental and control groups within each of the dyssocial, anti-social, and asocial offender categories.

For the dyssocial groups, the t-value was .48 yielding a $p < .35$. The t-value for the anti-social group was 1.68, yielding a $p < .10$. The obtained t for the asocial group was equal to .44 ($p < .35$, two-tailed). None of these analyses resulted in statistical significance. The results for asocial

TABLE 5

The Analysis of Variance of Gain Scores from Trial I to Trial II for Experimental and Control Groups of the Three Offender Types in Each of the Three Learning Tasks

PAIRED-ASSOCIATES

Source	d.f.	s.s.	m.s.	F
Between	5	457.7	91.6	—
Within	54	7474.0	136.6	
Total	59	7931.7		

MAZE

Source	d.f.	s.s.	m.s.	F
Between	5	638.1	127.6	2.45*
Within	54	2808.3	51.9	
Total	59	3441.4		

PURSUIT ROTOR

Source	d.f.	s.s.	m.s.	F
Between	5	1234.5	246.9	—
Within	54	17930.5	332.0	
Total	59	19165.0		

*p <.05

CONTINUED

2 OF 4

offenders, however, were consistent with the hypothesis, i. e., no difference in performance exists in these offenders as a result of shock.

The combined performance of all experimental subjects (those exposed to electric shock) and all control subjects, irrespective of offender type, is contained in Table 6 and graphically represented in Figure 4. A t-test applied to the change scores between Trial I and Trial II for the two groups resulted in a t score of 1.51 ($p < .10$). Thus, offenders in this study, when considered apart from the offender categories employed, did not significantly differ in performance on the paired-associate task as a result of electric shock.

Maze Results

As with paired-associate results, a one-way analysis of variance was applied to change scores from Trial I to Trial II for the six subgroups (See Table 5). This resulted in an F-value of 2.45. This value of F with 5 and 54 degrees of freedom has a $p < .05$. A Duncan's Multiple Range Test (1955) indicated that only the mean change scores of the anti-social experimental group differed significantly from the mean change scores of the other groups. Bartlett's test indicated homogeneity of variance.

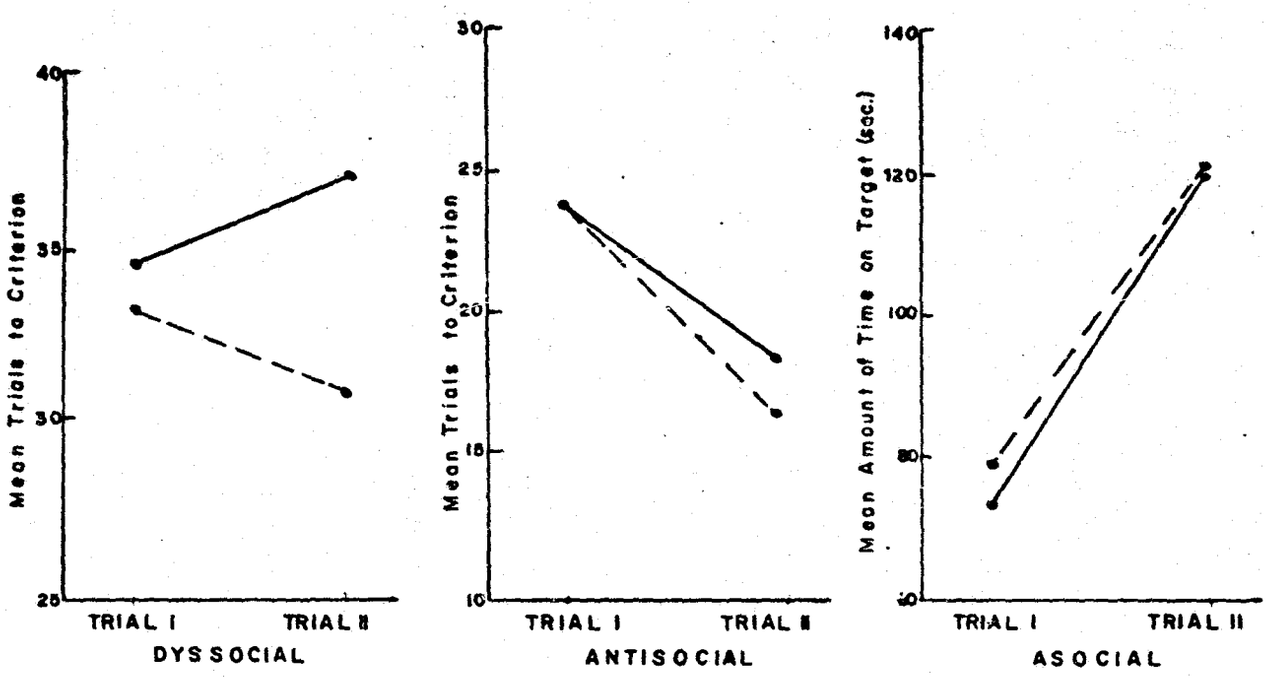
TABLE 6

Differences in Mean Performance from Trial I to Trial II on the Three Learning Tasks for the Combined Experimental and Control Subjects.

GROUP		PAIRED ASSOCIATES	MAZE	PURSUIT ROTOR
EXPERIMENTAL SUBJECTS	Trial I	34.1	23.4	71.5
	Trial II	36.4	17.9	119.5
	Difference	-2.3	5.5	48.0
CONTROL SUBJECTS	Trial I	32.8	23.4	78.2
	Trial II	30.6	15.8	122.1
	Difference	2.2	7.6	43.9

FIGURE 4

The Combined Performance of Experimental versus Control Subjects in Each of the Learning Tasks



Further and more pertinent analyses included the application of t-tests to the difference between experimental and control group change scores within each of the offender types. These t-values for the dyssocial, anti-social, and asocial offender groups were 1.73, 2.36, and .37 respectively. These scores yielded p values $<.10$, .05, and .40. Statistical significance was found for the difference between anti-social experimental and control groups. The results for the asocial offenders were consistent with the hypothesis of no difference concerning them.

A t-test was applied to the differences in mean change scores for the combined experimental and combined control subjects and yielded a value of 1.51, $p<.10$. Thus, offenders, when examined without regard to typology, did not differ significantly in performance on a maze task when electric shock was applied to errors.

Pursuit Rotor Results

A one-way analysis of variance led to the conclusion that mean change scores from Trial I to Trial II in pursuit rotor performance do not differ among the groups (See Table 5). Bartlett's test again indicated homogeneity of variance.

T-tests were applied to change scores for

experimental and control subjects within each of the offender types. Resulting t-values were 1.69, .42, and .14 for the dyssocial, anti-social, and asocial offender groups. These t-scores resulted in non-significant p values ($p < .10$, .35, and .45 respectively). Results for the asocial offenders confirmed the hypothesis of no difference.

The t-test applied to the results of the combined experimental subjects and combined control subjects yielded a t-score of .06, $p < .50$. Thus, when viewed distinct from the classificatory scheme, offenders did not significantly differ in their pursuit rotor performance as a result of the application of electric shock.

Non-Parametric Analyses

The assumptions underlying parametric procedures not only include homogeneity of variance but the assumption of normality and interval measurement as well. The distributions of the populations from which the samples were drawn were not known. In addition, the scoring of performance took the form of number of trials which may be interpreted as more nearly ordinal than interval measurement. Finally, heterogeneity of variance was found to exist within several of the individual t-test analyses. In order

to meet any possible objections that might be raised against the use of parametric techniques, non-parametric analyses were applied to the experimental data as a supplement to the parametric analyses.

Kruskal-Wallis one-way analyses of variance (Siegal, 1956, pp. 184-193) were applied to the Trial I - Trial II change scores of the groups in each of the learning tasks. The results were as follows: In paired-associate performance, H was equal to 3, $p < .70$; for maze performance, an H-score of 10.4 yielded a $p < .07$; and pursuit rotor performance resulted in an H-score of 5.9, $p < .32$.

To examine the difference between Trial I - Trial II change scores of the experimental and control groups within the dyssocial, anti-social, and asocial offender types, Mann-Whitney U-statistics (Siegal, 1956, pp. 116-127) were applied. A summary of the findings is depicted in Table 7.

These results, for the most part, substantiate those of the parametric analyses. With the exception of dyssocial offenders, who were found to perform significantly more effectively on a pursuit rotor as a result of electric shock, no appreciable differences existed between the results arrived at via parametric or non-parametric analyses of the

TABLE 7

The Mann-Whitney U Scores for the Differences between Experimental and Control Groups of Dyssocial, Anti-Social, and Asocial Offenders' Gain Scores from Trial I to Trial II

LEARNING TASK	OFFENDER GROUP	U SCORE	P-VALUE
Paired-Associate	Dyssocial	47.5	.425
	Anti-Social	30.0	.064
	Asocial	46.5	.396
Maze	Dyssocial	32.5	.091
	Anti-Social	25.5	.031*
	Asocial	43.5	.310
Pursuit Rotor	Dyssocial	24.5	.027*
	Anti-Social	45.0	.352
	Asocial	45.0	.352

experimental data.

Additional Observations

Graphs depicting total number of errors per trial in paired-associate learning indicated that the curves of all groups had essentially the same pattern. They were of decreasing efficiency, i. e., errors were eliminated more rapidly during the early trials. The rate of elimination of errors then decreased across trials up to criterion.

The curves of dyssocial offenders (See Appendix K) under both Trials indicated that errors were eliminated at a relatively constant but rapid rate until around trial 15, when the rate then decreased until criterion. This suggests that the majority of learning took place during early portions of the task and then levelled off until completion. The application of shock for wrong responses did not appreciably alter this pattern.

Learning curves for the anti-social control group under Trial I and Trial II were markedly similar. There was evidence, however, that shock adversely affects performance in anti-social experimental subjects, that is, errors were eliminated consistently slower across trial presentations when compared with rates of dyssocial experimental subjects.

In the asocial experimental group, error elimination across the trials took place at a more constant rate throughout than in either the dyssocial or anti-social experimental groups. That is, electric shock resulted in relatively slower error elimination during initial trials but relatively faster elimination during the later list presentation. A possible explanation might be that the performance of asocial offenders improved as they became more aware of external controls in the form of electric shock.

There were no observable differences in the variability with which errors were eliminated across trials in any of the groups.

Curves signifying the rate of error elimination across trial runs in a maze were also examined. As was the case in paired-associate performance, the groups generally showed curves of decreasing efficiency.

All groups, whether experimental or control, and regardless of offender type, showed more inconsistency in their rates of error elimination during Trial I. Trial II resulted in a general reduction in this variability (See Appendix L).

Graphs representing the number of errors per choice point in a maze indicated that all groups of subjects displayed a more even distribution of

errors across choice points during Trial II. When offender groups were compared, it became apparent that dyssocial experimental subjects, those receiving shock, exhibited slightly more even distribution of errors across choice points than their control counterparts (See Appendix M). In anti-social offenders, the opposite was suggested. No apparent differences existed in error distribution between the asocial groups.

Conclusions

The statistical material presented in this chapter led to the following general conclusions. The prediction that shock as punishment increases the effectiveness of performance in dyssocial offenders was partially substantiated. The expectation that shock decreases the effectiveness of performance in anti-social offenders gained experimental support in this research. A statistical procedure reported by Winer (1962, p. 44) was employed to attempt to verify this conclusion. The purpose was to determine whether the combined probabilities that were obtained as a result of performance on each of the tasks supported the composite hypothesis regarding anti-social offenders. Although liberties were taken with statistical validity, i. e., the test is suitable only for independent data,

it was found that when punishment was introduced, anti-social offenders performed significantly less effectively on learning tasks in general ($X^2=12.7$, $p < .05$). This procedure was not applied to the data on dyssocial offenders, since it is appropriate only in cases where all p values are in a direction consistent with the hypotheses. In addition, the fact that the test is not designed to measure two-tailed alternatives precluded its use with respect to asocial offenders' results. However, results of this research indicated that shock as punishment had no influence upon the effectiveness of performance in asocial offenders.

Further, there was evidence to suggest that electric shock as punishment tended to reduce the variability of performance in dyssocial offenders, whereas in anti-social offenders, the application of shock produced rather inconsistent effects upon variability. Lastly, shock appeared to have little or no influence upon the variability of performance in asocial offenders.

These conclusions served to confirm the more general hypothesis that the introduction of shock as punishment differentially affects the performance of dyssocial, anti-social, and asocial offenders. On

the other hand, analyses of the aggregate results of these three groups combined led to the conclusion that shock as punishment does not significantly affect performance when habitual offenders are viewed separate from a particular offender typology.

CHAPTER VI

Discussion

The general hypotheses of this study were:

> H: Unpleasant consequences applied to offenders' performance on learning tasks result in differential performance in these tasks on the part of dyssocial, anti-social, and asocial offenders.

More specifically:

> H_1: Dyssocial offenders perform more effectively in learning tasks under punishment conditions than under neutral conditions.
>
> H_2: Anti-social offenders perform less effectively in learning tasks under punishment conditions than under neutral conditions.
>
> H_3: Asocial offenders perform equally as effectively in learning tasks under punishment conditions as under neutral conditions.

These hypotheses were evolved from dynamic theory of offender character formation, with emphasis placed upon super-ego development as a significant variable. It was assumed in this study that the super-ego factors characteristic of offender personality structure partially influence reactions to the

application of punishment in a learning situation.

In the case of dyssocial offenders, the findings were in accordance with the hypotheses in maze and pursuit rotor performance, significantly so in the latter. In this group, super-ego has relatively normal strength. Therefore, as with normal individuals, the acquisition of correct responses, if available, should be facilitated by punishment. The results suggested that punishment has, in certain instances, caused the suppression of incorrect responses and led to the occurrence of alternate, correct responses. One might conclude that, in these offenders, modification of motor behavior in a positive direction will occur as a result of punishment.

In paired-associate learning, however, the research hypothesis was not confirmed for the dyssocial group. This is felt to be due, in part, to the nature of the task. Offenders are assumed to be action-oriented individuals, and one might expect, therefore, a more generalized deficiency in verbal skills than in motor performance. This was generally the case in the performance of each of the three offender types. It is noteworthy that electric shock elicited hostile remarks and obscenities by these sub-

jects in paired-associate learning to a much greater extent than in either of the motor-type tasks.

Hypotheses concerning anti-social offenders were generally supported by the data. Results were significant in the maze task and neared significance in paired-associate performance. On the pursuit rotor, anti-social offenders also performed in a manner consistent with the hypotheses. It was assumed that the behavior of these individuals was partially the result of a severe and punitive super-ego. These offenders are likely to attempt escape from oversevere super-ego demands that take the form of guilt feelings. Responses leading to punishment may be seen as a means of actively seeking and receiving the punishment provided by external sources. (In extreme cases, punishment added to the effects of an already punitive super-ego may cause rigidity in the individual's behavior manifested by fixated responding.) From the research results, it was concluded that anti-social offenders tend to repeat behavior that leads to punishment.

Asocial offenders who received electric shock for incorrect responses did not differ in performance on any of the tasks from those not receiving shock. These findings were consistent with the

hypotheses. It was presumed that offenders of the asocial type possess a weak, insufficiently formed super-ego. Their development was such that they display a general inability to understand and/or accept the imposition of limitations. They should exhibit, therefore, a relatively weak ability to anticipate punishment as a consequence of their behavior. One might expect them to react to a punishing stimulus with trial and error behavior, minimally successful in eliminating the responses that lead to unpleasant consequences. Their overall performance should not differ from what it would be without the introduction of shock. The experimental findings supported these views and led to the conclusion that punishment as defined in this research has little or no effect upon the behavior of asocial offenders.

These conclusions are especially interesting in light of experimental evidence concerning offenders in general. An analysis of the performance of combined experimental versus combined control subjects resulted in the finding that electric shock as punishment produced no significant differences between them. This adds support to the appropriateness and efficacy of the classificatory scheme employed in this research. Offenders were more similar in performance

to members of their particular group, as established according to personality factors, than to offenders in general.

However, graphic inspection of these combined data suggested that offenders performed somewhat less effectively under conditions of punishment, particularly in the paired-associates task (See Figure 4). This was not the case on the pursuit rotor. This finding, although opposed to expectations drawn from similar experimental data with normal subjects (Bernard and Gilbert, 1941; Bunch, 1928; Schachter and Latané, 1964), lends support to the impressions of many of the previously cited theorists, i. e., punishment is relatively ineffective in altering the behavior of criminals. Comments of various subjects, however, implied that the shock was something of a disruptive factor. In these circumstances, one might expect the most impairment to occur in tasks in which the individual is less proficient, in this case, verbal tasks.

Further examination of the data disclosed evidence that each of the control groups performed more effectively during the second presentation of the tasks. This is particularly revealing in that it contradicts a general conception that the criminal, more specifically the "psychopath" (asocial offender),

is unable to learn as a result of experience (Cleckley, 1958). Apparently, practice alone is effective in improving the performance of offenders.

In summary, the concept of super-ego apparently provides an appropriate framework from which to obtain not only an effective system of offender classification, but also a means of predicting the offender's diverse reactions to the application of punishment.

However, is super-ego development, by itself, a sufficient explanation for the causes of criminal activity? It has been suggested that a rigid and severe super-ego provides the impetus for criminal activity, intended as a means of receiving punishment in order to alleviate the internal, overpowering feelings of guilt. A second notion points to the existence of a normally formed super-ego based, however, upon socially and legally deviant ideals in which the motivation for criminal activity is, in part, the needs for conformity and acceptance. Finally, there are indications that a weak or absent super-ego allows for the occurrence of impulsive criminal activity without the receipt of internal tension in the form of guilt.

In the first two instances, super-ego forces, at least partially, appear to precipitate and serve as the motivation for criminal activity. In the latter

case, a weak super-ego is likely to prove inadequate in controlling rather than being the motivation for such activity. The most that may be concluded is that pathological super-ego formation furnishes a convenient atmosphere for diverse psychosocial forces, situational pressures, and individual needs to act as more immediate causes of criminal behavior.

Although not amenable to systematic analysis, several observations of, and comments by, the research subjects are of interest. One is that anti-social offenders generally appeared subjectively more sensitive to the application of electric shock than offenders in the other groups. A likely explanation is the often observed tendency of the latter to maintain a façade of toughness and strength. When asked their feelings about the shock, the great majority of individuals in all groups minimized their emotional reactions to it. A few, however, felt that it made them somewhat angry at themselves, but none overtly directed their annoyance at the experimenter.

With respect to the learning tasks, all subjects readily understood the instructions and procedures involved in performance. In the paired-associate task, different approaches were apparent. The most common and successful technique was an attempt

to combine the two syllable sounds in such a way that they came to represent an actual meaningful word. One form of this was the just noticeable alteration of pronunciation until auditory resemblance was achieved. When shock was applied to paired-associate performance, a few subjects asserted that they had, at first, attempted to count the incorrect responses in order to correctly anticipate the application of shock. It was claimed that this resulted in the temporary loss of previously learned associations. This phenomenon was less common in the asocial group.

In the maze task, several subjects initially appeared to proceed in a haphazard manner, particularly when annoyed at their inability to find a correct pattern. It was in this task that subjects of all groups were most likely to threaten discontinuation of their performance. The latter, however, was firmly, although supportively, discouraged by the experimenter in the following manner: "Many others have expressed similar difficulties but all have completed the task." All subjects did, in fact, successfully complete this task. The most common approach appeared to be that of separating the task into portions, learning each, and combining them. It is noteworthy that several subjects expressed the suspicion that, contrary to instruc-

tions, mazes with different pathways were being introduced by the experimenter. In all cases, this suspicion was dispelled as performance became more proficient.

The pursuit-rotor appeared to be the most enjoyable and self-motivating task for subjects. Several, however, correctly perceived the shock as not directly related to accuracy of performance.

The feeling that emerged was that subjects, almost without exception, looked forward to and enjoyed participation in the experiment. Each participated to completion and nearly all expressed an interest in being advised not only of their individual performance, but of the general research findings as well. This suggests that any departure from usual institutional routine is rewarding in itself.

Limitations

There are procedural considerations which, in retrospect, may raise questions with respect to the accuracy of the conclusions.

The first is the possible influence of practice effect interaction with the variable of electric shock. Does the effect of pre-testing act in such a way as to sensitize the individual during the posttest and therefore confound the findings? Put another way, if subjects

are tested first under neutral conditions and then under punishment conditions, the effects of the latter could be expanded or disguised because of practice in the previous condition. Although this is a legitimate area for concern, the advantages of the pretest-posttest with control group design more than compensates for this possible deficiency.

In setting up the criteria for differential assignment to groups, a crucial variable was the availability of a model for identification. There is the likelihood that the resulting inferences included errors of two types: (a) assuming that identification has taken place when it, in fact, has not; (b) denying the occurrence of identification when it, in fact, has (Martin, 1954, p. 212).

It is recognized that the use of a single concept of aversive stimulus to represent punishment is a tenuous assumption. The conditions under which a particular stimulus serves as an effective punishment are always questionable. However, electric shock was selected since it is generally physically painful, and the large majority of subjects involved in this study have presumably been exposed to physical punishment in the past.

The method of setting the shock intensity may

have contributed to a possible incorrect evaluation of the research findings. Although no differences existed among groups in mean shock intensity arrived at by this procedure, there were observable subjective differences in subjects' reactions to the stimulus. If shock intensity, as earlier reported, appeared greater in anti-social offenders, one might expect their performance to differ from that of subjects not so affected. In addition, the issue may be raised as to whether subjects reported full tolerance when it had, in fact, been attained. Nonetheless, it was felt that had one level of intensity been used for all subjects, differences in personal sensitivity may have become more of a confounding factor.

The psychological effects of aversive stimuli upon human subjects consist of a diversity of subjective phenomena (Tomkins, 1943). For many individuals, shock feels like punishment, but to others it is an aggressive act. Some see the stimulation as challenging, others as pleasurable, fear arousing, or threatening to pride. This variety of attitudes may raise questions as to the interpretability of the results.

Concern arose with respect to the inflated within-group variability observed in the data analyses.

The sources of variability include the measuring instrument, the experimental procedure, external factors in the experimental situation, and the subjects themselves (Scott and Wertheimer, 1962). In this study, it was felt to be due, in part, to the introduction of several paired-associate lists and mazes as instruments. Although care was taken to construct them of equal difficulty, this could not be assessed with complete certainty. However, since subjects are reportedly able to recall both maze paths and paired-associate lists to some extent, several tasks were presented in order to eliminate the effect brought about by the sharing of this information in the general inmate population. In addition, experimental sessions lasted an average of one and one-half hours. This produced a certain degree of fatigue, which, in turn, might have adversely affected performances on the last in the series of tasks. Counterbalancing in order to reduce practice effects, although appropriate, may have increased variability of performance.

It became apparent that later subjects demonstrated greater incentive, probably due to favorable and informative feedback on the part of earlier participants. Realities of the experimental procedure, i. e., individual experimental sessions, precluded the

effective control of this factor, although requiring subjects to sign pledges of secrecy (See Turner and Solomon, 1962, p. 4) might have minimized this problem.

Although a prison community ironically presents a relatively advantageous setting for the establishment of controls, it may, on the other hand, contribute confounding factors to an experiment. Factors such as length of sentence, date of parole eligibility, and the build-up and easing of general tension that so typifies the inmate population, undoubtedly influenced the size of the variability in this research.

Finally, manual administration of the shock stimulus was a possible source of error. A more efficient and objective procedure, in retrospect,would have included the use of a timing device to control both the length of shock application and the onset of its application after the occurrence of an incorrect response.

Despite these possible limitations, all subjects in each group were tested under similar circumstances and environmental conditions, including the experimental room and, as much as possible, time and day of week. Each subject served as his own control, and the experimental design used in this research controls for many of the sources of internal invalidity

possible in behavioral research.

Turning to the effects of punishment on behavior generally, it is possible that the number of incorrect responses increased because the amount of punishment increased. It was axiomatic in this study that the more errors were committed, the more punishment was applied. For this reason, trials were taken as a criterion of learning rather than number of errors. (It was found, however, that number of trials was positively correlated with number of errors in this research). In addition, on one of the tasks (pursuit rotor) all experimental subjects received the same amount of shock irrespective of performance. The procedure did not result in findings contrary to the hypotheses of the study.

It might have been advantageous to include a non-criminal group of "normal" subjects in this study. On the basis of the theory of this research, it is expected that the performance of these individuals under punishment would have, in many ways, paralleled that of the dyssocial offender group. However, it was felt that normals provide a more heterogenous sample with respect to the relevant conceptual framework than any of the particular offender groups, and the presumed difficulty in collecting relevant

historical material for these individuals would have precluded a similar grouping among normals.

A most difficult issue to resolve was whether differential responding occurred on the basis of the theoretical considerations outlined in this research or whether the results were interpretable by other means. For example, does the mere introduction of shock result in differential anxiety on the part of various offender types, and does this possibility serve to explain the differential responding that was elicited? Does shock represent punishment to the subject, or is it seen as an instigation to aggression, thereby leading to a repetition of the responses one is attempting to eliminate? An attempt to neutralize, if not eliminate, these possibilities was made via instructions specifying when and why shock would be applied. Tomkins (1943) reported that subjects aware of when shock is to be applied, exhibit significantly less anxious anticipation to the shock. However, a more meaningful approach might have been to periodically shock the control subjects irrespective of the correctness or incorrectness of their responses. Any differences between experimental and control subjects may then have been due to the punitive aspects of the

experimental procedure rather than the possible effects of anxiety, conditioned fear, etc.

This leads to a consideration of two points, in particular, that require reflection. How would reward as opposed to punishment have affected the performance of offenders? In the case of the dyssocial individual, who has exhibited goal-directed behavior in the past, it is presumed that performance would have improved under positive incentive conditions. In the asocial individual, whose behavior is often without clear motive, it is unlikely that reward would have significantly affected performance in either direction. It is with the anti-social offender, however, that this issue seems most in doubt. The study contends that behavior leading to punishment in the anti-social offender results in a repetition of that behavior. Since punishment is thought to be indirectly rewarding for this individual, the direct application of reward is likely to perform a similar function, thereby increasing the effectiveness of performance. Although the opposite view can be argued on the basis of the present formulation, only through investigation can it become resolved.

To return again to the issue of anxiety, a worthwhile endeavor might be to investigate the possible

interaction of this factor with that of punishment. A useful approach would be to separate offenders within each of the present groups into high anxiety (HiA) and low anxiety (LoA) categories on the basis of scores on the Manifest Anxiety Scale (Taylor, 1953). Would evidence of HiA in asocial offenders result in performance more similar to LoA anti-social offenders than to other asocial offenders? According to the present study, we would answer in the negative. However, a number of such comparative possibilities are available, any of which would be helpful in resolving the interaction issue as well as supporting or contradicting the conclusions of this research.

Implications

Since offenders of the type described in this study are committed to correctional institutions at some point in their lives, it is essential that one look towards rehabilitation programs most likely to result in the modification or elimination of the criminal activity. Interpretations from experimental data are generally restricted to those operations, conditions, and subjects portrayed in the particular study. Therefore, certain assumptions are necessary in order to consider with any degree of validity the implications of this research.

First, there is the problem of equating electric shock with the "punishment" generally received by public offenders. The latter nearly always includes imprisonment with its variety of implications, i. e., restriction of freedom, absence of loved ones, deprivation of privileges, and, only rarely, physical pain. There is present in all of these, however, a notion of unpleasant consequences inflicted upon the individual by external sources. This provides some justification for "punishment" being represented by shock, an invariably unpleasant consequence. Secondly, does performance on a variety of learning tasks adequately correspond with activity of a criminal type? An obvious distinction is the socially acceptable quality of the former. However, in many respects, criminal behavior is a learned phenomenon, therefore some similarity between them exists. Finally, comments with respect to the representativeness of the sample is called for. The difficulty in finding candidates with the necessary qualifications, added to factors such as expiration of sentence, release on parole, and institutional transfers made a completely valid systematic randomization process impractical. In addition, the sample excluded situational first-offenders,

organic and mentally deficient offenders, those with blatant psychotic histories, etc. Therefore, the generalization of the conclusions of this study to the class "offenders" must, of necessity, involve a number of reservations.

Institutions. The purpose of the following is not intended to be a critique of current methods of prison administration. Behavioral scientists are undoubtedly aware that traditional prison treatment is neither modifying nor retraining the offender. All would recommend that institutions be converted from places currently emphasizing custody, security, and conformity to ones where the atmosphere, for administration and inmates alike, is one of rehabilitation and progress. The particular purpose of these brief remarks is to consider the effects of punishment upon offenders based upon the conclusions of this study. It is suggested, therefore, that one may be too ready to assume that punishment serves neither a deterrent, preventative, nor rehabilitative function.

1. Punishment, although inappropriate for some personality types, may be appropriate for others. There are indications that punishment may, in fact,

be effective in altering the behavior of the dyssocial offender. Since this individual typically attempts to avoid punishment, he may reach a point where his criminal behavior becomes too costly in terms of the consequences. Putting aside the obvious consideration that imprisonment may further reinforce his criminal orientation and disdain for authority, it is suggested that, in terms of its meaning for the dyssocial offender, imprisonment is both necessary and, in a sense, beneficial.

2. This is not the case, however, for the anti-social offender. The current study suggests that punishment, even if it takes the form of imprisonment, is initially welcomed by this individual. If true, it is questionable that institutionalization performs either a deterrent or rehabilitative function. Treatment rather than incarceration is indicated.

3. The asocial offender presents a more complex problem. The evidence indicates that punishment has little, if any, effect upon his behavior. At the same time, he is likely to be a particularly dangerous individual from society's point of view. The optimal approach, therefore, is considered to be a treatment-oriented isolated community. Although such

an arrangement would obviously be beneficial to all types of offenders, it is felt to be more relevant to the asocial offender. In such a situation, the necessary external controls would be available. Also present is the likelihood that proper identification and the ultimate development of ego strength would occur.

Treatment. To prevent the possibility of any misconception, it is strongly urged that treatment be made available to all offenders, irrespective of personality syndrome. At least in theory, the emphasis in corrections is shifting from the view of punishing offenders to one of recognizing and treating the personality defects that cause criminal activity. The latter may be accomplished not only through traditional diagnosis and psychotherapy but also through a variety of "milieu" approaches, i. e., volunteer groups, work-release programs, half-way houses, etc. The current concern, however, is with the implications for therapeutic treatment that may have been afforded by this research.

1. The dyssocial offender has been portrayed as a dynamically normal individual who has identified with criminal norms and standards. The goal of psychotherapy, therefore, should be to

reeducate this individual to understand and accept socially legitimate attitudes and activity. It is essential that he become convinced that he can fulfill himself, and become a successful member of the society-at-large by directing his energies towards more appropriate ideals. The dyssocial offender is sufficiently in tact, psychologically, to be capable of strong and appropriate transference to a man who commands his respect. The therapist, therefore, must project, in particular; an image of strength, masculinity, and self-esteem. He, the therapist, must be skillful at frustrating the high status "con" role without, under any circumstances, assuming a moralizing position. In this way, the offender should come to admire and attempt to emulate the therapist. Ideally, the next step is curiosity about, and ultimate adherence to his system of values.

2. The anti-social offender has been depicted as a conflict-ridden individual with intense internal pressures manifested by criminal activity calculated to result in punishment. The anxiety and guilt feelings typical of this individual, particularly in an institution, is generally sufficient motivation for seeking treatment. The focus of a

psychoanalytically-oriented therapist should be directed toward Oedipal issues, in particular, with a general goal being the reduction of super-ego tension. It is essential that the therapist be warm, permissive, and non-threatening. This classical approach should enable the patient to gain insight into, and acceptance of his heretofore unacceptable impulse life. If this is accomplished, internal conflict should subside and be accompanied by an easing of the previously hypermoral super-ego forces to a more realistic level.

3. The behavior disorders of the asocial individual were concluded to be due, in part, to a lack of identification with others and a resultant lack of or weak super-ego. The psychotherapeutic goals are to inhibit and change the behavior of this offender rather than to attempt to relieve him of his inner tensions. In fact, it is worthwhile to create a degree of tension in the form of anxiety and guilt. The therapist must gradually build the patient's capacity to postpone or renounce his characteristic attempts to achieve immediate gratification. He should be prepared to deal both with the issue of trust that dominates much of the early treatment period, and the continual provocations and limits-testings so typical of this offender. This is best accomplished by

adopting an attitude of warmth, firmness, and affection, as well as acceptance, but not approval, of the chronic resentment and hostility towards authority and society in general. In this way the therapist symbolically undertakes a role that should have been assumed by father. He now becomes the source of external, reality-based controls that pave the way for the development of a mature super-ego. This emotionally deprived individual is able, ultimately, to become involved in a transference relationship with the therapist, and this should be encouraged. It then is the responsibility of the therapist to be sensitive to and deal with this relationship so that the offender may eventually incorporate, and behave according to, the values of the larger society.

Many of these issues have been dealt with in the investigator's role as a prison therapist. The hope is that future therapists assigned to correctional settings realize the diversity of pathology and problems that exist in the public offender. These offenders are homogenous in few, if any, respects, and the antiquated notion that all criminals are unresponsive to psychotherapeutic procedures is as naive as it is false.

CHAPTER VII

Summary

Introduction

The purpose of this study was to conduct a limited investigation into the effects of punishment upon the learning behavior of habitual public offenders. It had been observed that many offenders (or criminals) continually commit offenses against society throughout their lifetimes. This not only suggested possible learning deficiencies, but more importantly, raised questions with respect to the efficacy of procedures used in the attempt to alter such behavior. This study proposed that the difficulties in modifying behavior, often in the face of repeated punishments, was related to certain aspects of the offenders' personality development.

Background

A review of relevant dynamic theory indicated a lack of consensus among investigators concerning the causation of criminal behavior. However, a common element that emerged was the continual reference to value systems, conscience, and ideals as

being of significance in offender etiology. It was suggested, therefore, that the degree and quality of super-ego development was an important variable in criminal character formation and behavior. (Notions with respect to this concept ranged from the absence of super-ego in offenders to a view of their super-ego as harsh and punitive). This study further assumed that super-ego factors crucial in offender personality and behavior likewise determined the variety of reactions that result from the application of punishment.

Theory

It was proposed that offenders are discriminable and can be categorized on the basis of factors, particularly super-ego factors, that contribute to general personality formation. One of these categories included individuals whose criminal behavior appeared to be consistent with a criminal value system, and which was caused, in part, by identification with a criminal model or models. Super-ego development occurred in a normal manner psychodynamically, but the models for behavior were deviant. A second category included individuals whose criminal activity reflected inconsistency with their value systems, due partially to identification with a

socially appropriate but frustrating model or models. The resultant super-ego, although moral, was severe and punitive which resulted in attempts at behavior designed to escape its demands. The last category consisted of individuals whose behavior appeared to be independent of any value system, resulting from the unavailability of stable models with which to identify. Consequently, the super-ego, when present, was weak, thereby minimizing the likelihood of internal control over criminal behavior.

Briefly, three types of habitual offenders were distinguishable on the basis of super-ego development: (a) those who possessed super-ego which was normal, at least within their subculture (dyssocial offenders); (b) those who possessed a relatively severe super-ego from which they attempted to escape via the commission of criminal acts (anti-social offenders); (c) those who, if not without super-ego, possessed a generally weak one (asocial offenders.

Implicit in super-ego development was the role of punishment. The internal acceptance of restrictions, prohibitions, and punishment form the basis of the super-ego. The super-ego later makes use of these same techniques in controlling behavior.

Punishment, therefore, is crucial both to the establishment, and as an instrument, of the super-ego.

The effects of punishment tend to be varied and difficult to predict. It is reputed to have produced both the elimination and the strengthening of certain types of behavior, depending upon the circumstances. At times, it may have *no* effect at all. However, from the discussion, it was expected that punishment would differentially, and in the following manner, affect the behavior of offenders. Its application as a consequence of behavior would result in a decrease of this behavior in dyssocial offenders, an increase of the behavior in anti-social offenders, and in asocial offenders, it would be relatively ineffective in producing change.

Methods and Procedures

Since criminal behavior may, to some extent, be considered learned behavior, and since both are likely to be influenced by the consequences to which they lead, an approach involving the use of a learning paradigm was selected. Learning may occur under a number of conditions. Those conditions considered in this research included neutral conditions, i. e., those in which no external consequences were applied

during performance, and punishment conditions, i. e., those in which unpleasant consequences, in this case, electric shock, were applied to performance in order to alter that performance. Performance, and implicitly learning, was measured on three tasks that comprise a cross-section of abilities. These included paired-associate lists, finger mazes, and a pursuit rotor instrument.

A total of 60 inmates of the Massachusetts Correctional Institution at Walpole participated as subjects. They were selected and classified into groups in accordance with established criteria.

The experimental design selected for this investigation was a pretest-posttest with control group design. Testing was individually administered on two occasions to each subject by the same experimenter. Subjects in each of the offender groups had been evenly and randomly assigned to experimental and control groups. For experimental subjects, the three learning tasks were presented in the initial session (Trial I) under neutral conditions. The second experimental session (Trial II) included the presentation of different but equally difficult tasks under punishment conditions. In this study, electric

shock, set to the subjects' full tolerance level, and applied to incorrect responses, served as the punishment procedure. For control subjects, both Trial I and Trial II consisted of tasks presented under neutral conditions.

Hypotheses and Results

The psychological hypotheses were as follows:

H: Unpleasant consequences applied to offenders' performance on learning tasks result in differential performance in these tasks on the part of dyssocial, anti-social, and asocial offenders.

H_1: Dyssocial offenders perform more effectively in learning tasks under punishment conditions than under neutral conditions.

H_2: Anti-social offenders perform less effectively in learning tasks under punishment conditions than under neutral conditions.

H_3: Asocial offenders perform equally as effectively in learning tasks under punishment conditions as under neutral conditions.

Results were analyzed by first computing change scores from Trial I to Trial II for all subjects. The mean change scores of experimental and control groups were then compared within each of the three offender groups.

For dyssocial offenders, results consistent with the hypotheses occurred in the maze and pursuit-rotor tasks. This was not the case with respect to paired-associate learning. In the anti-social offender group, performance on all three tasks was consistent with the hypotheses, significantly so in paired-associate learning. Asocial offenders' performance also confirmed the relevant hypotheses in all learning tasks.

Conclusions

Hypotheses regarding the behavior of three types of offenders in various learning situations were evolved from theory of offender personality formation, with particular emphasis upon super-ego development. It was felt that super-ego development is not only a major factor in character formation but is also influential in determining the ways in which various individuals react to punishment. Groups identified as dyssocial, anti-social, and asocial offenders on the basis of super-ego characteristics, were selected and exposed to an experimental situation involving performance on learning tasks. This resulted in differential performance on learning tasks on the part of these groups when punishment, in the form of electric shock,

was applied during performance.

The obtained results led to the following conclusions: (a) Punishment applied to incorrect responding in dyssocial offenders tends to eliminate that behavior and lead to alternate, more effective, types of responding. In other words, punishment is effective in altering the behavior of dyssocial offenders; (b) Punishment applied to incorrect responding in anti-social offenders tends to result in a repetition of this responding. Therefore, punishment is not only unlikely to alter the behavior of anti-social offenders in a positive direction, but it may serve to provoke the recurrence of this behavior; (c) Punishment applied to incorrect responding in asocial offenders is minimally, if at all, effective in eliminating these responses. Put another way, it is neither more nor less effective in altering the behavior of asocial offenders than are situations in which punishment has not been applied to behavior.

The reader is reminded that these conclusions are comparative rather than absolute. They are indicative of the behavior of one offender group relative to the behavior of other groups.

Since the data for the most part was in

support of the research hypotheses, this study has generally confirmed the importance of super-ego in offender etiology which led to these hypotheses. The notion that offenders are discriminable with respect to personality and, in particular, super-ego formation, and that they react differentially to electric shock as a punishing stimulus has been substantiated by this research.

APPENDICES

APPENDIX A

Age and Intelligence Quotients for All Subjects

Dyssocial Experimental			Anti-Social Experimental			Asocial Experimental		
Subject	Age	IQ	Subject	Age	IQ	Subject	Age	IQ
1.	33	105	1.	25	112	1.	26	104
2.	30	90	2.	31	100	2.	34	104
3.	29	101	3.	25	98	3.	21	107
4.	30	109	4.	28	101	4.	37	99
5.	30	97	5.	37	102	5.	26	108
6.	35	104	6.	23	99	6.	24	90
7.	25	103	7.	39	115	7.	36	105
8.	33	94	8.	40	130	8.	24	102
9.	31	106	9.	35	91	9.	29	90
10.	26	95	10.	24	106	10.	32	103

Dyssocial Control			Anti-Social Control			Asocial Control		
Subject	Age	IQ	Subject	Age	IQ	Subject	Age	IQ
1.	22	93	1.	24	98	1.	25	90
2.	22	99	2.	26	128	2.	31	120
3.	31	102	3.	35	99	3.	33	106
4.	33	92	4.	25	99	4.	20	98
5.	31	100	5.	27	104	5.	19	115
6.	39	108	6.	36	107	6.	28	101
7.	26	95	7.	25	120	7.	34	117
8.	26	102	8.	30	106	8.	26	107
9.	22	116	9.	23	113	9.	27	92
10.	29	107	10.	40	94	10.	31	96

APPENDIX B

Mean and Standard Deviation Scores for
Age and Intelligence Quotients of Subjects

GROUP	MEAN AGE	S.D. AGE	MEAN IQ	S.D. IQ
Dyssocial Experimental	30.2	2.8	100.4	5.8
Dyssocial Control	29.1	6.2	101.4	7.0
Anti-Social Experimental	30.8	6.4	105.4	10.5
Anti-Social Control	29.1	5.6	106.8	10.1
Asocial Experimental	28.9	5.3	101.2	6.1
Asocial Control	27.4	4.8	104.2	10.0

CONTINUED

3 OF 4

APPENDIX C

Paired-Associate Lists

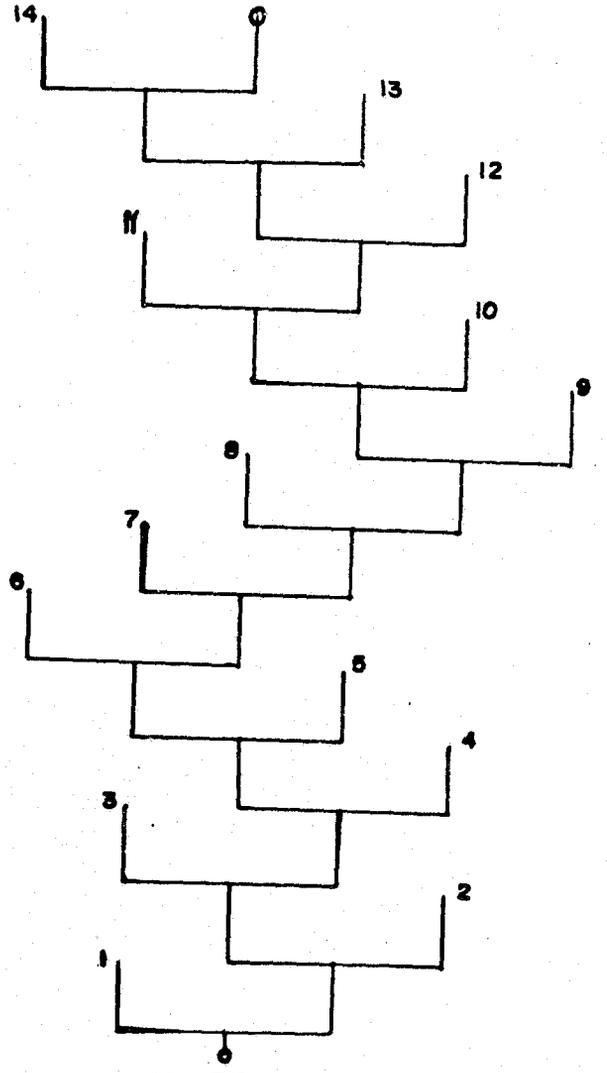
A1	A2	A3	A4	A5
TUZ-JEK	WAP-BIV	RUX-TIJ	VAZ-MUY	VED-MOF
VOQ-XIP	XEC-LUH	YOD-ZAN	WIB-KOG	XAG-REH
SEH-NAL	VUN-QOF	QIN-LUD	TEH-QAB	TOH-VUS
GOC-RIW	KAL-YIR	GAJ-QUR	JOD-ZEW	PUW-GEQ
BIY-QAV	DOQ-ZES	BIW-MOG	CIK-TEJ	FAQ-TOJ
LEX-CUG	MIG-XAK	KEC-VAH	NAF-PUV	RUC-YAN
WUK-MEB	ZIT-CAJ	ZAV-CEY	XOM-FIH	ZEL-WIK
FAJ-TOZ	JEB-MUP	FOH-PEX	GEP-XIS	MIY-BAZ
PID-YOS	SUY-GEW	PEM-FIK	QUY-DAC	SOJ-XIC

Rules for Construction

1. No syllable appears more than once on the entire series of lists.
2. No consonant appears more than once within each of the stimulus lists.
3. No consonant appears more than once within each of the response lists.
4. No vowel appears more than twice within each of the stimulus lists.
5. No vowel appears more than twice within each of the response lists.
6. No letter appears more than once in any of the stimulus-response pairs.
7. No alphabetical sequences of consonants from stimulus to response syllables appear within a pair, e.g. BAC-DEL.

APPENDIX D

Visual Reproduction of Warden-type Finger Maze and Directions of Choice-points in Each Employed

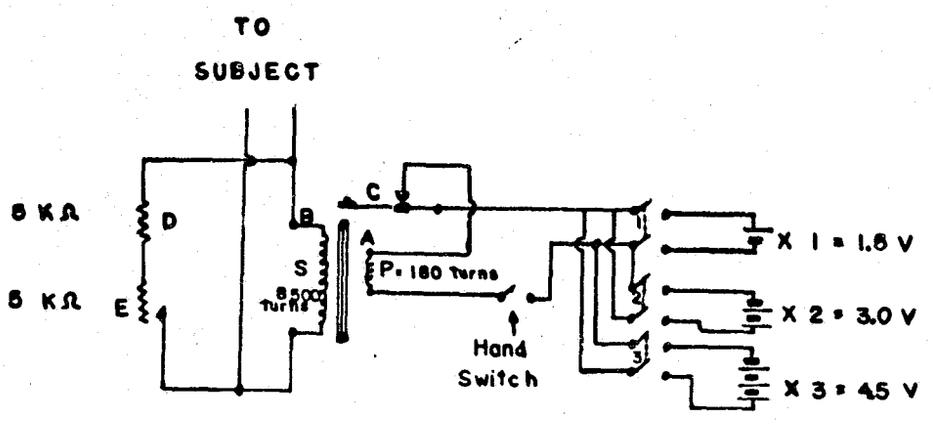


MAZE B1

Maze B2	LLRLRLLRRRLRRL
Maze B3	RLLRRRLLRLRLLR
Maze B4	LRRLRLLLRRLRRL
Maze B5	RRLRLRRLLLRLRL

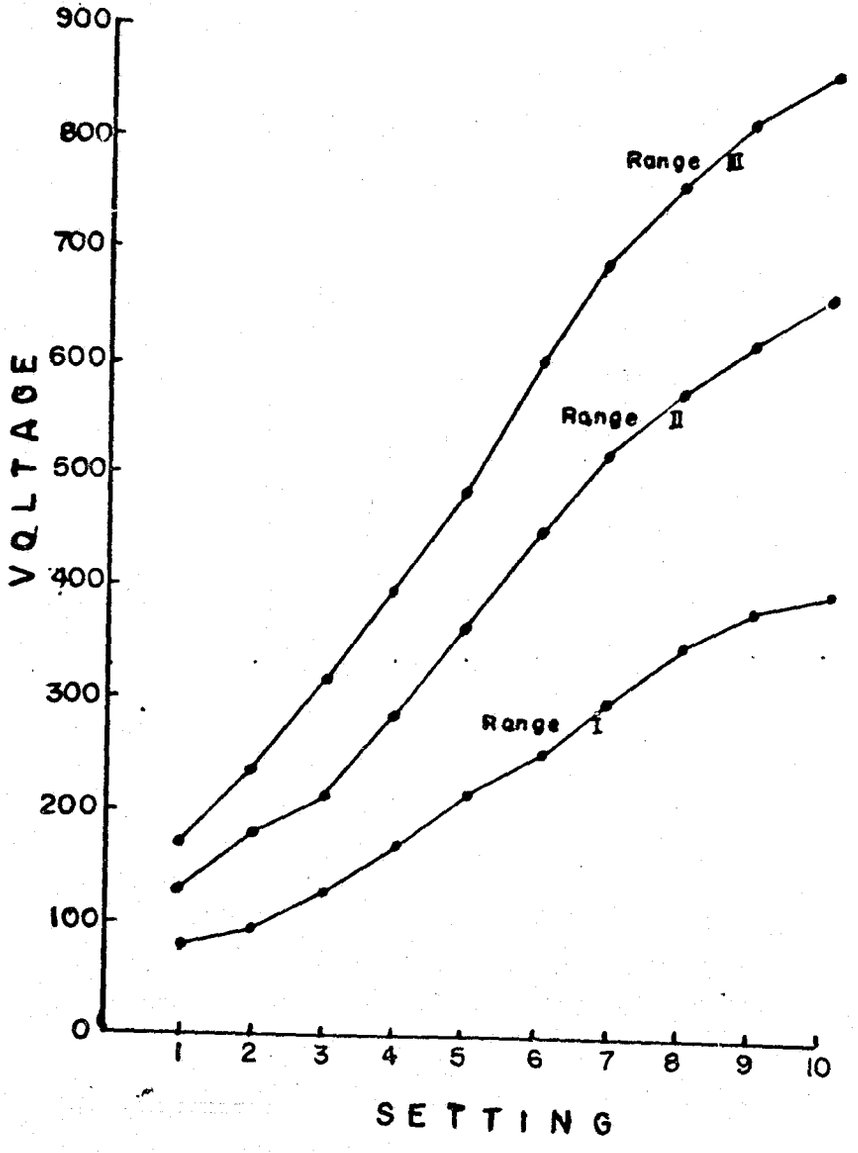
APPENDIX E

Diagram of Shock Apparatus



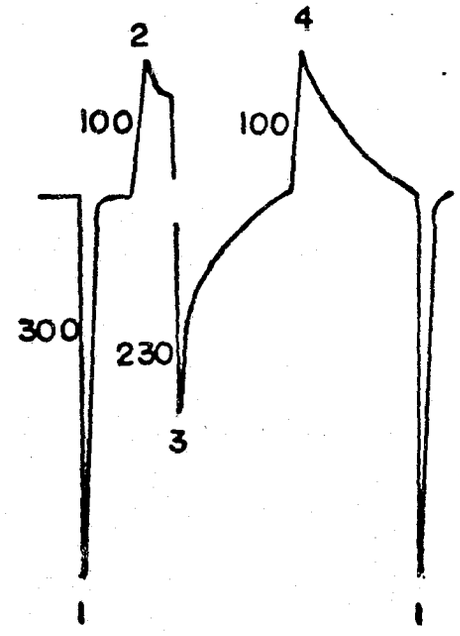
APPENDIX F

Voltage at Each of the Dial
Settings for each of the Ranges



APPENDIX G

Wave Form of Shock Stimulus
as seen on Oscilloscope



Range III

400 Volt setting

Range II 220 Volt setting - 160 : 60 : 110 : 60

Range I 115 Volt setting - 75 : 40 : 45 : 40

APPENDIX H

Amount of Voltage at Maximum Intensity Tolerance Level for All Subjects

Experimental Group

SUBJECT	DYSSOCIAL	ANTI-SOCIAL	ASOCIAL
1.	760	370	860
2.	490	580	660
3.	370	520	490
4.	400	400	600
5.	400	400	370
6.	820	630	400
7.	580	860	520
8.	360	520	490
9.	400	400	490
10.	450	450	400

Control Group

SUBJECT	DYSSOCIAL	ANTI-SOCIAL	ASOCIAL
1.	820	690	820
2.	860	370	760
3.	370	690	490
4.	490	690	600
5.	690	400	520
6.	290	170	350
7.	290	450	600
8.	580	370	520
9.	400	400	370
10.	580	660	320

APPENDIX I

Order of Task Presentation
for All Subjects in Each Group under
Two Trial Conditions

SUBJECT	TRIAL I	TRIAL II
1.	A1 B1 C	A2 B2 C
2.	B2 C A2	B3 C A3
3.	C A3 B3	C A4 B4
4.	A4 B4 C	A5 B5 C
5.	B5 C A5	B1 C A1
6.	C A1 B1	C A2 B2
7.	A2 B2 C	A3 B3 C
8.	B3 C A3	B4 C A4
9.	C A4 B4	C A5 B5
10.	A5 B5 C	A1 B1 C

Task A - Paired-Associate Lists
Task B - Mazes
Task C - Pursuit Rotor

APPENDIX J

Test Scores
Dyssocial Offender Group

Dyssocial Experimental Group

Subject	Paired-Associate Trial I	Paired-Associate Trial II	Maze Trial I	Maze Trial II	Pursuit Rotor Trial I	Pursuit Rotor Trial II
1.	37	58	17	11	127.34	148.71
2.	28	37	35	30	87.39	139.77
3.	21	48	31	14	61.74	104.87
4.	31	28	37	21	68.91	122.51
5.	43	30	37	17	85.00	152.24
6.	21	16	13	14	117.76	184.93
7.	46	46	48	32	55.08	113.41
8.	54	43	22	13	25.73	76.11
9.	33	18	19	9	56.45	131.22
10.	14	13	19	12	55.94	123.29

Dyssocial Control Group

Subject	Paired-Associate Trial I	Paired-Associate Trial II	Maze Trial I	Maze Trial II	Pursuit Rotor Trial I	Pursuit Rotor Trial II
1.	57	49	41	37	91.71	136.15
2.	20	24	15	13	124.89	187.64
3.	30	16	29	22	51.83	91.20
4.	54	50	16	6	58.08	109.80
5.	27	23	29	19	40.60	90.87
6.	28	20	23	19	101.19	148.29
7.	33	34	30	17	108.25	146.26
8.	18	22	37	33	62.26	125.63
9.	16	21	14	10	130.65	129.17
10.	29	38	7	8	64.45	97.59

APPENDIX J (cont.)

Test Scores
Anti-Social Offender Group

Anti-Social Experimental Group

Subject	Paired-Associate Trial I	Paired-Associate Trial II	Maze Trial I	Maze Trial II	Pursuit Rotor Trial I	Pursuit Rotor Trial II
1.	28	29	18	16	59.83	121.95
2.	24	40	40	37	40.40	76.48
3.	33	33	15	11	45.73	137.38
4.	18	21	12	17	91.56	136.10
5.	43	58	19	14	78.71	110.92
6.	19	26	17	14	96.35	144.97
7.	18	20	8	7	129.04	154.18
8.	64	58	16	14	47.60	98.25
9.	62	56	24	47	74.03	76.42
10.	26	48	19	14	65.61	96.66

Anti-Social Control Group

Subject	Paired-Associate Trial I	Paired-Associate Trial II	Maze Trial I	Maze Trial II	Pursuit Rotor Trial I	Pursuit Rotor Trial II
1.	31	43	29	18	121.85	144.73
2.	15	9	26	13	37.78	103.79
3.	25	38	16	6	49.93	98.36
4.	47	36	11	10	105.59	133.59
5.	46	19	46	31	61.01	111.92
6.	49	34	15	5	80.96	124.91
7.	14	19	13	10	85.44	135.23
8.	25	37	16	17	87.76	150.50
9.	34	25	7	5	86.08	114.54
10.	37	42	48	23	61.20	100.73

APPENDIX J (cont.)

Test Scores
Asocial Offender Group

Asocial Experimental Group

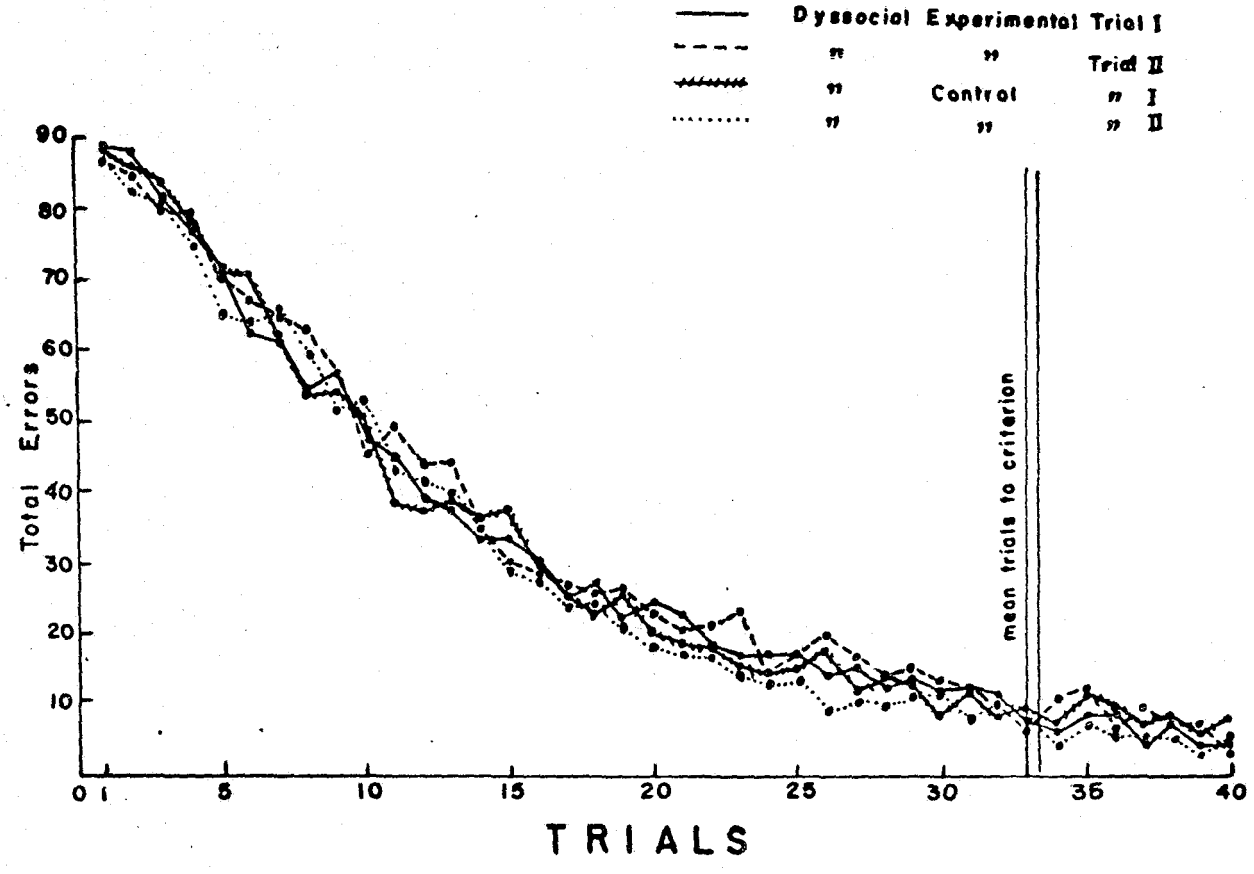
Subject	Paired-Associate Trial I	Paired-Associate Trial II	Maze Trial I	Maze Trial II	Pursuit Rotor Trial I	Pursuit Rotor Trial II
1.	35	23	18	18	93.67	123.93
2.	17	25	28	23	84.48	117.90
3.	58	53	23	20	87.95	140.71
4.	47	40	29	16	64.80	122.47
5.	26	33	23	12	45.52	116.45
6.	53	73	17	14	71.80	103.66
7.	48	28	46	25	33.83	88.61
8.	17	29	21	10	82.17	126.68
9.	37	34	23	26	63.50	100.91
10.	22	28	17	10	46.14	96.68

Asocial Control Group

Subject	Paired-Associate Trial I	Paired-Associate Trial II	Maze Trial I	Maze Trial II	Pursuit Rotor Trial I	Pursuit Rotor Trial II
1.	72	63	32	27	47.92	110.77
2.	9	13	21	22	101.12	154.09
3.	28	28	19	11	70.87	125.26
4.	13	12	14	8	79.24	111.14
5.	25	20	27	19	83.05	147.06
6.	36	50	20	13	82.01	132.86
7.	39	51	23	10	101.99	130.04
8.	14	21	44	21	39.48	99.71
9.	71	39	19	13	61.25	52.36
10.	31	22	15	9	65.83	120.52

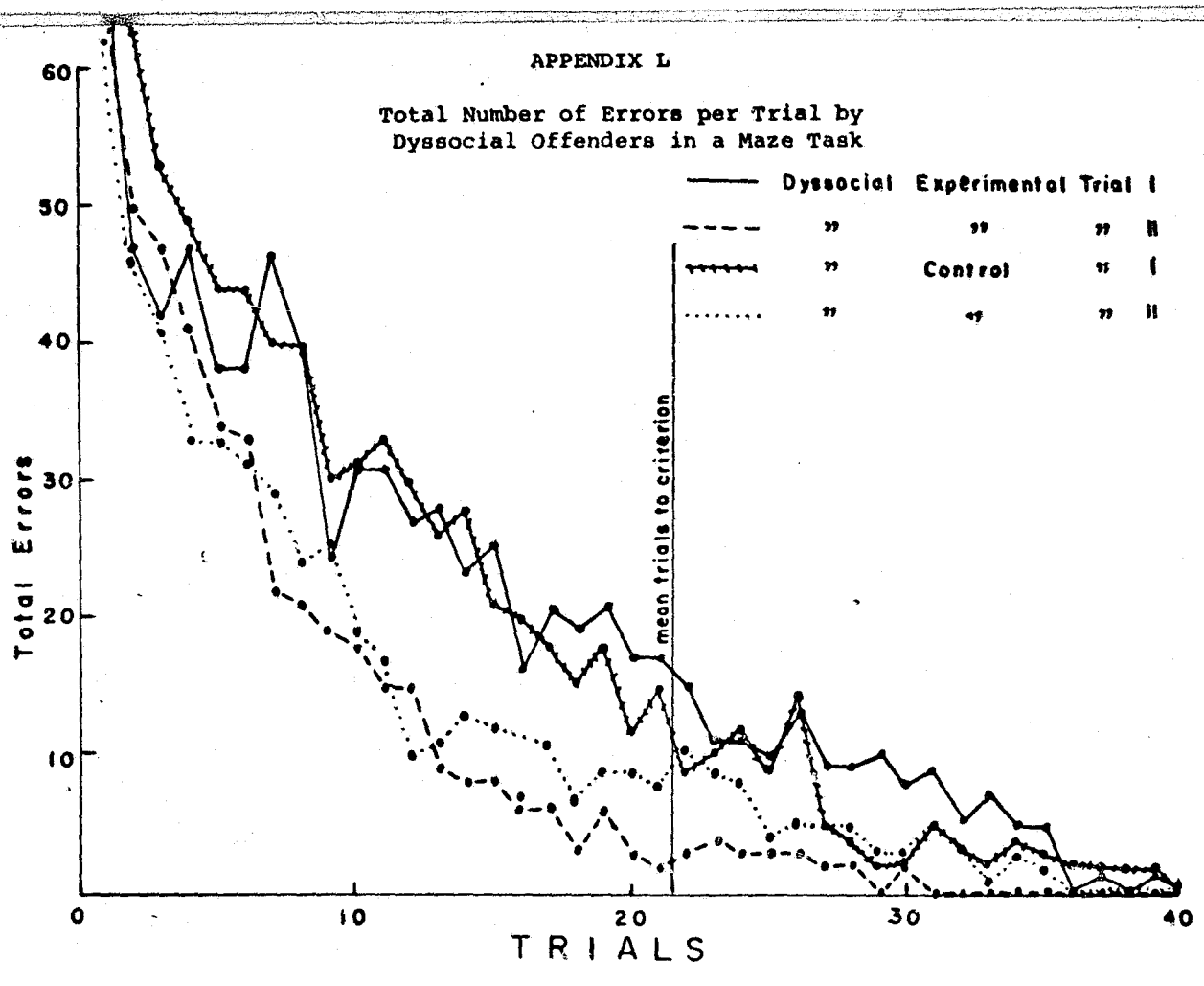
APPENDIX K

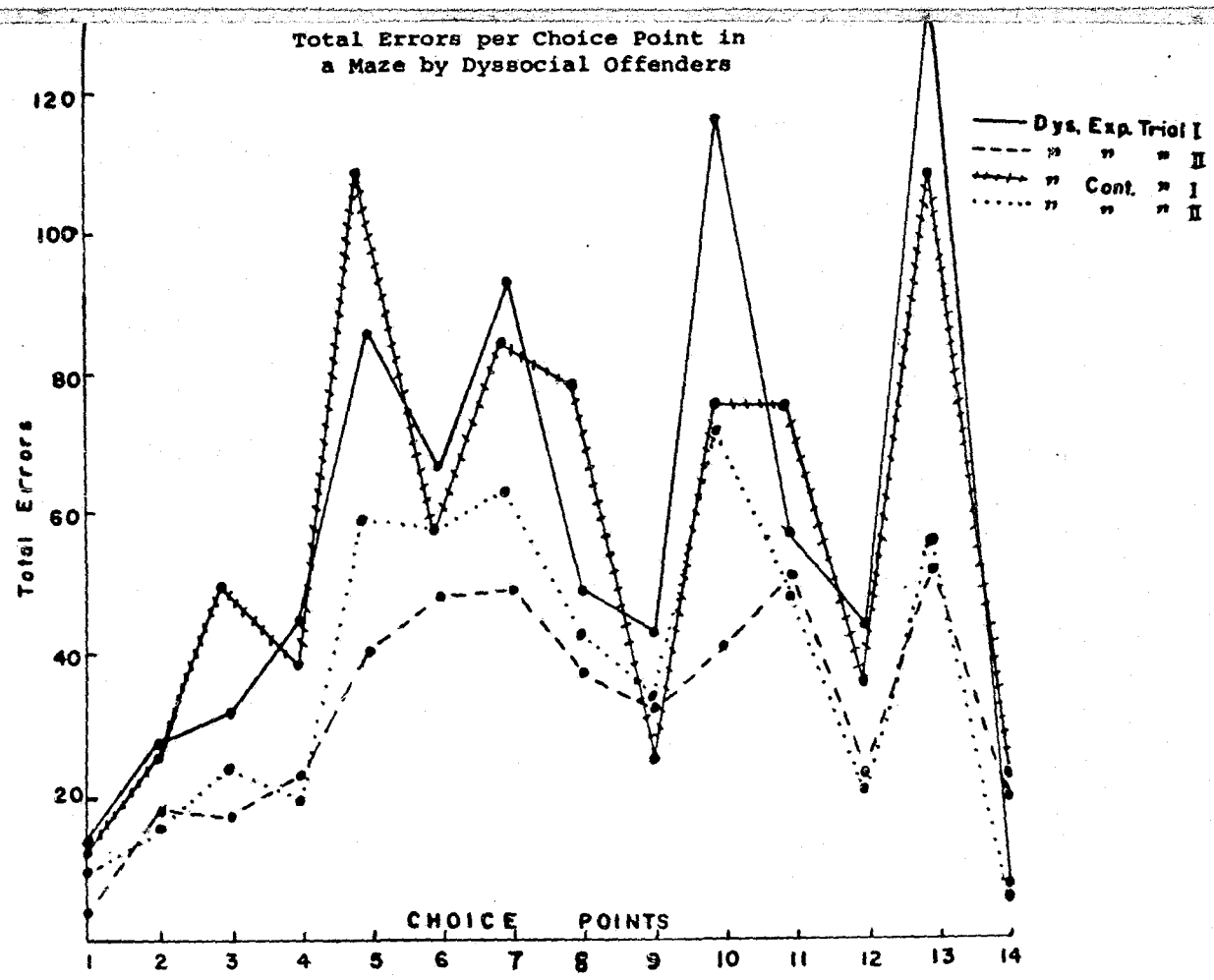
Total Number of Errors per Trial by Dyssocial Offenders in a Paired-associate Task



APPENDIX L

Total Number of Errors per Trial by
Dyssocial Offenders in a Maze Task




Total Errors per Choice Point in
a Maze by Dyssocial Offenders
Total Errors
120
100
80
60
40
20
CHOICE POINTS
1 2 3 4 5 6 7 8 9 10 11 12 13 14
Dys. Exp. Trial I
" " " II
" Cont. " I
" " " II

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Abstract

AVERSIVE LEARNING WITH PUBLIC OFFENDERS

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Boston University Graduate School, 1969

Major Professor: Murray L. Cohen,
Professor of Psychology

The purpose of this study was to conduct a limited investigation into the effects of punishment upon the learning behavior of habitual public offenders. A review of relevant dynamic theory suggested that the degree and quality of super-ego development was an important variable in criminal character formation and behavior. Notions with respect to this concept ranged from the absence of super-ego in offenders to a view of their super-ego as harsh and punitive. This study assumed that super-ego factors crucial in offender personality and behavior determined as well the variety of reactions that result from the application of punishment.

Briefly, three types of habitual offenders

were distinguishable on the basis of super-ego development: (a) those who possessed a super-ego which was normal, at least within their subculture (dyssocial offenders); (b) those who possessed a relatively severe super-ego from which they attempted to escape via the commission of criminal acts (anti-social offenders); (c) those who, if not without super-ego, possessed a generally weak one (asocial offenders). It was expected that punishment would differentially, and in the following manner, affect the learning behavior of offenders. Its application as a consequence of behavior would result in a decrease of that behavior in dyssocial offenders, an increase of the behavior in anti-social offenders, and in asocial offenders, it would be relatively ineffective in producing change. Relevant research hypotheses were developed in line with these expectations.

A total of 60 inmates of the Massachusetts Correctional Institution at Walpole participated as subjects. They were selected and classified into three groups in accordance with established criteria.

The experimental design selected for this investigation was a pretest-posttest with control group design. An approach involving the use of a

learning paradigm was selected. Performance, and implicitly learning, was measured on three tasks that comprise a cross-section of abilities. These included paired-associate lists, finger mazes, and a pursuit rotor instrument.

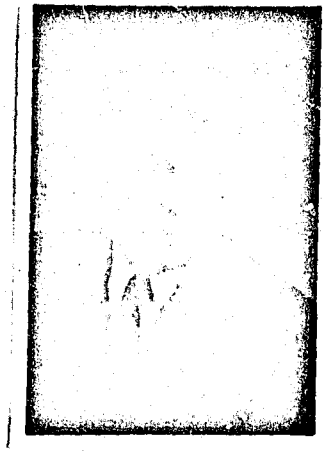
Learning may occur under a number of conditions. Those conditions considered in this research included neutral conditions, i. e., those in which no external consequences were applied during performance, and punishment conditions, i. e., those in which unpleasant consequences, in this case, electric shocks, were applied to subjects in order to alter their performance.

For dyssocial offenders, results consistent with the hypotheses occurred in the maze and pursuit-rotor tasks. This was not the case with respect to paired-associate learning. In the anti-social offender group, performance on all three tasks was consistent with the hypotheses, significantly so in paired-associate learning. Asocial offenders' performance also confirmed the relevant hypotheses in all learning tasks.

The obtained results led to the following conclusions: (a) punishment tends to be effective in

altering the learning behavior of dyssocial offenders; (b) punishment is not only unlikely to alter the behavior of anti-social offenders in a positive direction, but it may serve to provoke the recurrence of that behavior; (c) punishment is neither more nor less effective in altering the behavior of asocial offenders than are situations in which punishment has not been applied to behavior.

Since the data for the most part was in support of the research hypotheses, this study has generally confirmed the importance of super-ego in offender etiology which led to these hypotheses. The notion that offenders are discriminable with respect to personality and, in particular, super-ego formation, and that they react differentially to electric shock as a punishing stimulus has been substantiated by this research. The implications of these findings with respect to future institutionalization and treatment of offenders were presented.



Autobiography

The author was born in New Bedford, Massachusetts, on December 29, 1932, the son of Paul J. and Alba Castaldo Pallatroni. He graduated from Dartmouth College in June, 1954, having majored in psychology. He served as a lieutenant in the United States Air Force from December, 1954, until December, 1956. While a faculty member at New Bedford High School, he received a M.Ed degree from Bridgewater, Mass. State College in June, 1960. He then resumed full-time graduate study, receiving a M.A. degree in psychology from Boston University in June, 1962. Having filled the position of Administrative Director of the Counseling Service at the Massachusetts Correctional Institution, Walpole, for several years, he is currently Assistant Professor of Psychology at Southeastern

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The author married the former Jeanne LeComte of New Bedford in 1966. There is one son, Robert Michael.

END