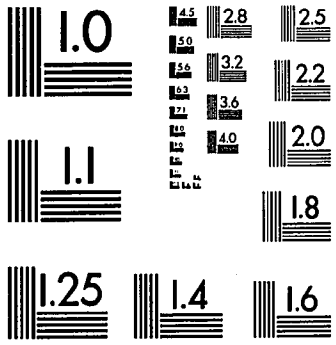

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ASSAULTIVE BEHAVIOR OF HOSPITALIZED SCHIZOPHRENICS

City University of New York PH.D. 1985

ASSAULTIVE BEHAVIOR OF HOSPITALIZED SCHIZOPHRENICS

by

LAURA GEORGE

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

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Abstract

ASSAULTIVE BEHAVIOR OF HOSPITALIZED SCHIZOPHRENICS

by

Laura George

Adviser: Professor Harold Wilensky

This study examined the relevance of the Frustration-Aggression hypothesis and Social Learning theory to demographic, historical and clinical variables in the backgrounds of high and low aggressive schizophrenic black male patients. Thirty-four patients, observed over a ten-day period, were divided into High Aggressive (HA) and Low Aggressive (LA) groups based on the number of aggressive acts they committed. Interviews were conducted with the patients' families yielding information on a number of variables including family background, antisocial acts, issues of discipline and aggression and domestic stability.

A highly consistent profile of the HA emerged. He was younger than his LA counterpart and showed a distinct proclivity towards isolation and aggression in his social relationships. He frequently argued with his mother, father

or father surrogate and friends during his adolescence. These verbal altercations would culminate in assaultive behavior towards his stepfather, stepfather surrogate and friends more frequently than would the LA patient. The HA's drug and alcohol abuse was profligate; his arrest record was extensive and for several patients, included such crimes as homicide and rape.

Although the two theories are conceptually quite distinct, they are difficult to separate in terms of their empirical consequences. An aggressive action is multiply determined and reflects the effects of learning, imitation and previous reward systems as well as the effect of cumulative or immediate frustration.

In this study, the HA patients showed consistency of aggressive behavior throughout their life histories.

CHAPTER I

INTRODUCTION

The aggression of psychiatric in-patients is a persistent problem that faces all staff members. Biographical and developmental studies of factors which underlie patients' aggressive and assaultive behavior are scarce even though there is need for these data in attempting to define the common experiences of these patients contributing to their violent behavior.

The literature suggests that mental health professionals are highly inaccurate in predicting violent behavior. A task force of the APA (1974) indicated that "the state of the art regarding predictors of violence is very unsatisfactory. The ability of psychiatrists or any other professionals to reliably predict future violence is unproven."

An ACLU handbook, The Rights of Mental Patients (1978), categorically states that "it now seems beyond dispute that mental health professionals have no expertise in predicting future dangerous behavior either to self or others. In fact, predictions of dangerous behavior are wrong about 95% of the time."

Megargee (1970) in studying the effectiveness of psychological testing in predicting violence concluded that there were no single tests or batteries which could either predict or even postdict violent behavior.

There are some factors which appear in the literature suggesting childhood precursors of adult violent behavior. Justice, Justice, and Kraft (1974), after reviewing the literature, conducting interviews with mental health professionals who were working with violent adults, and studying more than 1,000 clinical cases, cited four childhood behaviors which consistently appeared in violent adults. They were fighting, temper tantrums, school problems and inability to get along with others.

Using peer, parent and self ratings to measure aggressive behavior, Lefkowitz, Eron, Walder, and Heusmann (1977) found that the best predictor of aggression at age 19 is aggressive behavior at age 8.

A frequently cited study (Hellman & Blackman, 1966) noted that the childhood behaviors of bedwetting, fire-setting and cruelty to animals were often found in aggressive adult criminals.

In his review of childhood predictors of adult violence, Monahan (1981) concluded that a history of violence appears to be the most important feature of predicting future violence regardless of when the first acts of violence began.

Studies have been done establishing the fact that some state hospital patients have higher arrest rates for violent crimes than the normal population (Sosowsky, 1978). In New York, at least 40% of state hospital mental patients had prior arrest rates (Steadman et al., 1978, cited in Monahan, 1981). These authors go on to indicate that former state mental hospital patients are arrested for violent crimes at a rate that is four times higher than the normal population. Crimes against property are more than six times higher. In the Bellevue catchment area, schizophrenic ex-mental patients had an arrest rate for violent crimes at 49% (Zitrin, Hardesty, Burdock, & Drosaman, 1976). This trend is a new one representing a turn around from the comprehensive study (Brill, 1949) done in New York which found significantly lower arrest levels in the state hospital populations at that time.

The increased rate of criminal behavior over the past 35 years probably reflects both a changed clientele as well as changes in admission and discharge policies in state and county psychiatric hospitals. The present study undertook the examination of demographic and biographical variables which have been hypothesized to be related to aggressive behavior.

Hypotheses

The study sought to examine variables in the life history of schizophrenic patients which the two major theories, Frustration-Aggression and Social Learning, indicated could be of importance in the development of assaultive behavior. It was hypothesized that the higher the levels of frustration throughout a subject's life as well as the presence of aggressive role models would increase the subject's proclivity toward assaultiveness. In addition, a number of clinical variables were examined in relation to assaultive behavior.

The hypothesized variables required data concerning demographics, physical and clinical characteristics, family background, childrearing practices, antisocial behaviors and other biographical data. The questionnaire developed to examine systematically these data is presented in the Appendix with associated theoretical orientation (Frustration-Aggression (FA), Social Learning (SL) or Clinical variable (Cl)). Additional information was collected from patients' charts, the nurses' reports and observations made by mental health therapy aides.

CHAPTER II

REVIEW OF THE LITERATURE

Theories of Aggression

Aggression may be viewed from three different theoretical viewpoints. One is that aggression is innate: that organisms have a predisposition for aggression and that, in fact, there exist aggressive instincts. The second school of thought attributes aggression to externally elicited drives and that the arousal of these drives, in turn, leads to overt aggressive acts. The third and quite different viewpoint states that aggression can be attributed to social or environmental conditions coupled with previous social learning.

Instinctual Model

Psychoanalysis. Perhaps the oldest and most popularly held view of the nature of aggression is that such behavior is instinctual, that man is genetically or somehow constitutionally predisposed to aggression and will act on this behavior due to his innate drive to do so. Sigmund Freud (1929) and Konrad Lorenz (1966) were among the more prominent supporters of this theory.

In his early writings, Freud (1917) saw all human behavior as deriving from Eros, or the life instinct whose energy, libido, was directed toward the enrichment of life or to its reproduction. Within this model, he viewed aggression as a reaction to thwarted or blocked libido. In this early construction, Freud saw aggression as being neither automatic nor inevitable, but as a response of life affirmation.

After Freud (1929) witnessed the violence and the destruction of World War I, he revised his earlier position and suggested the existence of a second major instinct, Thanatos, whose energy was directed toward destruction and the ending of life. All human behavior could be seen as resulting from the tension of the interplay between Eros and Thanatos. If Thanatos were unrestrained, the result would be an end to human life, so Freud proposed that mechanisms such as displacement serve to maintain life by redirecting this destructive energy outward. Through this viewpoint, aggression becomes the by-product of the redirected energy.

Ethology. Konrad Lorenz (1966), the noted ethologist, has also proposed an instinctual theory of aggression applicable to man as well as other organisms. He viewed aggression as being derived from the fighting instinct. Aggressive energy, he states, is continuously being produced within an organism at a stable rate. The more time elapses, the larger the reservoir of aggressive energy built up

within the organism. For this pent-up aggression to be expressed, there must be a releasing stimulus. Lorenz proposes that there is a direct relationship between the amount of accumulated aggressive energy and the strength of the aggression-releasing stimulus. The higher the level of built-up aggression, the weaker the releasing stimulus need be to produce overt aggression. Lorenz also stated that in the absence of appropriate releasors, spontaneous, inappropriate aggression will occur. Lorenz, like Freud, contended that aggression is inevitable due to its intrinsic nature.

Other ethologists have concluded that environmental cues elicit aggressive responses. Tinbergen (1951), in his famous study of the stickleback fish, showed how color cues controlled aggression. Ardrey (1966) felt that territorial encroachment is another important environmental factor.

Drive Theory

The drive theory of aggression differs from the instinctual model in that it rejects the notion of aggression arising from innate sources which spontaneously generate aggressive energy. Rather, it explains aggressive behavior as stemming from an externally elicited, frustration-produced drive whose aim it is to injure or harm others. This view was first suggested by a group of learning theorists at Yale who based what they called the frustration aggression hypothesis on Freud's earliest

notions of aggression. In their monograph, "Frustration and Aggression" (Dollard, Doob, Miller, Mowrer, & Sears, 1939), the authors substantially impacted on the world of psychology and its view of aggression with the deceptively simple statement that "the occurrence of aggressive behavior always presupposes the existence of frustration and, contrariwise, that the existence of frustration always leads to some form of aggression" (p. 6). Frustration, in their view, was interference with an instigated goal response leading to aggression. The strength of the aggressive drive is reduced following the infliction of an injury.

The frustration aggression hypothesis has generated a tremendous amount of response and psychological inquiry since its inception in 1939. Some of the original Yale group almost immediately refined their original statement of frustration leading to aggression. Miller (1941) discussed a variety of factors which affect the expression of aggression. For instance, he noted a relationship between the strength of the instigation to aggression and the strength of the motivation of the thwarted response. Another factor he suggested having an effect on the expression of aggression was the object toward which (or whom) the aggression was directed or displaced. He also conceded that aggression is not the inevitable outcome of frustration.

Sears (1941) also felt that frustration did not always lead to aggression. Aggression is prominent in a hierarchy

of responses to frustration, but it can be inhibited or mitigated by learning.

The similarities between the theories of Lorenz, Freud, and Dollard et al. (1939) are striking in terms of their ability to be translated into the hydraulic model. As the number of events that can be labeled as frustrating increases, so too does the amount of energy within the organism. The greater the amount of accumulated energy, the greater the likelihood of an overt expression of aggression. An aggressive response drains off some of the energy which had built up through frustrating experiences. This construct is the essence of the hydraulic model.

Other drive theorists, while questioning the sweeping scope of the frustration aggression hypothesis, have substantiated the basic notion of aggression being an externally elicited drive. Pastore (1952) looked into the role of arbitrariness in the frustration aggression hypothesis. He found that if an act were frustrating but justifiable, the amount of aggression elicited would be minimal.

Arbitrariness was also investigated by Kregarman and Worchel (1961) to test out the validity of Pastore's findings and to determine whether the reduction of aggression under nonarbitrary frustration is due to the reduction in drive level or in response to inhibition. Their study tended to support the latter hypothesis. Later, Burnstein

and Worchel (1962) tested out under experimental conditions the same hypothesis to see if there were a difference between laboratory and field results. Their results supported the hypothesis that the reduction of aggression under nonarbitrary frustration is partly due to response inhibition.

Leonard Berkowitz (1969) has written widely on aggression and has proposed a modification of the frustration aggression hypothesis. He argues that while Dollard et al. (1939) see frustration as being produced by interference with goal directed behavior and that this frustration produces a drive state toward harming the source of the interference, an extremely important element is omitted. Berkowitz suggested that situational cues may provoke or facilitate aggressive behavior. Berkowitz agreed that frustration is central to the occurrence of aggression by producing an externally elicited drive state. He adds that when an individual is in an aggressive drive state, his overt expression of aggression will be influenced by cues with aggressive value.

Berkowitz and Geen (1966, 1967) studied the interaction between observing filmed violence and the expression of aggression and found that a target's cue value for aggression determined the magnitude of aggression directed toward it.

Berkowitz and Le Page (1967) investigated the effect that weapons had on subjects in a variety of experimental conditions. They found that the most aggressive behavior was elicited from the experimental group of angered subjects who were exposed to weapons.

Later research did not confirm these findings. Page and Scheidt (1971) found that this effect occurred only when cooperative subjects were aware of the experiment's hypothesis. Buss, Booker, and Buss (1972) closely replicated the study but did not obtain results similar to Berkowitz and Le Page.

There has been a good deal of research done of the effect of arousal on aggression. Donnerstein, Donnerstein, and Evans (1975) found a positive relationship between the intensity of erotic stimuli and the level of expressed aggression. Taylor and Gammon (1975) found that small doses of alcohol inhibited aggression, whereas large doses facilitated it. Deiner (1976) found that physical arousal increased aggression.

Social Learning Model

The third theoretical perspective on the nature of aggression is the social learning model. This approach regards aggression as one form of social behavior that is both acquired and maintained through learning like other forms of behavior. Social learning theorists do not believe

that aggression stems from some inner reservoir or that an aggressive drive is elicited through frustration. Aggression can be explained in the following ways. First, they believe that humans acquire aggressive responses by means of past experience. Second, actual receiving or anticipating rewards for aggressive behavior is an important explanatory factor. Third, social learning theorists believe that humans aggress because of direct instigation by specific social or environmental conditions.

Modeling

Albert Bandura is the leading proponent of this theory. In the now classic experiment (Bandura, Ross, & Ross, 1961), the investigators wanted to determine the effects of witnessing aggression. Children observed an adult play with tinker toys and a large plastic "Bobo" doll. In one condition, after the adult briefly played quietly with the tinker toys, he played with the doll in an aggressive manner. In another experimental condition, the adult only played with the tinker toys, ignoring the Bobo. Afterwards, each child was left alone with a selection of toys including a Bobo. It was found that the children tended to imitate the behavior of the adult. Those who had witnessed the aggressive adult modeled their behavior after his. The children who had observed the adult playing with the tinker toys showed quieter behavior. The results were clear that

through the process of imitation, one set of children became quite aggressive.

In a subsequent experiment, Bandura, Ross, and Ross (1963) compared the effects of real-life, filmed and cartoon conditions on the expression of aggression. They found that filmed aggression not only facilitated the expression of aggression but also effectively shaped the form of the children's aggressive behavior.

Baron (1971) commented on how little attention has been paid to the question of how the influence of an aggressive model might be counteracted or reduced. He found the most effective reduction in expressed aggression occurred when the subjects viewed restrained behavior before observing highly aggressive models.

In a similar study, Baron (1970) found that the higher the levels of attraction and competence, the higher was the imitative behavior. In a study of retention of modeling aggression over a period of time, Hicks (1965) found that a peer model initially produced the greatest amount of imitative aggression. After a six month hiatus, however, it was the adult male model who had the most enduring effect.

In a longitudinal study of aggression in nondelinquent boys, McCord, McCord, and Howard (1961) looked into their families and modes of upbringing as influential determinants of their levels of aggression. They categorized the boys into groups of aggressive, assertive and nonassertive after

following them and their families for nearly six years. They found numerous factors associated with high levels of aggression. Direct parental attack on these boys whether by means of corporal punishment, threats or negative comments on the boy's worth were some influential factors. Others were low levels of supervision, poor parental control over the boy's aggressive expression, inconsistency of parental discipline and parental demands. Parental modeling in terms of their own style of aggressive expression played a large part as well in determining how the son's behavior would manifest itself.

In a paper reviewing studies concerning the influence of film material on human behavior, Bryan and Schwartz (1971) remarked on the wide range of responses that filmed material could elicit and what a powerful influence that medium is in evoking imitative behavior. They pointed out how models appear to both demonstrate techniques of aggression and to liberate into action the already present aggressive skills of both children and adults. These reviewers note the paucity of experiments designed to assess the effect of films on the viewers' assaultive behavior toward other people. They indicate that many studies have shown how aggression is facilitated toward inanimate objects but they warn about the possible effects of the aggressive film hero who, while verbalizing socially sanctioned norms, also may be teaching the viewer how to be violent.

CHAPTER III

METHOD

Population

Subjects were drawn from a ward which serves a low income, primarily black catchment area. The 34 subjects in this study were native born black in-patient males with a primary diagnosis of schizophrenia. Only those patients who met the diagnostic and ethnic criteria were rated for their levels of assaultiveness and then were assigned to either the high assaultive (HA) or the low assaultive (LA) group. Their ages ranged from 18 to 35 with a mean of 23.1 years for the HA and 28.1 years for the LA. The mean educational levels of the HA and the LA respectively were 10.2 years and 10.6 years with a range of 9.0 to 12.0 years. The HA averaged a current hospital course of treatment of 4.0 months, whereas the LA spent 3.6 months in hospital. The range of in-hospital stay was between 1 and 9 months. The mean of the total number of psychiatric admissions was 3.1 times for the HA and 3.3 times for the LA with a range of 1 to 8 admissions.

Procedure

During a two week period consisting of 10 week days in 1982, the 34 patients were observed during the day shift and rated for the following behaviors: (1) the number of times they assaulted staff; (2) the number of times they assaulted other patients; (3) the number of destructive acts they committed against property; (4) the number of times they menaced staff; (5) the number of times they menaced other patients; and (6) the number of intramuscular injections of tranquilizing psychotropic medication that they were administered. It has been noted that the most disruptive behavior occurs on week days during the day shift.[1]

The observations were conducted by two mental health therapy aides (M.H.T.A.s) who were selected because of the experimenter's assessment of their generally high degree of competence and regularity of attendance. Before any ratings were made, they met with the experimenter who discussed with them the types of behavior that were to be noted. Each M.H.T.A. was provided with a list of half of the patients to be observed. This list was changed daily so that each M.H.T.A. rated a completely different set of patients from one day to the next. The M.H.T.A.s were encouraged to make

---

[1]In 1952, Wilensky, in an unpublished study of correlates of disturbed behavior among psychiatric inpatients, found the greatest number of patients given wet packs occurred during daytime, week days, when the professional staff was on duty.

detailed behavioral observations. At the end of each work day, the experimenter collected the lists and discussed the M.H.T.A.s' findings with them in an intellectually objective and emotionally supportive manner. On the basis of these ratings, patients were assigned to the high (HA) or low (LA) aggression groups. Only those patients whose families were available for interviewing were included in this study. Originally there were 38 patients observed on the ward. Three of the four who had to be dropped due to the fact that their families could not be located were rated in the high aggressive category. The fourth was rated as a low aggressive.

After ascertaining the patient's closest relative either by asking him or reviewing the chart, the experimenter telephoned the individual, introduced herself and the reason for the interview in the following manner:

> "This is Ms. L.G. from KPC calling. I'm the psychologist on the ward that [Patient's Name] is on. I'd like to talk with you for a little while. Is this a good time? Good. [Or if not, a more convenient time would be determined.] I'm calling because the staff here and I are interested in understanding a little bit more about [Patient's Name] and hopefully, by understanding him more, we'll be able to help him better. Let me first ask you. . . ." The experiment then began the structured interview. At the close of the interview, the experimenter stated:
>
> "I want to thank you very much for your cooperation. If you think of anything more you'd like to tell me, please feel free to call me. Also, if there's anything I think of later that we haven't covered, may I call you back? Thanks very much. Goodbye. . . ."

All interviews were conducted over the telephone. There was a set list of questions to be covered and the pace in accomplishing this task to a large extent was determined by the level of cooperation of the interviewee. The time that the interviews took to be completed ranged from 20 minutes to an hour and a half. The longer and more detailed interviews tended to be offered by the families of the patients in the low aggressive category. Many of them were eager to discuss the patients and volunteered much more material, usually of anecdotal nature than the family members of the high aggressive patients. The latter tended more frequently to find the initial contact to be inconvenient and required several call backs to complete the interviewing process.

CHAPTER IV

RESULTS

The six measures of aggression were summed for each patient. An alpha coefficient of .86, indicating a high level of internal consistency, was obtained for the six criterion variables. The total scores ranged from 0 to 20 with a mean of 9, a SD of 6, and a median score of 10. The frequencies of assaultive incidents for the 34 patients are presented in Table 1.

Those subjects who were at or below the mean were assigned to the Low Aggression (LA) category (n = 15). Those scoring 10 and above were assigned to the High Aggression (HA) group (n = 19). t tests for continuous variables and Chi square tests for categoric variables were used to test for differences between groups. The results are grouped according to demographic, clinical and biographical categories and are further classified according to whether they could yield data in support of either the Frustration Aggression or Social Learning hypotheses.

Demographic and Clinical Variables

There were 13 Demographic and Clinical variables of which 3 were classified as FA, 4 were categorized as SL,

Table 1

Frequency of Aggressive Behaviors

Low Subjects	Assaults on Staff	Assaults on Patients	Destructive Acts/ Property	Menacing Staff	Menacing Patients	Intra-Muscular Injections
1	0	0	0	0	0	0
2	0	0	1	0	1	1
3	0	1	1	0	1	0
4	0	0	0	0	0	0
5	0	0	2	0	1	0
6	0	0	0	0	0	0
7	0	1	1	0	1	0
8	0	1	2	0	1	1
9	0	0	1	0	0	0
10	0	0	1	0	3	1
11	0	1	2	1	3	1
12	0	1	1	1	1	1
13	0	0	0	0	0	0
14	0	0	0	0	2	0
15	0	0	0	1	3	0

(table continues)

Table 1 (continued)

High Subjects	Assaults on Staff	Assaults on Patients	Destructive Acts/ Property	Menacing Staff	Menacing Patients	Intra-Muscular Injections
16	0	2	1	1	4	2
17	1	0	1	2	4	2
18	2	4	1	1	6	2
19	1	3	4	1	3	2
20	0	5	4	4	4	3
21	0	2	3	1	5	1
22	1	3	1	2	3	1
23	1	3	3	1	2	1
24	0	3	1	3	4	2
25	2	2	2	3	1	1
26	0	3	1	2	3	1
27	2	1	1	4	4	1
28	2	1	1	4	6	3
29	0	3	2	3	4	2
30	1	2	2	4	7	4
31	0	3	2	4	5	2
32	0	2	3	3	4	2
33	1	2	1	1	5	1
34	0	2	3	1	5	1

2 were mixed FA/SL. The remaining 4 variables were clinical and could not be subsumed in the theoretical groupings.

FA Variables

Migration from the South to the North, presence of a disturbed family member other than the patient, and lack of marital partners were hypothesized to be stressors. Birthplace (p = .04) and lack of ever having had a marital partner (p = .01) support the hypothesis in that the HAs were born in the South and had never married. The presence of a disturbed family member approaches significance (p = .08) in that family members of the HA group tended to have had more psychiatric hospitalizations. (See Table 2A, B, and C for the Chi squares of these demographic variables.)

SL Variables

Younger patients were assumed to be currently more likely to live in a peer culture which promotes aggressive models. (See Table 3A.)

With regard to size, it was assumed that the expectations of others are for more aggressive behavior; the taller and heavier patients were hypothesized to be more likely to fulfill these expectations. See Table 3A, B and C for the means, SDs, t and p levels of high and low groups for physical variables associated with the SL hypothesis. Age differences support the SL hypothesis (p = .001) in that the younger patients were in the HA group.

Table 2

Chi Squares for Demographic Variables of High and Low Aggression

	High n	Low n	Chi square	df	p
A					
Birthplace					
South	14	5			
North	5	10			
			4.02	1	.04
B					
Marital Status					
Ever Married	1	8			
Never Married	18	7			
			10.39	1	.01
C					
Family Member Ever Hospitalized					
None Reported	10	13			
Hospitalized	9	2			
			30.00	1	.08

Table 3

Differences Between High and Low Aggressive for Physical Characteristics

	n	Mean	SD	t	p
A					
Age					
High	19	23.2	3.7		
Low	15	28.1	4.6		
				3.48	.001
B					
Height					
High	19	69.7	3.0		
Low	15	69.6	2.4		
				0.09	.93
C					
Weight					
High	19	164.4	4.3		
Low	15	167.8	6.9		
				0.44	.66

It was assumed that aggressive behavior would not be tolerated by persons unrelated to the patient. Therefore, aggressive patients would be less likely to have lived in social settings apart from their families. Table 4 contains the Chi squares for living arrangements prior to hospitalization. Its results, which approach significance ($p = .08$), suggested that the HAs tended to live with family of origin whereas the LAs lived with others. However, the hypothesis is limited by confounding of age and marital status. Younger persons are more likely to be living with immediate family, to be single and more aggressive.

Table 4

Chi Square for Living Arrangements of HAs and LAs

	High	Low	Chi square	df	p
Living Arrangements Prior to Hospitalization					
Family	12	3			
Friend	1	3			
Spouse	1	4			
Alone	2	1			
Halfway House	3	4			
			8.32	4	.08

FA/SL Variables

Total number of months that the patient was employed was regarded as a SL variable because working provides positive role models. Unemployment is stressful (FA), leading to damaged self esteem, higher poverty levels and time for unconstructive activities, i.e., "hanging out" and using drugs, which are stressors. Table 5A contains the means, SDs, t and p levels of the high and low groups for the FA/SL variable concerning length of employment. Number of months employed supported the hypothesis ($p = .001$) in that the HAs worked far less than the LAs, although it should be noted that due to the age difference between the HAs and the LAs, the latter had more opportunity to be in the workforce.

Because school dropouts experience more stress (FA) and students have more access to constructive role models (SL), the patients' educational level--the highest grade completed--was included. Differences between the two groups were not significant.

Cl Variables

Four clinical correlates of aggressive behavior which appeared to have practical application were included to determine their relation to aggressive behavior. They are level of agitation at admission as obtained from admission notes, length of present hospitalization, total number of

Table 5

Means, SDs, t Values and p Levels for Months Employed and Academic Achievement of High and Low Aggressives

	Mean	SD	t	p
A				
Months Employed				
High	5.9	10.9		
Low	38.3	36.2		
			3.71	.001
B				
Highest Grade Completed				
High	10.2	0.65		
Low	10.6	0.99		
			1.2	.24

psychiatric admissions, and total number of months in hospital. Consistent with current behavior, patients in the HA group were significantly more agitated on admission (p = .001) than patients in the LA group. The remaining three Clinical variables were not significant.

Table 6

Means, SDs, t Values and p Levels of Clinical Variables Related to Aspects of Hospitalization for High and Low Aggressives

	Mean	SD	t	p
A				
Level of Agitation on Admission				
High	3.0	0.74		
Low	1.7	0.61		
			3.61	.001
B				
Length of Present Hospitalization				
High	4.1	2.0		
Low	3.6	2.5		
			0.57	.75
C				
Total Number of Psychiatric Hospitalizations				
High	3.1	1.7		
Low	3.3	1.8		
			0.34	.47
D				
Total Number of Months in Hospital				
High	14.3	11.0		
Low	18.4	21.8		
			0.71	.48

Family Background Variables

There were five Family Background Variables of which three were classified as FA, one was categorized as SL, and one was FA/SL.

FA Variables

Since young and unwed mothers experience a great deal of stress, it was hypothesized that these factors would have stressful impact on their children as well. The mothers' current marital status with regard to the child's father was included because lack of family cohesiveness is stressful. Table 7 contains the means, SDs, t and p levels of HAs and LAs relating to maternal age at patients' birth. Table 8A and B contain Chi squares for the past and present status of mothers of high and low aggressive patients.

Table 7

Means, SDs, t Value and p Level of the Maternal Age at Time of Birth of High and Low Aggressives

	Mean	SD	t	p
Maternal Age at Patients' Birth				
High	26.2	5.8		
Low	28.8	5.2		
			1.3	.19

Table 8

Chi Squares for Past and Present Marital Status of Mothers of High and Low Aggressives

	High	Low	Chi Square	df	p
A					
Patient's Mother Married to Patient's Father					
No	11	5			
Yes	8	10			
			1.16	1	.20
B					
Patient's Mother Currently Married to Patient's Father					
No	16	12			
Yes	3	3			
			0.0	1	1.6

SA Variable

A favored sibling may provide a role model. HAs tended to get along best with older siblings, their brothers in particulars. None of the LAs selected older brothers as the siblings they preferred. They overwhelmingly preferred their sisters, most often selecting their older ones as favorites. These results, significant at the .03 level,

support the hypothesis that while HAs will tend to prefer affiliation with the more aggressive models that brothers provide, the LAs select the more passive models, their sisters, to identify with. (See Table 9.)

Table 9

Chi Square of Preferred Siblings of High and Low Aggressives

	High	Low	Chi Square	df	p
Preferred Sibling					
Older Brother	7	0			
Younger Brother	2	2			
Older Sister	6	9			
Younger Sister	1	3			
			8.50	3	.03

FA/SL Variable

The selection of a name for a child was hypothesized as being related to degree of isolation (FA) or relatedness experienced by the mother at the time of the patient's birth. The choice of a name can reflect the kind of role model (SL) the mother attempted to provide for her child. The designation of "other" referred to children who were

named after a popular singer and an actor. There was no significant difference between the two groups. (See Table 10 for Chi square of who the patient was named after.)

Table 10

Chi Square of Namesakes of High and Low Aggressives

	High	Low	Chi Square	df	p
Patient Named After					
Someone	8	10			
No one/Other	11	5			
			1.701	1	.19

Antisocial Variables

There were 11 Antisocial Variables of which 3 were classified as SL, 2 were categorized as FA/SL and 6 were SL/CL.

SL Variables

Physical violence between parental figures provides aggressive role models for patients. See Table 11A and B for the means, SDs, t and p levels of the HAs and LAs reflecting the occurrence of physical violence between

parental figures. The HAs' mothers were the victims of physical abuse more often than the mothers of the LAs. These results, significant at the .001 level, support the hypothesis that aggressive role models have strong effects on those around them. The results of Table 11B approach significance (p = .08) in that the HAs' mothers had more of a tendency to physically strike out at their partners.

Television can also provide aggressive role models. When asked whether their children preferred an aggressive program such as Batman or a more passive one, Gilligan's Island, the mothers of the HAs reported that their children more frequently selected the more aggressive program. The results of Table 12 reveal a p level of .001 supporting the hypothesis that aggressive behavior can be supported by an aggressive model.

FA/SL Variables

Being arrested is a stressful experience (FA) which affects expectations of future behavior (SL). Table 13A and B contain the SDs, t and p levels for the total number of arrests and age of patient at the time of the first arrest. Table 13A reveals significant differences (p = .001) between the two groups, supporting the hypotheses that the HAs would have experienced more stressful events and be in contact with more aggressive role models and were more aggressive, leading to more arrests. Although the HAs

Table 11

Means, SDs, t Values and p Levels of Frequency of Expressed Physical Violence Between Parental Figures of High and Low Aggressives

	Mean	SD	t	p
A				
Mother Hit by Husband or Boyfriend				
High	2.5	0.51		
Low	1.3	0.48		
			6.3	.001
B				
Mother Hits Husband or Boyfriend				
High	1.7	0.58		
Low	1.3	0.49		
			1.7	.08

Rating Scale

1 = Never
2 = Rarely
3 = Frequently
4 = Very frequently

Table 12

Chi Square of Television Program Selected by High and Low Aggressives

	High	Low	Chi Square	df	p
Program Selected					
Aggressive	17	6			
Passive	2	9			
			7.25	1	.001

Table 13

Means, SDs, t Values and p Levels for Number of Arrests and Age at Time of First Arrest

	Mean	SD	t	p
A				
Total Number of Arrests				
High	1.73	1.59		
Low	0.20	0.41		
			3.6	.001
B				
Age at Time of First Arrest				
High	16.6	1.90		
Low	18.3	3.40		
			1.45	.49

were arrested significantly more frequently than were the LA's, there was no appreciable difference between the two groups in terms of their age at the time of their first arrests.

SL/Cl Variables

Past and present abuse of alcohol, marijuana and other drugs exposes patients to a subculture in which violent role models are readily available (SL). These substances lower inhibition (Cl). See Table 14A, B, C, D and E for the means, SDs, t and p levels for the frequencies of these substance abuses. The HAs far exceeded the LAs in substance abuse in both the past and the present, substantiating the hypothesis of the importance of role models. The category "other drugs" refers to angel dust, cocaine, speed and barbiturates. Only 20% of the LAs have used other drugs, whereas 68% of the HAs have used them. Furthermore, it should be noted that all of the HAs and 93% of the LAs have experience in substance abuse.

Issues of Discipline During Early Childhood

Birth-6

Both variables are classified as FA/SL.

FA/SL Variables

Corporal punishment is stressful (FA) and provides aggressive role models (SL). See Table 15A and B for the means, SDs, t and p levels of the HAs and LAs reflecting the

Table 14

Means, SDs, t Values and p Levels for Frequency of Past and Present Substance Abuses of High and Low Aggressives

	Mean	SD	t	p
A				
Past Use of Alcohol				
High	2.61	0.51		
Low	1.86	0.59		
			3.88	.01
B				
Past Use of Marijuana				
High	2.53	0.95		
Low	2.13	0.72		
			3.74	.01
C				
Past Use of Other Drugs				
High	1.76	0.69		
Low	1.26	0.45		
			2.54	.05
D				
Uses Alcohol Now				
High	2.24	0.64		
Low	1.73	0.44		
			2.73	.05

(table continues)

Table 14 (continued)

	Mean	SD	t	p
E				
Uses Marijuana Now				
High	2.88	0.72		
Low	2.20	0.74		
			2.71	.05
F				
Uses Other Drugs Now				
High	1.41	0.48		
Low	1.08	0.25		
			2.60	.05

Rating Scale

1 = Never
2 = Rarely
3 = Frequency
4 = Very Frequently

Table 15

Means, SDs, t Values and p Levels of Frequency of Parental Corporal Punishment of High and Low Aggressives from Early Childhood Through Adolescence

	n	Mean	SD	t	p
Birth to Age 6					
A Father Beats Patient					
High	14	1.92	0.91		
Low	14	1.42	0.64		
				1.67	.10
B Mother Beats Patient					
High	18	1.83	0.62		
Low	15	1.40	0.50		
				2.17	.04
Age 7-12					
C Father Beats Patient					
High	11	2.10	0.94		
Low	14	1.71	0.82		
				1.06	.30
D Mother Beats Patient					
High	17	2.29	0.68		
Low	15	1.80	0.67		
				2.05	.05

(table continues)

Table 15 (continued)

	n	Mean	SD	t	p
E Stepfather Beats Patient					
High	6	2.67	0.52		
Low	4	1.75	0.50		
				2.80	.02
Adolescence					
F Father Beats Patient					
High	10	1.70	0.82		
Low	13	1.38	0.65		
				1.03	.32
G Mother Beats Patient					
High	17	2.00	0.50		
Low	15	1.26	0.45		
				4.31	.001
H Stepfather Beats Patient					
High	10	2.20	0.63		
Low	6	1.33	0.51		
				2.83	.01

Rating Scale

1 = Never
2 = Rarely
3 = Frequently
4 = Very Frequently

infliction of corporal punishment by their fathers and mothers. The results reveal that the HAs' mothers struck them significantly more (p = .04) than did the mothers of the LAs. This result supports the hypothesis in showing that the HAs had more exposure to an enduring aggressive and stressing role model. Significant results were not obtained for the frequency with which the fathers used corporal punishment. In part, this may be attributed to the fact that the fathers were not present consistently.

Issues of Aggressing During Middle Childhood

7-12

All six variables are classified as FA/SL.

FA/SL Variables

Corporal punishment and verbal altercations are not only stressful (FA) but provide aggressive role models as well (SL). See Table 15C, D and E for the means, SDs, t and p levels of the HAs and the LAs reflecting the infliction of corporal punishment by their fathers, mothers and step-fathers. The hypothesis that exposure to aggressive models not only provides a behavioral example but is stressful as well is supported in that the mothers and the stepfathers of the HAs were significantly more punitive (p = .05 and .02, respectively) than were the mothers and stepfathers of the LAs. Significant results were not obtained for the frequency with which the fathers used corporal punishment.

In part, this may be attributed to the fact that the fathers were not present consistently.

Table 16A, B and C provides the means, SDs, t and p levels of the instances of argumentation that occurred between HAs and LAs with their fathers, mothers and stepfathers. The hypotheses that exposure to aggressive models not only provide a behavioral example but is stressful as well are supported in that the mothers and the stepfathers of the HAs engaged significantly more frequently in arguments (p = .002 and .02, respectively) than did the mothers and stepfathers of the LAs. Significant results were not obtained for the frequency with which the fathers and patients argued. In part, this may be attributed to the fact that the fathers were not consistently present.

Issues of Discipline During Adolescene

All six variables are classified as FA/SL.

FA/SL Variables

Corporal punishment and verbal altercations are not only stressful (FA) but provide aggressive role models as well (SL). See Table 15F, G and H for the means, SDs, t and p levels of the HAs and the LAs reflecting the infliction of corporal punishment by their fathers, mothers and stepfathers. The hypothesis that exposure to aggressive models not only provides a behavioral example but is stressful as well is supported in that the mothers and the stepfathers of

Table 16

Means, SDs, t Values and p Levels of Frequency of Arguments Between Fathers, Mothers and Stepfathers with High and Low Aggressives

	n	Mean	SD	t	p
Age 7-12					
A Father Argues with Patient					
High	10	2.4	0.84		
Low	13	2.1	0.76		
				.36	.35
B Mother Argues with Patient					
High	17	2.82	0.53		
Low	15	2.13	0.64		
				3.34	.002
C Stepfather Argues with Patient					
High	6	3.5	0.55		
Low	3	2.0	1.0		
				3.00	.02
Adolescence					
D Father Argues with Patient					
High	8	2.88	1.33		
Low	11	2.0	0.77		
				2.01	.06

(table continues)

Table 16 (continued)

	n	Mean	SD	t	p
E Mother Argues with Patient					
High	17	3.18	0.88		
Low	15	2.4	0.63		
				2.82	.008
F Stepfather Argues with Patient					
High	10	3.5	1.08		
Low	6	2.3	0.51		
				2.47	.028

Rating Scale

1 = Never
2 = Rarely
3 = Frequently
4 = Very Frequently

the HAs were significantly more punitive (p = .001 and .01 respectively) than were the mothers and the stepfathers of the LAs. Table 16D, E and F provides the means, SDs, t and p levels of the instances of agumentation that occurred between the HAs and the LAs with their fathers, mothers and stepfathers. The hypotheses that exposure to aggressive models provides a behavioral example and is stressful as well are borne out in that the fathers, mothers and stepfathers of the HAs engaged significantly more frequently in arguments (p = .06, .008, and .03 respectively) than did the fathers, mothers and stepfathers of the LAs.

Domestic Stability During Early Childhood

Birth to 6

Both variables are classified as FA/SL.

FA/SL Variables

The frequency of paternal contact with the patient not only provides a role model (SL) but its absence is also stressful (FA). Table 17 provides the means, SDs, t and p levels of the frequency of paternal contact with the HAs and LAs. The results yield a p = .18. Table 18A shows the Chi square of those to whom the HAs and the LAs were reported to have felt closest. The results are not significant (p = .15).

Table 17

Means, SDs, t Values and p Levels of Frequency of Personal Contact of Fathers with High and Low Aggressives from Early Childhood Through Adolescence

	n	Mean	SD	t	p
A					
Birth to Age 6					
High	19	2.74	1.19		
Low	15	3.26	1.03		
				1.36	.18
B					
Age 7-12					
High	19	1.84	1.06		
Low	15	2.93	1.16		
				1.16	.008
C					
Adolescence					
High	19	1.63	1.01		
Low	15	2.13	1.24		
				1.30	.204

Rating Scale

1 = Never
2 = Rarely
3 = Frequently
4 = Very Frequently

Table 18

Chi Squares for Person HAs and LAs Felt Closest To from Early Childhood to Adolescence

	High	Low	Chi Square	df	p
A					
Birth to Age 6 Felt Closest to:					
Mother	8	9			
Others	11	6			
			1.07	1	.15
B					
Age 7-12 Felt Closest to:					
Mother	0	7			
Others	11	8			
No One	8	0			
			17.09	2	.004
C					
Adolescence Felt Closest to:					
Mother	0	3			
Father	0	4			
Others	4	6			
No One	15	2			
			17.38	3	.001

Domestic Stability of Middle Childhood

Ages 7-12

Both variables are classified as FA/SL.

FA/SL Variables

The frequency of paternal contact with the patient not only provides a role model (SL) but its absence is stressful (FA) as well. Table 17B provides the means, SDs, t and p levels of the frequency of paternal contact with HAs and LAs. The results indicate a p of .008 which strongly supports the hypotheses since the LAs saw their fathers more frequently than did the HAs, indicating that the paternal absence was not only stressful but did not provide the needed role model. Table 18B shows the Chi square of to whom the LAs felt closest. A significant difference between the two groups was found ($p = .004$). Of the HAs, 42% were reported to have felt closest to no one whereas none of the LAs were reported to have felt similarly. None of the HAs and 47% of the LAs were reported to have felt closest to their mothers. The hypotheses that the lack of a constructive role model having a deleterious effect are supported.

Domestic Stability of Adolescence

Both variables are classified as FA/SL.

FA/SL Variables

The frequency of paternal contact with the patient not only provides a positive role model (SL) but its absence is stressful (FA) as well. Table 17C provides the means, SDs, t and p levels of the frequency of father-patient contact. The results reveal a p level of .20. Table 18C shows the Chi square of persons to whom the HAs and LAs were reported to have felt closest. A significant difference between the two groups was found ($p = .001$). It was indicated that of the HAs, 79% felt close to no one whereas only 13% of the LAs were reported to have felt close to no one. The hypotheses that the stressful absence of a close tie as well as the lack of a constructive role model having a deleterious effect are supported.

Issues of Aggression During Middle Childhood Ages 7-12

All four variables are classified as FA/SL.

FA/SL Variables

Physical violence is stressful to the patient even when it is initiated by him (FA). Furthermore, the situation fosters an ambiance which promotes aggression (SL). Table 19A, B, C and D contains the means, SDs, t and p

Table 19

Means, SDs, t Values and p Levels of Frequency of Assault on Close Individuals by High and Low Aggressives

	n	Mean	SD	t	p
Age 7-12					
A					
Hit Father					
High	10	1.20	0.42		
Low	13	1.07	0.27		
				.84	.40
B					
Hit Mother					
High	16	1.40	0.50		
Low	15	1.60	1.54		
				.55	.58
C					
Hit Stepfather					
High	7	1.43	0.54		
Low	4	1.25	0.50		
				.54	.59
D					
Hit Friends					
High	19	2.37	0.76		
Low	15	1.53	0.51		
				3.65	.001
Adolescence					
E					
Hit Father					
High	9	1.22	0.44		
Low	12	1.00	0.00		
				1.76	.09

(table continues)

Table 19 (continued

	n	Mean	SD	t	p
F					
Hit Mother					
High	17	1.18	0.40		
Low	15	1.13	0.35		
				0.33	.74
G					
Hit Stepfather					
High	10	1.50	0.53		
Low	6	1.00	0.00		
				2.5	.02
H					
Hit Friends					
High	19	2.21	0.71		
Low	15	1.42	0.51		
				3.5	.001

Rating Scale

1 = Never
2 = Rarely
3 = Frequently
4 = Very Frequently

levels of the frequencies that the HAs and the LAs hit their fathers, mothers, stepfathers and friends. A significant difference between the HAs and the LAs was found in that the HAs were more likely to strike their friends than the LAs (p = .001), supporting the hypotheses that violence is stressful and promotes a continued aggressive atmosphere.

Issues of Aggression During Adolescence

All four variables are classified as FA/SL.

FA/SL Variables

Physical violence is stressful to the patient even when it is initiated by him (FA). Furthermore, the situation fosters an ambiance which promotes aggression (SL). Table 19E, F, G and H contains the means, SDs, t and p levels of the frequencies that the HAs and LAs hit their fathers, mothers, stepfathers and friends. Significant differences were found between the HAs and the LAs in that the HAs were far more likely to strike their stepfathers (p = .02) and their friends (p = .001) than were the LAs. Significance was approached (p = .09), indicating that the HAs tended to be more likely to hit their fathers as well. These results support the hypotheses that violence is stressful and promotes a continued aggressive atmosphere.

CHAPTER V

DISCUSSION

The discussion will be divided into four subsections. The first section will draw together the salient characteristics of the HA patient. Following this, I will compare my results with previous research on aggression and discuss the relevance of our findings to both the Social Learning and the Frustration Aggression hypotheses. A third section will examine the limitations of the data set. Finally, I will discuss the effect of the ward milieu on the expression of violence in hospitalized patients, and suggest further research which might grow out of the current findings.

The HA Patient Profile

In examining the data, a highly consistent profile of the model HA patient emerged. The HA patient differed from the LA patient on 30 of the 57 variables examined. The HA patient, who was significantly younger (mean age = 23.1 years) than the LA patient (mean age = 28.1 years), is typified by a proclivity towards isolation and aggression in his social relationships.

Isolation

All but one of the HA patients were single, whereas over half of the LA patients had been married. From the age of 7 to 12, 42% of the HAs as opposed to none of the LAs were reported to have felt close to no one. This pattern of isolation increased in adolescence when 79% of the HA patients as opposed to 13% of the LA patients were reported to have felt close to no one. Those relationships outside the home were often tinged with aggression and they reportedly fought with the few friends they were able to establish from 7 onwards, far more frequently than their LA counterparts.

Unlike the father of the LA patient who had frequent contact with his son, the father of the HA patient maintained only an intermittent and infrequent contact.

The chaotic environment that marked the experience of the HA patient was noteworthy for its lack of long lasting and dependable interpersonal ties. There was a greater likelihood ($p < .08$) that a close family member had been hospitalized for psychiatric reasons. This comparative instability in the home similarly characterized the HA patient's life prior to his hospitalization. Seventy-five percent of the HA patients experienced a drastic change of environment in that they moved from the South to the North. Additionally, the HA patient's work history is practically nonexistent.

Aggression

There was a pervasive atmosphere of physical violence which permeated the home environment. That HA's primary relationship, which was with the mother, was marked by combativeness. The mother hit the patient from birth to adolescence and was herself abused by her husband or boyfriend. Throughout his middle childhood as well as his adolescence, the HA patient engaged in arguments with his mother and stepfather or stepfather surrogate. By adolescence, the patient was engaging in assaultive behavior against his stepfather or stepfather surrogate.

Unlike the LA patient whose favorite sibling was his older sister, the HA patient's preferred sibling was more often his older brother (who could serve as a more convincing model for potential aggressive behavior). It was noted that of the 7 LA patients who had older brothers, none selected their older brothers as a favorite sibling, whereas over half of the HA patients who had older brothers selected him as their favored sibling.

Yet another model for assaultive action was furnished by the HA patient's choice of television program. Eighty-nine percent of the HA patients more frequently selected violent as opposed to neutral programs, whereas only 40% of the LA patients selected violent programs.

Anti-Social Behavior

The profile of the HA patient was remarkable for the extent of anti-social behavior. The HA patient had a higher number of arrests. Unlike the LA patient whose crimes tended to be less violent, 13 of the HA patients were arrested for crimes such as homicide and rape. In the past as well as in the present, the HA patient was far more likely than the LA patient to have abused any or all of the following substances: alcohol, marijuana, and other drugs including angel dust, barbiturates, cocaine and heroin. In fact, alcohol and marijuana abuse were almost ubiquitous among the HA patients, whereas 27% of the LAs did not abuse alcohol and 93% did not abuse other drugs.

Comparison of Results with Previous Research

The literature which directly addresses the childhood precursors of adult violent behavior in schizophrenic in-patient populations is quite sparse. In fact, no single test or battery of tests was successful in predicting or even postdicting violent behavior in non-psychotic populations (Megargee, 1970). Overall, the results were consonant with the prior literature. In one study that was comparable to this one in that precursors of aggressive behavior were studied, albeit predictively, Lefkowitz et al. (1977) using peer, parent and self ratings to measure aggression in school children showed that aggression at age 8 was the best predictor of aggression at age 19.

In my sample, starting at the age of 7, not only did the HA patient argue with his mother and stepfather more than did his LA counterparts, but he also became physically more aggressive with his friends than did the LA patients. This aggressive behavior expanded during adolescence when the HAs argued more extensively with their often absent fathers and engaged in physical altercations with their stepfather or stepfather surrogates as well as with their friends. In contradistinction the LAs as children, adolescents, and as adults were simply not as assaultive. A similar result was noted by Justice et al. (1974) who found that fighting and an inability to get along with others were behaviors that consistently appeared in the childhood of non-psychotic adults who exhibit violent behavior.

In contrast to the studies cited above, Monahan's (1981) study suggested that rather than the age of onset of violent behavior, the most important predictor of future adult violence was any history of prior violence at any age. The present results strongly supported the importance of a history of prior violence in the continuation of violence in patients. Those patients who were violent or agitated upon admission continued to be the most assaultive throughout their hospital stay. Similarly, the HA patient had a significantly higher number of previous arrests than his LA counterpart, and his arrests were for more serious, violent crimes.

The results cannot speak directly to the frequently cited study of Hellman and Blackman (1966), who noted that the triad of childhood behaviors of bedwetting, firesetting, and cruelty to animals were often found in aggressive adult criminals. However, anecdotal evident supports the increased frequency of bedwetting and firesetting in the present behavior of the HA as opposed to the LA patients. Although it was not inquired into directly, enough anecdotal information was volunteered by the patients' families to make it a worthwhile avenue to pursue in future research.

Instinctual and Drive Theories

The instinctual theories of aggression, with their reliance on the belief in an internally generated energy that builds up and must be discharged or the organism will suffer unpleasure, are extremely difficult to operationalize and test in human organisms, and hence, have generated little empirical research. In contrast, drive theories, particularly the frustration aggression hypothesis first stated by Dollard and his coworkers at Yale in 1939, have inspired numerous empirical studies. In their original, unqualified statement, the authors suggested that frustration always leads to aggression; frustration being operationally defined as an interference with an instigated goal response. Later writers, particularly Berkowitz (1969) found the simplicity of the Dollard et al. hypothesis to be

somewhat misleading and proposed the modification that situational cues may provoke or facilitate aggressive behavior, although he too felt that frustration is central to the occurrence of aggression as it produces an externally elicited drive state. A number of findings supported the frustration aggression hypothesis, in that the HA patients tended to have more difficult life situations. More specifically, the HA patient was less likely to have the support of a spouse or friends than the LA patient. The HA was more likely to have made the highly stressful move from the South to the North, and he was more likely to have had a close family member hospitalized in a psychiatric setting.

Social Learning Model

The social learning model of aggression purports that aggression is one form of learned behavior, which, like other behavioral repertoires, are acquired through the positive reinforcement of past (aggressive) actions. Thus the important source of aggression is not a drive state (either endogenous, or elicited by external conditions) but rather aggression is seen as being caused by the environment, and instigated by social conditions.

One influential form of social learning theory is modeling which was first proposed by Albert Bandura. In 1961, Bandura et al. noted that children who watched an adult in stylized aggressive play with a Bobo doll were more

likely to imitate the adult's behavior and act in a violent manner toward the doll than children who had only observed the adult play quietly with some other toys. Later studies tended to refine Bandura, Ross, and Ross's original hypothesis, citing such additional factors as the attraction of the aggressive model to the subject, as well as the form and quality of the observed aggression.

In this sample, there was ample evidence that aggressive models played an important part in the experience of the HA patients. Compared to the mother of the LA patient, the mother of the HA patient argued more frequently with him. With her husband or boyfriend, the arguments tended to erupt into physical violence significantly more often than in the families of the LA patients. The mother of the HA patient often returned her husband's or boyfriend's abuse with violence of her own.

From the age of 7 through his adolescence, the HA patient was reported to feel closest to no one. Relationships with friends were tenuous at best, and tended to be infused with aggressive overtones which frequently erupted into violence throughout his childhood and adolescence.

In addition to unemployment being stressful, work environments can function as another source of positive role models. Here too, the experience of the HA patient was sorely deficient. In adulthood, the HA patient worked significantly fewer total months than the LA patients. In

fact, the HA patients had worked an average of just under six months, suggesting they were virtually unemployed. Age alone does not account for the differences between the groups.

In a salient study, Hicks (1965) found that a peer model initially produced the greatest amount of imitative aggression. In our sample, the LA patients tended to get along best with their sisters (who would be the least likely family member to provide an aggressive role model), while the HA patients preferred to affiliate with the more aggressive models that their older brothers provided. However, as Hicks noted, after a six month hiatus, upon re-evaluation an adult male model had the most enduring effect on subsequent aggression. From the age of 7 onward, the HA patient's stepfather or stepfather figure was more likely to abuse him than the comparable person in the life of the LA patient. Like the families of the nondelinquent boys studied by McCord et al. (1961), such factors as parental attack, threats and poor parental control over the patient's aggression were obvious influences on the degree and expression of adult aggressive behavior in the population we studied.

Bryan and Schwartz (1971) and Bandura et al. (1963) have noted the ability of filmed aggression to elicit imitative violent behavior. In this study as well, the HA patients had in the past selected more aggressive television

programs significantly more often than their LA counterparts.

A major factor which discriminated the HA from the LA patient was the extensive involvement of the HA patient in substance abuse. Both in the past and in the present the HA patient tended to abuse marijuana, alcohol and other substances such as angel dust, barbiturates, cocaine and heroin significantly more often than the LA patient. One possibility suggested by these findings is that the subculture of deviance in which the HA patients become involved through their drug abuse, also fails to provide the necessary positive role models which might buffer tendencies to aggressive behavior. In addition, the disinhibiting effects secondary to substance abuse probably contribute to incidences of violence.

The present study examined the relevance of the frustration aggression and the social learning hypotheses to historical, biological and clinical variables and could not provide a critical test of these theoretical models. The results suggest that the two theories, while conceptually quite distinct, are difficult to separate in terms of their empirical consequences. In all likelihood, an aggressive action is likely to be multiply determined, and reflect both the effects of learning, imitation and previous reward systems as well as function as a response to cumulative or immediate frustrations. Simply put, one cannot in practice

distinguish the aggression that follows frustration from that which is a consequence of social learning. This is one possible interpretation of Berkowitz's (1969) attempted modification of the frustration aggression hypothesis to include the importance of situational cues which may provoke aggressive behavior. While Berkowitz implies that the interference with a goal directed response will always facilitate an aggressive response, whether or not a behavioral response occurs at all, or if it does, what form it will take must depend on prior social learning and modeling. Clearly, even in the laboratory setting, it has been difficult to consistently replicate studies which purport to test the frustration aggression hypothesis in isolation (see Berkowitz and Le Page, 1967; Page and Scheidt, 1971; Buss et al, 1972).

Limitations of the Data Set

There are certain confounding factors which limit the applicability of the results obtained. The age of the subject is the most prominent as it interacts with issues of the chronicity of illness as well as with specific variables found to be significant in our data. Schizophrenia as an illness is characterized by recurrent episodes and in some patients, a tendency towards a chronic deterioration of cognitive functioning as well as a blunting of affect. In this sample, the mean age of the HA patients was 23.1

years and the mean age of the LA patient was 28.1 years ($p < .001$). Thus the HA patients may have been in the more disturbed phase of their illness, and they responded violently because of the relatively early stage of their psychotic symptomatology, in addition to greater frustration and the negative events of their cumulative life histories. The extent to which differences between groups for variables such as marital status and months employed would have been diminished when the HA patients had lived for as long as the LA group.

Arguing against the hypothesis that age would be the underlying explanatory factor was the finding that the HA patients had a more extensive history of arrests. If age were linearly related to the number of arrests, with increasing age there would be a comparative increase in the number of arrests. However, the HA patients at their younger age levels already had greater and more serious arrest records.

An interesting observation emerged from the method of data collection. Essentially, the data were based on responses of family members during a telephone interview about the patient. The families of the LA patients were far more cooperative, not only in volunteering anecdotal information about the ptient, but in scheduling and participating in the interviews as well. One hypothesis is that the families of the HA patients felt that they had more to hide

or about which to feel embarrassed. However, the HA's families reluctantly but eventually volunteered distressing information, i.e., the amount of interfamilial violence, extent of perceived drug abuse and the history of past arrests. This suggested that overall the families of the HA patients were providing information that was relatively free of social desirability response bias. On the other hand, it is open to speculation as to whether the HAs' families exaggerated the patients' behavior in an attempt to thwart an early discharge. Additionally, it is possible that the frustrating and withholding style which was demonstrated by the families of the HA patients in the telephone interview was similar in many respects to the manner in which they treated the patient. It was clearly more difficult to form an alliance with the HA family, thus complicating any subsequent treatment.

Conclusions and Suggestions for Future Research

While the study did identify a number of salient characteristics of the HA patient, I focused primarily on historical antecedents to present violent behavior. However, the ward milieu also asserts a powerful influence on the frequency and intensity of expressed aggression during the hospital course.

On the ward where the present study was conducted, several factors combined to create an atmosphere of chaos

with a highly explosive potential. The ward was designed to accommodate half the number of patients who resided on it. It was perenially understaffed; the professional staff consisted of a part time psychiatrist, a four-fifths time psychologist and one full time social worker who were expected to treat 52 patients.

Although the patient population of the ward was almost entirely black, the professional staff was predominantly white. The M.H.T.A.s, who were all black, were subjected to mandatory overtime and were expected not only to minister to the patients but were responsible for cleaning the entire ward and its bathroom as well.

No recreational facilities were present on the ward and an occupational therapist visited sporadically to drop off a supply of crayons and paper. The majority of the day was unstructured apart from mealtimes and the dispensing of medication. Patients were afforded privacy neither during the daytime hours when they were housed in a large dayroom, nor at night when they slept in a dormitory. There was no seclusion room to isolate those patients who were in poor behavioral control. The television typically played at peak volume in competition with a number of large portable radios tuned in to different stations. There were not enough chairs or couches to sit on so that patients were left little recourse but to sit and sleep on the floor. The building in which the ward was housed was nearly a century

old and had frequent heating and plumbing problems. During the winter months, patients often complained of being provided with an inadequate number of blankets. During the summer months, the fans that were provided by the hospital were stolen from the ward, a fact that becomes a more serious issue when one considers the heightened thermal sensitivity of patients on neuroleptic medications. Patients were not provided with appropriate street clothing, and there was a scarcity of such items as sheets, towels, toilet paper and paper towels.

Aside from the purely environmental factors which affected the milieu in a deleterious manner, the staffing patterns were problematic. Not only did the entire ward staff feel overwhelmed by the sheer bulk of their responsibilities, but they also felt hopeless about the ward conditions. While the professional staff turnover was fairly frequent, the M.H.T.A.s saw their jobs as a lifetime commitment under dangerous conditions. They were seen as the front line of defense against violent patients. However, little specific training was offered in management of the aggressive patients. The recommended way to contain an aggressive patient is to have a least four staff members, each of whom can control one limb. This would have involved using the entire M.H.T.A. staff which included on most days, two older women with physical limitations. Controlling a violent patient often meant a one to one confrontation with

an isolated staff member, or, more commonly, that no one interceded in violent incidents between patients or groups of patients. Staff members did try to offer each other support in controlling the patients, and would come to each other's aid in verbal confrontations. However, they often inadvertently escalated a dangerous situation by increasingly provoking a misbehaving patient.

From the perspective of the frustration aggression and the social learning hypotheses, ward conditions were likely to foster violence. Day to day life on the ward was both frustrating and stressful with ample opportunities for the observation of aggressive role models. There is, however, a body of literature which addresses the appropriate structuring and staffing of wards so that violent behavior can be minimized and contained. Brailsford and Stevenson (1973) suggest upgrading conditions by lowering the census and improving the ward design. In addition, they note that "overly authoritarian" staff attitudes can precipitate violent acting out. Incidents in which nonprofessional staff, feeling threatened by their small number and lack of practical authority, behaved in a provocatively dictatorial manner toward the patients. Similarly, Madden (1983) discussed how economic factors within an institution played a role in assaultive behavior. He noted that poorly trained and underrepresented staff do not have the self confidence to safeguard their own physical well being. Levy and

Hartocollis (1976) found that in a private hospital setting, male M.H.T.A.s were often used as instruments of confrontation, heightening the potential for assaultive situations. Paradoxically, Levy and Hartocollis also noted that the least assaultive incidents occurred on a ward that was completely staffed by women, who they felt were more able to defuse potentially explosive situations in a diplomatic manner.

Depp (1983), in a study of staff "burnout," described how when a staff was pessimistic about change or expressed hopelessness, they failed to negatively sanction assaultive behavior. This failure is underscored by Fortrell, Bewley, and Squizzoni (1978) who observed that most aggression on a ward is instigated by a hard core group of patients. For other potentially less violent individuals, they serve as aggressive role models. Hence any failure to contain and control this core group can increase the potential for violent acting out. On the ward where this study took place, not only were violent incidents accepted as a vicissitude of ward life, the absence of a seclusion room necessitated that those patients who were sanctioned were not afforded the opportunity to calm down privately. In addition, the sight of camisoled patients in the dayroom acted as a potentially incendiary force for the other patients. Soloff (1983) has discussed the beneficial effects of seclusion on both the milieu and on the individual whose aggressive behavior required containment.

Carter and Jordan (1972) in dealing with a population that most closely approximates the one in this study discuss the need for group therapy to focus on the dilemma of being black while functioning in a primarily white society. Their implication is that the therapist must familiarize himself with the cultural and social values of the black patient in order to be most effective. On our ward, the professional staff was white. Although the focus of the ward was on discharge planning, what therapy was offered tended to be supportive or analytically oriented, approaches which Carter and Jordan found less effective than their behaviorally oriented approach.

Rogers, Civla, and Cavanaugh (1980) found that assaultive patients benefitted from frequent physical activity which helped them displace their inner tensions. Systematic occupational or recreational therapy should be provided on the ward to help these patients discharge their considerable energy.

In summary, in planning a ward environment that is optimally suited to the treatment of aggressize schizophrenic patients both the frustration aggression hypothesis and social learning theories provide valuable guidelines. It is clear from these findings and from the above research that an ideal ward would minimize frustrating environmental factors and provide staff who would act as benevolent and beneficial role models with whom the patients could

identify. Activities would be provided within a highly structured framework for the appropriate discharge of tension.

The present study identified life history factors which correlated with adult violent behaviors. A beneficial route of inquiry for further study would be the longitudinal study of such patients. How long do the violent behaviors persist, or do they decline with age? Do similar correlates exist in female patients? In addition, this study examined the childhood correlates of violent behavior in male schizophrenics only. It would be useful to investigate variables which play a role in female schizophrenics or if different dynamic configurations were predominant.

APPENDIX A

Interview Questions and Associated Theories: Frustration Aggression (FA), Social Learning (SL) and Clinical Variables (Cl)

Demographic and Clinical Variables

FA	Where was the patient born?
FA	Marital Status
FA	Close family members ever hospitalized?
SL	Age
SL	Living arrangements prior to admission
SL	Height
SL	Weight
Cl	Level of agitation on admission
Cl	Length of present hospitalization
Cl	Total number of psychiatric admissions
Cl	Total number of months in hospital
FA/SL	Education--highest grade completed
FA/SL	Employment--total number of months worked

Family Background Variables

FA	Maternal age at patient's birth
FA	Was patient's mother married to patient's father?
FA	Is patient's mother currently married to patient's father?
SL	Which sibling did patient get along with best?
FA/SL	Who was patient named after?

Antisocial Variables

SL Did mother's husband or boyfriend hit her?

SL Did mother hit husband or boyfriend?

SL Did patient select aggressive or nonaggressive television programs?

FA/SL How old was patient at time of first arrest?

SL/Cl How frequently in the past and at present does patient abuse (a) marijuana, (b) alcohol, (c) other drugs?

Issues of Discipline During Early Childhood (Birth to 6)

FA/SL Did (a) father, (b) mother, (c) stepfather hit or beat patient?

Issues of Discipline During Middle Childhood (7 to 12)

FA/SL Did (a) father, (b) mother, (c) stepfather hit or beat patient?

FA/SL Did patient argue with (a) father, (b) mother, (c) stepfather?

Issues of Discipline During Adolescence

FA/SL Did (a) father, (b) mother, (c) stepfather hit or beat patient?

FA/SL Did patient argue with (a) father, (b) mother, (c) stepfather?

Domestic Stability During Early Childhood (Birth to 6)

FA/SL How often did father have personal contact with patient?

FA/SL To whom did patient feel closest?

Domestic Stability of Middle Childhood

FA/SL How often did father have personal contact with patient?

FA/SL To whom did patient feel closest?

Domestic Stability During Adolescence

FA/SL How often did father have personal contact with patient?

FA/SL To whom did patient feel closest?

Issues of Aggression During Middle Childhood

SL Did patient hit or fight with (a) father, (b) mother, (c) stepfather, (d) friend?

Issues of Aggression During Adolescence

SL Did patient hit or fight with (a) father, (b) mother, (c) stepfather, (d) friend?

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