

Research Proposal

AGGRESSION AND PERSONALITY CHARACTERISTICS
AMONG PERSISTENT OFFENDERS

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PURPOSE

The purpose of this research is to investigate the relationships between aggressive behavior, psychological and physiological variables, and personality types. The specific focus of the study is to identify the characteristics of those classed as dangerous offenders which distinguish them from those considered not dangerous.

At the time of recommending the establishment of the Clinton Prison Diagnostic and Treatment Center, one of the primary interests of the Governor's (New York) Special Committee on Criminal Offenders was the identification and nature of those offenders likely to be dangerous. The Committee was informed that there exists relatively little empirical research on this question.

Some idea of the distribution pattern of persistent offenders and of individual violence is shown in the findings of the Center for Studies in Criminology and Criminal Law at the University of Pennsylvania (Wolfgang, 1969). Their data were obtained from a sample of approximately 10,000 males born in Philadelphia in 1945. Of the entire sample, 35 percent were delinquent, meaning that they had had at least one contact with the police before reaching age 18.

Of particular significance is the fact that the 6.3 percent who were classified as chronic offenders, meaning they had committed 5 or more offenses, were responsible for 52 percent of all delinquencies committed by the entire birth cohort. Of the violent offenses, this group was responsible for 53 percent of the personal attacks (homicide, rape, aggravated and simple assault); 62 percent of the property offenses; and 71 percent of the robberies.

Wolfgang and Ferracuti (1967) in an extensive review of all the criminological literature: sociological, psychological, biological, psychoanalytic, and psychiatric, advance the theory that most violent crime is linked to cultural and social class values. This they call the sub-culture of violence. That is, within the larger culture there is a sub-culture in which attitudes toward and the expression of aggression are part of the normative value system. Most often the victims of violence are from the same class. In contrast, extreme aggression by middle or upper class persons can nearly always be attributed to individual pathology or of planned "rational" acts.

Toch (1969) in an extensive study of violent men in California, both criminal offenders and police officers, identified a group who could perceive no alternative but aggression, identified a group who tations. Non-assaultive persons, in contrast in certain confront- alternate behaviors in similar situations, had a repertoire of

In summarizing the research required to validate their integrated theory of "the subculture of violence," Wolfgang and Ferracuti state:

"...(this)...requires application of validated psychological instruments for determining differences between individual subjects whom the theory identifies as belonging to the subculture. The types of research needed could not provide complete conclusions on these issues but would be attempts to produce some findings that could perhaps firmly establish a subculture of violence and provide meaningful suggestions for further research."

In addition to its contribution to a general theory of violence, the development of validated psychological instruments has important implications for the diagnosis and treatment of criminal aggression. Although recognizing that the prediction of criminal acts is extremely difficult and involves a wide band of error, the identification of personality types for whom such behavior is most probable will permit the resources available for intensive treatment programs to be concentrated most efficiently.

Glaser (1966), for example, has stated that eighty percent accuracy is about the greatest precision that has been demonstrated for any prediction system applied to a cross section of prisoners for predicting parole violation in general. Demonstrating the application of this in the applied situation he has remarked:

"If a board were 80 percent accurate in identifying the most violent parolees, they would still make more than 2 erroneous predictions in 10 as long as the violence they sought to predict occurred in less than 20 percent of the cases. This is simply a matter of mathematics. For example, if violence were committed by 5 percent of prison releases in every 1,000 releases, a parole board would have to identify 50 men who would commit violence among 950 who would not. With 80 percent predictive accuracy, we could expect the board to predict violence for 20 percent of the 950, or 190 cases, and for 80 percent of the 50, or 40 cases. However, in this total of 230 designated as probably violent, one could not know in advance which actually would be the 40 who would be violent. They would make a total of 200 erroneous predictions. They would designate as violent and the 190 non-violent designated as violent and the 10 violent not designated as violent, in identifying correctly the 230 cases in 1,000 which include 40 of the 50 violence cases. These errors are apart from others they might make in predicting more common types of parole infraction, such as nonviolent theft, burglary, or return to narcotics."

Although this group would contain a large number of false positives in terms of violent offenders, it would also contain a large number of those chronic offenders responsible for a high percentage of non-violent but serious crimes (see the Philadelphia study cited above).

Most of the research on violence and aggression have been sociological and clinical. Experimental studies of human aggression have been limited for several reasons. On one hand, it is particularly difficult to evoke genuine emotional responses in an experimental situation, and, on the other hand, because of the powerful social prohibitions against aggressive behavior, as well as the ethical limitations for the experimenter, it is especially difficult to elicit extreme aggression under experimental conditions.

One way around this dilemma is to utilize as subjects persistent or chronic offenders whose life record indicates lower than average inhibitions against the expression of aggression and whose criminal history provides an index of aggression with which laboratory measures of aggression can be correlated.

The development of an objective, laboratory method to measure aggression would permit the experimental investigation of many variables which clinical and field studies have suggested as relevant to the understanding of aggressive behavior. The measurement of these variables would then provide a means of statistically determining the existence of personality types in place of the intuitive groupings heretofore suggested. It should also provide a basis for improved, quantitative prediction by means of multiple discriminant analysis.

This investigation, therefore, is designed to achieve several objectives:

1. To develop an objective, laboratory method to measure aggression;
2. To measure psychological and physiological variables before and after an aggressive behavior sequence;
3. To examine the relationships between psychological and physiological variables and both laboratory and life history measures of aggression;
4. To determine whether there exist natural groupings of variables which define aggressive types.

BACKGROUND

AGGRESSION

Aggression is a term that is widely used, but which in its ordinary usage has a variety of meanings and covers a wide range of behavior. Most definitions include the intent to injure another (Buss, 1961; Storr, 1968). From this point of view all aggression is angry aggression. This concept has been widely accepted since the publishing of Frustration and Aggression (Dollard et al, 1939). The reinforcement for angry aggression is the reduction of the anger

drive resulting from the victim's suffering or loss. However, this approach neglects the entire class of instrumental aggression for which the reinforcers are sex, money, status, etc. (Buss, 1961). Thus, we must consider two types of aggressive behavior:

- (1) Angry aggression for which the reinforcing conditions are the victims suffering or loss, and
- (2) Instrumental aggression for which the reinforcing conditions are the extrinsic reward or the termination of aversive stimuli.

In real life situations both types of reinforcement may occur together, especially in criminal behavior.

Ever since the frustration - aggression hypothesis was advanced by the Yale group (Dollard et al, 1939) it has been the basis for most psychological theorizing concerning aggression (Funkenstein et al, 1957; Buss 1961). In its original form the hypothesis asserted that aggression is always the outcome of frustration and that frustration always leads to aggression. The research data of the Yale group was based principally on questionnaire responses. Miller (1941) later announced a modification of the hypothesis which stated that frustration was always the antecedent of aggression but that frustration leads to a number of different types of responses, one of which may be aggression.

Maslow (1941; 1954) and Rosenzweig (1944) do not accept the proposition that simple frustration leads to aggression. Both consider that some form of threat or attack must also be involved.

Berkowitz (1958) accepts the frustration - aggression hypothesis but includes insult and attack within the definition of frustration arguing that frustration and attack cannot be distinguished operationally.

Buss (1961), however, cites examples where the concepts can be treated separately. He believes that both frustration and noxious stimuli can elicit aggression and that the latter is a more potent instigator. He suggests that noxious stimuli consist of two types: attack and annoyers.

Geen (1968) designed a study to test these differing points of view. The specific questions which he examined were:

- (1) Whether pure frustration, unconfounded by attack, is a potent determinant of aggression; and
- (2) Whether attack elicits more aggression than frustration.

His results showed that the insulted subjects reported more anger and displayed higher levels of aggression than either task - frustrated or control subjects. Other aspects of his study showed that witnessing violence, in the form of a movie, provides cues for aggressive responses and that reinforcement of aggressive behavior, by verbal approval, made aggressive responses more potent.

Epstein and Taylor (1967) also conducted a study which included a test of the frustration - aggression hypothesis. They designed their experiment to evaluate the potency of two sources of instigation to aggression during a competitive confrontation:

- (1) The degree which individual is defeated and, therefore, receives noxious stimuli;
- (2) Awareness of opponents intended level of aggressive intent, independent of whether it is delivered, i.e. threat.

The prediction based upon the frustration - aggression hypothesis was not confirmed. They found, instead, that perception of threat is a more potent instigator to aggression than frustration.

ANGER AND EMOTIONAL STATES

The motivating factor leading to angry aggression is the emotional state of anger. It has both facial-skeletal, autonomic, and cortical components (Hebb, 1966) and as a drive state constitutes a readiness for aggressive response.

Ever since Cannon's studies in the 1920's on the "fight or flight" response, investigators have been increasingly interested in the role that the endocrine system plays in emotional reactions. In the last decade or so various researches have tried to find specific correlations of the components of "adrenin," namely epinephrine and norepinephrine, with specific emotions. Some feel that epinephrine is predominantly secreted during anxiety and that norepinephrine is predominantly secreted during anger (Bahe and Arthur, 1968). Russell (1965) in a review of the studies done on biochemical factors in mental disorders reported that some of the best organized investigations have been on the relation of the adrenal hormones to behavior. In one series of studies (Pincus and Hoagland 1950 a, b; Elmadjian 1959) the use of various stress situations was employed to compare hormonal steroid metabolism in normal subjects and neuro-psychiatric patients. Support was obtained for the hypothesis that the two adrenal medullary hormones are differentially related to different types of emotional reactions: excretion of noradrenalin increases during aggressive emotional displays and increased excretion of adrenalin with normal excretion of noradrenalin is associated with passive emotional displays.

Funkenstein (1955) and a group at Harvard Medical School have been investigating whether adrenalin and noradrenalin might be specific indicators which distinguish between emotional reactions to stress. Their results showed that subjects who responded to stress with anger directed outward had physiological reactions similar to those produced by injection of noradrenalin, whereas subjects who responded with depression or anxiety had physiological reactions like those to adrenalin.

Ax, (1953) also working at Harvard, designed experiments to answer the question: Does the same individual secrete unusual amounts of noradrenalin when angry and of adrenalin when frightened?

He designed stressful situations which produced anger on one occasion and fear on a different occasion for the same subjects. His results showed that when a subject was angry at others, the physiological reactions were like those induced by injections of noradrenalin; when the same person was frightened, his reactions were like those of adrenalin. This suggested that the physiological reaction was specific for the emotion rather than the person.

In concluding a review of Funkenstein's work, Eysenck (1960) states: "If the distinction between reaction types N and E is confirmed it would be of interest to discover whether dysthymics (and introverts) were to be found in group E and hysterics (and extroverts) in group N."

According to Eysenck's (1964) theory of criminal behavior, the sociopathic type offender is one whose autonomic nervous system tends to over-react and whose central nervous system conditions poorly. That is, his CNS is of the inhibitory type and is correlated with extraversion. Stimulant drugs will increase his excitatory potential, make him more introverted in behavior, and improve his conditionability. According to Eysenck's personality description, this type of criminal, the unstable-extrovert, shows traits of aggressiveness, impulsivity, restlessness, etc. These characteristics define the psychopath (sociopath) as described by Cleckley, the McCords, and others as asocial, impulsive, aggressive, lacking in anxiety and guilt, lacking in capacity for love, and driven by primitive desires. According to the research of the Harvard group we would expect that the psychopath would show an excess of noradrenalin secretion over adrenalin. On the other hand, Eysenck postulates that criminal behavior can also occur in those who do condition readily, but who either (1) receive the wrong conditioning (i.e., positively conditioned to a socially-deviant sub-culture) or (2) did not receive the appropriate conditioning experiences. This type of criminal, according to Eysenck's theory, would be introverted and show traits of moodiness, anxiety, pessimism, etc. (i.e., dysthymic type). This type of criminal we would expect, from the Harvard studies, to show an excess of adrenalin secretion over noradrenalin secretion.

Gellhorn and Loofbourrow (1963) after conducting a series of experiments with both normal subjects and psychiatric patients, concluded that the mecholyl and noradrenalin tests gave a reliable indication of central (hypothalamic) sympathetic and parasympathetic reactivity. In another study Gellhorn and Miller (1961) investigated the effect of mecholyl and adrenalin on blood pressure and pulse rate in several hundred psychiatric patients. These tests devised to measure the reactivity of the sympathetic and parasympathetic systems were consistently reliable.

Blumberg (1960), after reviewing other investigations of the mecholyl test and conducting a series of careful studies himself, concluded that the classification methods used by Funkenstein and Gellhorn introduced large errors on serial testing. He found, however, that if interpretation of test results is limited to measurements of the areas enclosed by the blood pressure curve,

the reliability of the test is well within the range expected for physiological tests. Using the manual method of obtaining blood pressure he obtained a reliability coefficient of .76; using automatic recording of blood pressure and applying a correction for the basal blood pressure level he obtained a coefficient of .85.

Nelson, Masuda, and Holmes(1966) utilized catecholamine metabolite excretion as an index of sympathetic nervous system activity. Urine samples corresponding to the periods of behavioral data were analyzed for metadrenaline (MA) and normetadrenaline (NMA). Lower levels of MA and NMA were seen during periods of calm, controlled behavior, whereas elevated levels were associated with agitated, unstable behavior. The anxiety-adrenaline and anger-noradrenaline relationships proposed by Funkenstein did not gain support from this research since the dominant affect of the patients was often a mixture of anxiety and anger. The significant correlations between MA and NMA levels did not support the Funkenstein hypothesis.

After reviewing some of the apparently conflicting results of psychophysiological studies of vascular response variability, Cohen and Silverman (1959) concluded that the approach to the study of psychophysiological relationships appears to require much more than merely relating changes in several parameters during exposure to a stress of a certain type which effects a specific system. It appears to necessitate the assessment of the psychophysiological response characteristics of the subject immediately preceding the imposition of stress, the usual response pattern of the subject to the specific stress situation, and the overall response patterns of the subject to life situations.

Differences in socio-economic background have also been related to differences in catecholamine excretion. Fine and Sweeney (1967) found that individuals with low socio-economic backgrounds excreted significantly higher proportions of norepinephrine in relation to epinephrine than did individuals with middle class backgrounds. After pointing to the evidence for a high norepinephrine/epinephrine ratio in the infant, they theorize that the continued physical punishment of the developing child in the low socio-economic home tends to reinforce and maintain anger states and the carrying out of aggressive behavior. In contrast, in the higher socio-economic homes, where physical punishment tends to be used less, the child becomes increasingly more socialized with respect to outward expression of his aggression and learns acceptable ways of reducing his tensions within the home. He would be expected to have high NE/E ratios only during temporary periods of anger. Thus, the NE/E ratios and the expression of aggressive behavior would tend to become more divergent between the different socio-economic groups. The lower socio-economic class child, because his expression of aggression in the home tends to be punished, comes more and more to express his aggression outside the home and thus is more likely to become involved in delinquent activities. Finally, in the extreme cases, violent behavior expressed as an adult results in aggressive treatment by the police and in prison. Obviously, if this theory is valid it has many implications for criminal justice and the correctional system.

AGGRESSIVE PERSONALITY TYPES

Most studies of aggression have led to the conclusion that the overtly aggressive person either has inadequate controls over his aggressive impulses or has a higher need or drive for aggression than the overtly non-aggressive person, Megargee (1966), however, has pointed out that such formulations have been derived from studies of relatively mild aggression. Such explanations have been quite inadequate to account for news and court room reports of extremely violent crimes committed by seemingly passive, mild mannered persons. In a series of studies Megargee (Megargee, & Cook, 1962; Megargee, 1966; Megargee, Cook, & Mendolsohn, 1967) has suggested the hypothesis and demonstrated that assaultive criminals can be divided into at least two quite distinct types: the Undercontrolled Aggressive type and the Overcontrolled Aggressive type. Both the nature of the aggressive behavior as well as the dynamics of each type is quite different.

The undercontrolled aggressive person conforms to the generally held conception of the person lacking adequate controls over his behavior. He is readily identified by his frequent, readily expressed aggression. Persons of this type generally commit moderately assaultive offenses. Only occasionally are extremely violent crimes committed by this type individual.

The overcontrolled person, however, behaves quite differently. His typical behavior is overly inhibited and rigid. He impresses others, and himself, as passive, mild mannered, and conforming. However, when he commits an aggressive act it is usually one of extreme violence in which the victim is severely maimed or killed.

If the validity of Megargee's hypotheses are substantiated, his concepts are of great significance in understanding the development of dangerous offenders and for diagnosis and treatment.

METHOD

SUBJECTS

Subjects will be selected from the population of the Clinton Prison Diagnostic and Treatment Center. These men are chosen from the maximum security prisons of New York State on the basis of extensive records of arrests and imprisonments, an IQ of 90 or higher, and no record of chronic alcoholism, narcotic addiction, or psychosis. Because of the difficulties of screening, some men not meeting the last three criteria are, in fact, admitted. (See appendix A for demographic data for first 100 inmates).

The criminal record of 100 inmates will be rated for severity of aggression on Megargee's (1966) ten point scale of aggressiveness. The 30 inmates scoring highest and the 30 scoring lowest on this scale will be selected as the experimental group.

Any subject selected who will not volunteer to undergo the experimental situation will be replaced. Each subject will be given a physical examination to determine his physical fitness to

undergo the stress situation and the administration of mecholyll. Any subject eliminated on this basis will be replaced.

APPARATUS AND PROCEDURE

Minnesota Multiphasic Personality Inventory (MMPI), 16 Personality Factor Questionnaire (16 PF), Forms A & B, and Beta IQ are available for each subject. The MMPI records will be scored on Megargee's Overcontrolled Hostility (O-H) Scale.

Each subject will be administered the Environmental Participation Index (EPI), a measure of socioeconomic background.

The typical daily behavior of each subject will be rated by two correction officers, using a Q-Sort (Block, 1961) procedure, on Megargee's (1966) Overcontrolled-Undercontrolled list of adjectives derived from Gough's Adjective Check List. (See Appendix B). An Overcontrolled Index will be obtained by subtracting the Undercontrolled aggressive adjectives from the Overcontrolled ones.

On the first experimental day the subject will be brought to the psychological laboratory - sound proofed and air conditioned to 70°F, and 50% relative humidity. After completing Multiple Affect Adjective Check List (MAACL) and washing his hands, the subject will be seated in a padded chair, GSR electrodes attached to the first and third fingers, and blood pressure cuff and microphone attached to his arm.

After a ten minute resting period, the GSR, pulse rate (PR), and blood pressure (BP) will be recorded for a 5 minute period on a Grass, Model 7, Polygraph. Next, 10 mg. of mecholyll will be injected into the muscle of the arm, GSR, PR, and BP will be recorded for 20 minutes. The polygraph record will be scored according to Blumberg's (1960) method.

On the second experimental day, the subject will be brought into the laboratory and again administered the MAACL. He will then be seated at the test console (similar to that described by Epstein and Taylor, 1967). The shock level will be adjusted to where it is felt to be definitely unpleasant. During the stress situation this level will be designated #5. Panel settings for other levels of shock intensity will be designated: #4 - 90% of max., #3 - 80%, #2 - 70%, and #1 - 60% of maximum.

Next the subject will be told that the purpose of this experiment is to measure various physiological responses while he is engaged in a competitive situation with another subject whom he sees seated before a similar console in the adjacent room. (The other person is an accomplice of E and will be engaged in recording the responses of S).

Each trial will consist of the following procedure:

- (1) A signal on his panel to set the degree of shock which he will administer to his opponent;

- (2) A ready signal for S to press down on the telegraph key;
- (3) A response signal for S to release his key as quickly as possible;
- (4) A signal light on his control panel will indicate the degree of shock his opponent has set for him;
- (5) Whichever competitor loses the trial will receive the shock set by his opponent.

Each subject will have 20 trials on which he will lose on a predetermined 50% of the trials, but which to him will apparently be in random. A. LaFayette multiple bank timer will control the onset and duration of each of the events. There will be 20 seconds between each trial; shock duration and the feedback signal will be .25 seconds. The level of shock administered to each subject will start at #2, be advanced to #3 on the 5th trial, to #4 on the 10th trial, and #5 on the 13th trial.

The mean shock level setting of the S across all trials will be taken as his aggression score.

At the end of the stress situation the S will again be administered the MAACL. Immediately after completing the form he will be seated in the padded chair and administer the mecholyl test as before.

ANALYSIS

The principal relationships between the following variables will be determined by multiple factor analysis. The existence of natural groupings, or types, will be determined by hierarchial grouping analysis. (Cattell, 1966; Cooley & Lohnes, 1962; Veldman, 1967):

1. Age (Test date minus D.O.B.) (month, year)
2. Race (white, black, Puerto Rican)
3. Criminal Record Aggression Rating
4. Number months incarceration
5. Incarceration Index (months incarcerated/age in months - 192)
6. Environmental Participation Index (EPI)
7. MMPI Scales - 9 scores:
L,F,K,D,Pd,Pa,Pt,Ma,Si (K-corrected)
8. Megargees Overcontrolled Hostility Scale (H-0)
9. 16 PF Scales - 19 scores:
16 primary factor, introversion-extraversion, anxiety, and neuroticism scales.
10. Beta I.Q.
11. MAACL - In general form
3 scales x 3 raters = 9 scores
Therapist, officer, and inmates
12. Autonomic conditionability score
13. Basal autonomic reactivity score
14. Basal mecholyyl test score
15. MAACL - Today Form - pre-experimental - 3 scores
16. Overcontrolled Adjective Q-Sort - 2 scores
17. Experimental Aggression Score
18. MAACL - Today Form - post-experimental - 3 scores
19. Post-experimental mecholyyl test score

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CRIMINAL AGGRESSIVENESS RATING SCALE

Scale Value

Behavior

1

Subject showed good restraint. Resorted to aggression only when it was clearly dictated by circumstances, that is, hit back with equal or less force; self defense.

2

Less restraint shown but degree of aggression still quite appropriate; or instrumental aggression (i.e., aggression whose primary motive is something other than inflicting pain-strong-arm robbery), with enough violence to accomplish the end goal, but no more.

3

Aggression exceeds provocation, but not inappropriate in subculture; or instrumental aggressive acts where degree of violence begins to indicate that desire to inflict pain is also a motive.

4

Aggression exceeds provocation even more but would not be viewed as a particularly extraordinary response by members of subculture - hitting person who calls defendant a name or ganging up on victim; or instrumental aggression which clearly exceeds amount needed to accomplish act.

5

Acts of aggression clearly motivated by desire to inflict pain or injury. Culture and situation less supportive of degree of violence used. Would probably be rejected by adult members of subculture but not necessarily by peer group, for example, hitting when down. Violence at this point still not likely to seriously or permanently injure victim although severe injuries might occur accidentally.

6

Even less justification than (5) - victim weaker or frailer. More apt to do serious harm (stomping), or use of weapon versus superior, unarmed antagonist.

7

Serious aggression with inadequate provocation. Apt to result in serious injury to victim. Most members of subculture would feel use of this much violence in this situation unjustified although it might still be sufficiently provocative to call for lesser physical response such as use of weapon when called name or in gang fight versus unarmed opponents of equal or less size.