

BARROOM AGGRESSION

by

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ABSTRACT

Two-person teams of observers spent a total of 633 hours in systematic and unobtrusive observation of barroom aggression in 185 lounges, beer parlors, pubs, and legions in the Vancouver area. Details of the 160 incidents of aggression witnessed by observers were recorded. Also, characteristics of the physical environment, the social environment, and the clientele were recorded for each of the 303 observational periods (2 - 2 1/2 hours each).

Situational variables which correlated significantly with aggression ($r > .19$, $n = 303$, $p < .0005$) included: state of intoxication and race of patrons, length of time patrons stayed in the drinking establishment, ventilation, decor, noise level, activities going on, location of establishment, decorum, theme, cleanliness of the establishment, expensiveness and maintainance of the furnishings, pleasantness of physical surroundings, seating layout, atmosphere, kind of laughter, kind of talk, rate of drinking, amount of movement in the establishment, the presence of people talking to themselves, and kind of entertainment.

Stepwise regression indicated that the variables recorded in the study were able to account for over half of the variance in predicting overall frequency of aggression (adjusted multiple $R = .77$ with 38 predictors selected by forward inclusion, SPSS7).

Since variables were highly inter-correlated, a principle component analysis was performed. A three factor solution with normal varimax rotation produced a factor which identified a particularly aggressive drinking milieu ($r = .59$): This milieu was characterized by the following: very permissive decorum expectations, unpleasant, unclean and inexpensive physical surroundings, a higher proportion of native Indian patrons and a lower proportion of Caucasian patrons than in most bars, a hostile atmosphere, the presence of a noticeable number of people talking to themselves; and to a lesser extent, poor ventilation, downtown location, shabby decor, tables in rows (beer parlor style), no theme to the decor, unfriendly barworkers and a higher proportion of patrons over 50 years old than in other bars. Over half of the incidents of aggression occurred during the 41 observational periods which scored high (1 standard score or higher) on this factor.

The implications of these findings for theories and research of alcohol-related aggression are discussed.

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CHAPTER 1: INTRODUCTION

Alcohol-related aggression is a social behavior which occurs within a social-ecological context. Studies which ignore this context are of doubtful external validity; yet, much of the theories and explanations concerning the relationship between alcohol and aggression have been developed on the basis of research which either ignores the social drinking context, attends to only one aspect of this context, or considers the context in general rather than specific terms.

In this report, the basic premises of theories of alcohol-related aggression are described and evidence relating alcohol and aggression is reviewed. The research undertaken for this project is described in detail, including the methodology employed for studying naturally occurring barroom aggression, the situational variables which were recorded in order to evaluate the context of barroom aggression, and the results obtained from these efforts. Finally, the theories and previous research are re-examined in the light of these observational findings and directions for future research suggested.

THEORIES OF ALCOHOL-RELATED AGGRESSION

Theories of when and why alcohol consumption leads to aggression are prolific. Based on the assumption that a greater than chance relationship exists between alcohol consumption and aggressive behavior, many theorists have sought to explain this relationship. In the following section the various solutions to the alcohol-aggression problem have been grouped into four classifications according to the role assigned to alcohol. The first classification suggests that alcohol directly creates or unleashes aggression. Although this model has been expressed in a variety of ways, it has been considered one theoretical approach

In the second classification, are theories which emerged from research examining the characteristics of the overall intoxicated state. Increased aggression was hypothesized on the basis of one or several attributes of this state. For example, alcohol induced changes in thinking may cause people to be less able to deal with potentially violent situations or may lead to more reckless behavior including aggression. Input processing may change with intoxication and this change may result in neutral situations appearing more offensive and thereby inviting aggressive reactions. Finally, alcohol causes physiological changes which may make the intoxicated person more vulnerable to

violent reactions in some situations. These approaches have been classed as indirect-cause theories: causal in that alcohol consumption leads to increased aggression but indirect in that the relationship between alcohol and aggression is mediated by some psychological or physiological change caused by the alcohol consumption.

The models which depend on the individual's motives for drinking form the third classification. Over the past three decades the controversy over why people drink has converged into three major theories: the anxiety reduction theory with Horton's classic study (1943) as the starting point; the dependency-conflict theory, stemming from the work of Child et al. (1965); and more recently, the power concerns theory (McClelland et al., 1972). The anxiety reduction hypothesis and the power concerns theory are often included in explanations of alcohol-related aggression. These approaches properly belong with the indirect-cause theories, but because they often refer to the effects of the motive for drinking as well as the effects of actual consumption of alcohol on aggression, they have been considered separately.

In a fourth classification, theories will be discussed which attribute no causal role to the consumption of alcohol in the occurrence of aggression in drinking situations.

I. The Direct-Cause Paradigm

Disinhibition Theory

The theory of disinhibition is the major theory which asserts a direct causal relationship between alcohol consumption and aggressive behavior. The basic premise is that since people act less inhibited when they drink, alcohol must be having an anaesthetizing effect on "inhibition centres" in the brain whose functions include the control of socially unacceptable behaviors, for example, aggression.

One colorful example of this theory was given by a Canadian Temperance advocate:

Thus we name the order of the brain's development as follows:

1. Heart centres
2. Lung centres
3. Locomotion
4. Knowledge
5. Inhibitory, self-control or moral centres

... but the later cells are finer and more delicate. They are, therefore, more susceptible to the influence of the poison. Alcohol attacks, first of all, the crown of our education. The last thing learned will be the first to go, and it will be, for the time being, as though the individual had never possessed that particular knowledge. (McCorkindale, 1926, p. 65, pp. 67-68)

According to Pernanen (1976, p. 393):

The prevalence of the disinhibition concept and more or less equivalent concepts in the explanation of the behavioral effects of alcohol is very high. Alcohol is labeled as an agent that "weakens inhibitions" (Fitzpatrick, 1974; Roebuck and Johnson, 1961); "weakens self-control" (MacDonald, 1961); "releases inhibitions" (Shuntich and Taylor, 1972); "liberates impulses and emotion which are normally under control" (Hopwood and Milner, 1940); "liberates deep features of the personality" and consequently "awakens aggressive tendencies" (Medina, 1970). It "reduces inhibitions and self-control", and leads to a "loss of inhibitory capacity and subsequent unleashing of personal predilections" (Hopwood and Milner, 1940); and it has a "disinhibitory effect" (Scott, 1968). It is known as a "disinhibiting, aggression-provoking substance" (Brill, 1970), and "as a trigger of violence" (Blumer, 1973). Its pharmacological role is described as that of "releasing aggression, removing inhibitions, etc." (Glatt, 1965).

The disinhibition theory has longstanding popularity and only in recent years have authors become critical of it as an explanation for alcohol-related aggression. While "disinhibited" behavior is frequently observed in drinking situations, there are weaknesses with this explanatory model. Disinhibition is not the universal outcome of alcohol consumption (MacAndrew and Edgerton, 1969). Furthermore, the disinhibition concept is used to describe such a wide variety of behaviors that it is essentially a meaningless explanation of alcohol-related aggression. A theory relating alcohol and aggression needs to be complex enough to be able to predict when and where aggression is likely to appear. The disinhibition model, by itself, cannot meet this criterion.

II. The Indirect-Cause Paradigm

Explanations of the alcohol-aggression relationship have emerged from research on other aspects of the intoxicated state. The general notion is that alcohol consumption leads to psychological or physiological changes and that these changes may increase the probability of aggression. Support for these types of theories requires evidence of two sorts: (1) that the intoxicated state actually results in the predicted change or changes and (2) that these changes are directly related to aggression.

A. Changes in Thinking

1. Less complicated individual with fewer coping mechanisms

Two similar changes in thinking have been described and suggested as responsible for increased aggression. Both theories contend that alcohol consumption leads to impairment in thinking ability which in turn makes the individual less able to handle potentially violent situations in a non-aggressive way.

Washburne (1961) suggests that:

The complex patterns dealing with frustration often involve verbal activity (symbolic activity strongly affected by alcohol); when people regress, they may deal with the frustration by using physical aggression. Instead of attributing aggressive acts to the breaking through of inhibited uncivilized impulses, drinking is viewed as bringing to the fore a less complicated individual who cannot deal with frustration on the same level as when he is sober. (p. 264)

More specifically, according to Pernanen, alcohol, by impairing intellectual functioning, reduces the number of coping mechanisms available to the individual. In some situations this reduction in coping mechanisms may contribute to the escalation of violence:

The more alternative coping devices provided by the culture in situations where aggression is displayed, be they in the form of retreats or redefinitions, the less is the risk of escalation into violence of initial aggressive acts (acts interpreted as aggression). Due to psychological effects of alcohol, it seems likely that coping devices that require an abstract conceptual command of the situations will have a smaller probability of occurring when the individual is intoxicated (see Tarter et al., 1971; and Kastl, 1969). Thus the number of coping mechanisms available probably decreases during a state of intoxication. (p. 412-413)

Although alcohol has been found to have some adverse effects on thinking, the evidence is not consistent. Some research has found no detrimental effect from alcohol on intellectual functioning (Caird et al., 1960, Lienert, 1961; Vodel-Sprott, 1967; Lewis et al., 1970). Other research has found that the effects vary according to dose (Carpenter et al., 1961), time of day (Jones, 1972), and type of task (Frankenhauser et al., 1962; Kastl, 1969; Jones and Vega, 1972). The bulk of the evidence favours some impairment to at least some aspects of intellectual functioning, particularly at higher doses (Goldberg, 1943; Sargent et al., 1945; Hutchison et al., 1964; Kelly et al., 1970; Tarter et al., 1971; Parker et al., 1974; Franks et al., 1976), but impairment is usually slight.

Studies have found regression of thinking to an earlier style (Lienert, 1961; Katkin et al., 1970) supporting Washburne's notion of the "less complicated individual" but again there have been contrary findings: "No shifts to primary process mode of thought were found in intoxicated subjects" (Kastl, 1969, p. 381). Finally, the detrimental effect of alcohol on verbal fluency which has been found (Hartocollis & Johnson, 1956) lends some support to the theory of a reduction in coping devices. Nevertheless, this hypothesized reduction needs to be empirically tested. Furthermore, even were it shown that intoxicated individuals had access to fewer coping mechanisms, it would need to be shown that this reduction is at least random (resulting in less choice of both aggressive and non-aggressive coping mechanisms). A case could be argued that alcohol reduces coping mechanisms but that the ones typically left to the intoxicated person tend to be placatory and passive in nature.

2. Risk taking

Experiments on risk taking have found that alcohol results in a less accurate assessment of risks involved in a particular situation and even when the objective probabilities are clear, alcohol results in an increased willingness to take risks (Cohen et al., 1958; Gruner et al., 1973; Teger et al. 1969). This change in thinking which leads to less cautious behavior may increase the probability of aggression. The manner in which a change in the willingness to take risks contributes to alcohol-related aggression has not yet been established.

B. Changes in input processing

It has been hypothesized that alcohol consumption affects the way an individual interprets the environment and that this biasing of interpretation may make aggression more probable. Washburne has identified two characteristics of the intoxicated state which reflect processing changes and which he suggests may be related to aggression: reduced awareness and increased orientation to the present. Pernanen's approach is similar but more specific and Pernanen has combined these changes in thinking and processing into an explanatory model.

1. Reduced awareness

(a) Dissociated self

Alcohol has a tendency to reduce awareness. In affecting the higher centers of the brain, it reduces sensitivity to stimuli, including the stimuli arising from one's own behavior: the individual becomes less and less aware of his environment and his own behavior in it. It is under these conditions that dissociated behavior can more readily occur. The individual may engage in behavior which would threaten his security system as maintained by the self, but he does not have sufficient awareness to make note of the behavior and control it. (Washburne, 1956, p. 113)

(b) Reduction in cues

Pernanen hypothesizes that one attribute of this decreased awareness would be a reduction in the cues which help the individual interpret a situation. He points out two consequences of this reduction in cues and the implications for aggression:

(i) with fewer cues, "the interpretation of the actions or remarks of other individuals will be determined by chance to a much larger extent than in comparative sober situations" (p. 414-415); and

(ii) Pastore (1952), Buss (1963), and Epstein and Taylor (1967) have showed that aggression that is seen as arbitrary, as being the result of the whim of the aggressor, elicits more aggression than aggression that can be attributed to an acceptable cause or reason. Due to the narrowing of the perceptual field, we can assume that the probability for two individuals to see overlapping cues as relevant in the situation will be less than in a sober situation (this is strictly statistical reasoning). Thus, the one will more likely fail to see a justification for the other person's action. Consequently, the action of the other person will seem more arbitrary and will thus evoke more aggression, which again has a higher probability of seeming arbitrary, and thus the probability of escalation into physical violence is successively increased over the comparable probabilities in a sober situation (p. 415).

There is evidence that alcohol impairs central processing (Moskowitz and Sharma, 1974) and that one of the consequences of this may be reduced awareness of stimuli. Erwin et al. (1978) showed clear impairment from alcohol on vigilance performance for visual signals. It appears likely that a similar impairment for social signals may result from drinking. This hypothesized relationship between alcohol-caused reduced awareness and aggressive behavior awaits empirical validation.

2. Narrowing of time dimension - restriction to the present

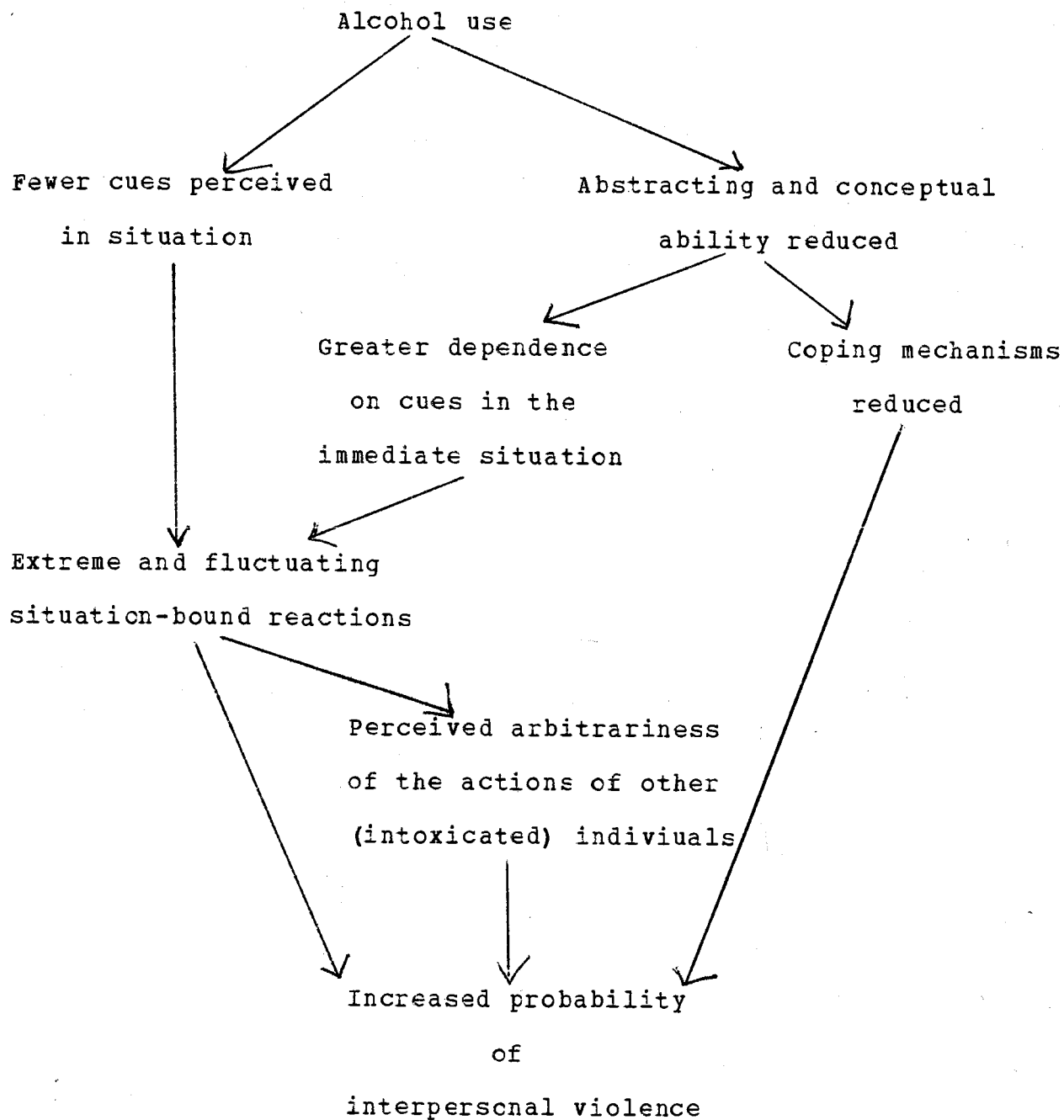
A third theory suggested by Washburne is that drinking is characterized by an orientation to the here and now and that this orientation may cause aggression:

It is this restriction to the present which is probably responsible for a large part of what appears to be antisocial behavior in connection with drinking. It can be the result of a lack of forethought: a failure to project oneself into future situations. (1956, p. 120)

The possible narrowing of the time dimension with alcohol consumption and its ramifications for drinking aggression has apparently not been the topic of any research.

Pernanen combined these theories of changes in thinking and processing into an explanatory model of drinking aggression:

Table I: Factors in the use of alcohol leading to an increased probability of interpersonal violence (Pernanen, p. 416)



C. Physiological Changes

Certain physiological effects of alcohol, both immediate and long-term, have been cited to explain part of the alcohol-aggression relationship.

1. Long-term effects

Long-term habitual consumption of large quantities of alcohol can cause brain damage, disruption of REM sleep, and may lead to poor eating habits and, subsequently, hypoglycemia. Aside from the alcohol factor, research on these physiological effects has found them to be related to aggression (Pernanen). Their importance as factors in alcohol-related aggression has not been determined.

2. Immediate effects

Boyatzis (1977) suggests that the physiological effects of alcohol are similar to physiological processes which occur preceding and during aggression: "The three aspects of human physiological functioning in which these similarities appear are the endocrine system, the central nervous system (CNS), and motor functioning." (p. 348)

It seems that the physiological effects of alcohol are complex and variable, having both sedative and arousing qualities (Wallgren and Barry III, 1970). Naitoh (1972) states:

Psychophysiology has found that alcohol effects depend on many factors: physical condition; the affective, cognitive and perceptual characteristics of the drinker; and the physical, social, and ethnic environment in which alcohol drinking takes place. (p. 422)

Since the experience and interpretation by the individual of the physiological changes caused by alcohol depend on a host of other factors, it is difficult to assess the importance of physiological changes in contributing to alcohol-related aggression.

D. Emotional Changes

1. Pharmacologically induced emotional plasticity

It has been suggested that the physiological effects of alcohol and the interpretation of these effects may influence behavior in a manner similar to that demonstrated by Schacter with epinephrine (Pliner and Cappell, 1974; Boyatzis, 1977):

In this view, no drug has invariable consequences for many behaviors, especially social-affective ones; rather, the pharmacological action induces a state of plasticity in which the organism responds more strongly than usual to the prevailing cognitive and social environment. (Pliner and Cappell, p. 418)

Using a single setting variable (the presence or absence of others), Pliner and Cappell found that:

Subjects who were intoxicated in groups responded to their pharmacological state as a change in affect and not as a set of physical symptoms. For subjects who drank alone, the situation was reversed; identical blood alcohol levels produced a state which was subjectively experienced not as affect but as physical symptomatology...The manipulation was completely without effect when placebo was consumed. (p. 423)

The most obvious implication for drinking aggression from this research is that unpleasant situations would have a much greater impact when participants have been drinking. The drinker's greater reliance on the situational context to interpret body sensations could mean a greater overall probability of aggression. How much of alcohol-related aggression can be explained by this model is yet to be determined. Certainly, some emotional lability seems to follow alcohol consumption (Bruun, 1959; Sidell and Pless, 1971).

In their research, Smith et al. (1975) found an overall increase in affective expression when alcohol was consumed:

Regardless of their scores for particular affects, most subjects showed an increase in the amount of overall affective expression (sum of all qualitative affects scores) in the low alcohol compared to placebo sessions. In addition, a majority of the subjects showed a decrease in the number of segments scored as neutral affect in the low alcohol session. Neither of these affects increased further in the high dose session; indeed, if anything, there was a trend toward leveling off or reversal. (P. 34)

Subjects in their study were tested in dyads and the increase in affective expression is behavioral confirmation of the perceived change in affect experienced by subjects in the social condition of Pliner and Cappell's study. If this increase in overall affective expression can be interpreted as an increase in emotionality in social situations, it could increase the probability of aggression in at least two ways: first, by an increase in emotional responding by a drinker, and second, by an increase in emotional provocation by one drinker to other drinkers. Support for this theory has been found by Virkkunen in his analysis of alcohol and homicide:

Alcohol was associated with those cases where such aggressive and quarrelling behavior had preceded the crime more often than with the cases where aggressiveness and quarrelling had not preceded the criminal act. Statistically the difference was almost significant ($p < .05$). (1974, p. 151)

This model of alcohol-induced emotional plasticity indicates that the social context in which alcohol is consumed may be of paramount importance in predicting aggression.

2. Additive model

Russell and Mehrabian (1975) have also indicated the importance of set and setting in predicting aggressive outcomes from drinking. Based on their model of emotion, they predict the probability of aggression using the variables of pre-drinking emotional state, aspects of the setting, and dosage of alcohol. (See Table II.)

Experimental findings on the effect of alcohol on positive and negative affect have not always been consistent (Mayfield, 1967, Hurst et al., 1969; Warren and Raynes, 1972). This may reflect the importance of considering more complex experimental designs rather than trying to fit the effects of alcohol into a simple main-effect model.

Russell and Mehrabian's model is a theoretical one based on a review of previous research. It needs to be empirically tested particularly with regard to predicting aggressive outcomes.

Table II: Emotional state resulting from the combination of setting, emotion before drinking, and a moderate or high dose of alcohol (p. 1519)

Emotional State		
<u>Before Drinking</u> (Setting + Prior Condition)	<u>After Moderate Dose</u> (Setting + Prior Condition + Alcohol)	<u>After Large Dose</u> (Setting + Prior Condition + Alcohol)
Intermediate pleasure, arousal and dominance	Mild excitement: high pleasure arousal and dominance	Relaxation: slight pleasure, low arousal and submissiveness
Moderate pleasure, arousal and dominance	Extreme excitement: very high pleasure, arousal and dominance	Happiness, i.e., high pleasure but intermediate on arousal and dominance
Displeasure, low arousal and submissive	Neutral, i.e., intermediate on all three dimensions	Depression, i.e., low pleasure, very low arousal and submissive
Displeasure, moderately high arousal and neutral on dominance	Anger, i.e., displeasure, high arousal and dominance	Fear-Anxiety, i.e., displeasure, moderate arousal and submissive
Extreme displeasure, moderate arousal and extremely submissive	Fear-Anxiety, i.e., displeasure, high arousal and some submissiveness	Depression, i.e., displeasure, low arousal and submissive

(The is a slightly condensed version of the chart by Russell & Mehrabian.)

III. Indirect Relationship Based Both on Motive for Drinking and Effects of Alcohol

Two competing, but not necessarily conflicting, theories of why people drink have been used to explain why people become aggressive when they drink.

A. Tension or Anxiety Reduction

One of the earliest major theories of drinking and aggression was proposed by Horton (1943) on the basis of his anthropological survey. In a 1945 summary of his work, he states:

In summary, then, alcohol appears to have the very important function throughout the world, in all kinds and levels of human social activity, of reducing the inevitable anxieties of human life. We find, in fact, that there is a general tendency for the amount of drinking, as measured by the degree of drunkenness obtained, to be roughly proportional to the strength of the dangers threatening the society. (p. 161);

and:

We have said that alcohol reduces anxiety and that anxiety is a signal of danger, that it is a response to danger of some kind. But some of the dangers to which men learn to respond with anxiety are internal dangers, dangers within themselves. That is to say, over and above the dangers involved in the threats from external enemies or failure of the food supply, there are also dangers which take the form of antisocial impulses within the individual himself. (p. 163)

The alcohol caused reduction in anxiety is perceived by Horton as serving a kind of cathartic function:

It was reported in Section V that in many societies drinking is accompanied by outbreaks of aggression which, in some cases, are extremely violent, and there is some evidence that in a number of societies this aggression is not severely punished. It was suggested that the drinking bout, in these instances, may be the occasion for a periodic catharsis of in-group aggression. This observation suggests the hypothesis that in many primitive societies the strength of the aggressive responses sequent to drinking is determined directly by the relative strengths of the anxiety drive that motivates drinking and the repressed aggressive impulse; the postulated counteranxiety is low and ineffective in these cases because aggression is not socially punished. (1943, p. 282)

Although the relationship between anxiety and alcohol consumption has been the focus of a number of studies, the findings have been somewhat inconsistent. This may be due partly to the various definitions of anxiety (see Marlatt, 1976). It may, however, reflect the variability in the relationship between anxiety and alcohol consumption caused by other factors such as setting, predisposition, and cultural norms. When anxiety was created by insult or by impending social evaluation the amount of alcohol consumed increased (Marlatt et al., 1975; Higgins and Marlatt, 1975); when threat of shock was used to create anxiety, no increase in consumption was observed (Higgins and Marlatt, 1973); and Holroyd (1978) found that socially anxious subjects and subjects made anxious by negative social evaluation consumed

significantly less beer than non-anxious subjects. Williams (1966), using an adjective check list, found that problem drinking was associated with anxiety and depression; on the other hand, in an analysis of folk tales, McClelland et al. (1972) found that in cultures where folk tales express more anxiety, people drink less, not more.

Nor have the findings of the actual effects of alcohol on anxiety been more consistent. In their study of three conditions of alcohol intake, Warren and Raynes (1972) found a decrease in Tension-Anxiety as measured by a mood scale. Greenberg and Carpenter (1957) observed decreased GSR readings with alcohol consumption.

With college males, Williams found that:

Anxiety and depression decreased significantly at low levels of alcohol consumption (from 4-6 oz., generally). At 8oz. and above, these changes were reversed, as anxiety and depression increased, rising nearly to base-line (preparty) levels. Problem drinkers neither increased nor decreased more than nonproblem drinkers on these variables. (p. 689)

In a recent study, Dengerink and Fagan give the following results:

The present study found that alcohol consumption results in sustained high levels of anxiety (self-report), has no effect on a behavioral measure of anxiety (the choice of immediate or delayed shock), increases levels of emotional arousal (heart rate) and increases responsiveness (skin conductance level and response to aversive stimulation). That is, in a stressful situation alcohol may facilitate rather than inhibit emotional processes. (1977, p. 535)

On the basis of these various research findings, several hypotheses relating alcohol, anxiety and aggression are possible:

1. alcohol decreases anxiety and thereby increases aggression by freeing less socialized impulses;
2. alcohol decreases anxiety making people more relaxed and less likely to become aggressive;
3. alcohol increases anxiety and increases the likelihood of stress-related aggression;
4. alcohol both increases and decreases anxiety and any or all of the above effects are possible.

Some inconsistency in research findings on this topic may be due to the fact that anxiety and aggression are both abstract concepts requiring operational definitions for research purposes. Slight changes in the operational definitions may completely reverse the results. Furthermore, both anxiety and aggression, because of their social nature, are easily affected by small changes in the situation (as Dengerink and Fagan acknowledge). To truly evaluate the alcohol-anxiety-aggression relationship, it will be necessary to investigate different kinds of anxiety, different kinds of aggression, and different kinds of drinking situations. It is evident that most of the operational definitions thus far employed will not always generalize and the relationship between drinking, anxiety, and aggression has not been clearly established.

B. Power Concerns

McClelland and his associates have formulated an explanation for drinking-aggression which incorporates predispositional variables and motives for drinking: power concerns may motivate drinking; alcohol acts to increase power concerns; concerns about power increase the probability of aggression.

According to Winter: "From these data we also suggest that drinking is a direct and first-order correlate of power concerns when these concerns are negative, threatening or fearful." (1972, p. 119). Marlatt's research on anxiety and drinking supports the notion of power concern as a motive: "that drinking will increase in situations in which the drinker feels deprived of personal control" (1976, p. 291).

McClelland et al. (1972) suggest that concerns for personal power may be both cause and effect of heavy drinking and that aggression is part of a constellation of behaviors related to concerns with personal power:

The easiest way to make sense out of all these relationships seems to be to assume that p Power has some primary action effects, one of which in particular - drinking - has some secondary effects such as momentarily increasing p Power and decreasing restraint, a combination which leads to drunkenness, car accidents, speeding, fighting, and so forth. (p. 192)

Kalin, McClelland and others (1972) have gathered together convincing evidence that with male subjects in certain kinds of settings, alcohol consumption results in an increase in power concerns (as measured by fantasy descriptions). McClelland sums up this research:

Men drink primarily to feel stronger. Those for whom personalized power is a particular concern drink more heavily. Alcohol in small amounts, in restrained social settings, and in restrained people tends to increase thoughts of social power - of having an impact on others for their own good. In larger amounts, in supportive settings and in impulsive people, it leads to an increase in thoughts of personalized power - of winning personal victories over threatening adversaries. Among younger men, particularly in appropriate settings, thoughts of personal power are often expressed in terms of sexual and aggressive conquests. (p. 334)

This relationship between power and drinking has not been found for female subjects (Wilsnack, 1972; Durand, 1975). It has also been found that this relationship may not emerge even with male subjects when the setting is one of restraint (Kalin, 1972).

Advocates of the power motive for drinking have conceptualized a relationship between alcohol and aggression which includes effects from this motive, increase in power concerns from alcohol consumption, and other behaviors which can all be considered part of a syndrome of behaviors centered around power concerns of North American males. Thus a person who is more concerned with personal power than average is also likely to be more aggressive than average and will more likely be a heavy drinker; the drinking will increase his power concerns and increase aggressiveness and increase further drinking. Boyatzis has found evidence to support this theory which links drinking, power thoughts, and aggression:

Power motive scores (obtained through a TAT early in the 'bar room' session) were significantly higher for aggressives in the alcohol conditions than subjects in other classifications. (1976, p. 282)

IV. The Relationship Between Alcohol and Aggression is a Spurious One Based on a Relationship Between Aggression and Factors Concomitant with Alcohol Consumption

A. Predisposition

Although the power-concern theory attributes some aggressiveness to the effects of alcohol, it can also be considered a special case of the predisposition theory: that people who are likely to drink are likely to be aggressive (or vice versa). Both Williams (1968) and Boyatzis (1975) suggest that there exists a subset of the population who are predisposed to aggression and for whom drinking occasions are an acceptable outlet for this aggression. Alcohol may provide an escape to a satisfying psychological state for persons who do not feel themselves integrated with society. Both suggest that in our society drinking can be particularly rewarding for less-socialized individuals, since behavioral norms are relaxed. The result of this may be that the drinking population, on average, will be less socialized than the overall population and consequently more aggressive. Williams, in his review of the research on the correlates of frequent and problem drinking (1976), concludes:

These various studies of heavy drinkers and problem drinkers in high school and college populations have produced remarkably similar findings, as well as

indicating that these groups are similar in personality to known prealcoholics. In terms of their self-descriptions and in terms of others' observations of them, prealcoholics, and youthful problem drinkers and heavy drinkers, appear to be action-oriented and exaggeratedly masculine. The major themes appearing throughout these studies are aggression, impulsivity, antisocial behavior, thrill-seeking and restlessness, marked sexual activity, and a seeming lack of concern with and for others combined with an extraverted, sociable nature. (pp. 252-253)

Bruun's research (1959) and the research of McClelland et al. have supported the notion that the effects of alcohol are at least partly determined by pre-drinking attitudes and personality variables. The question remains to be answered whether there is an effect of alcohol on aggression when predisposition is controlled for and, more specifically, how predisposition, the situation, and the effects of alcohol interact to result in aggression.

B. Time-out

According to MacAndrew and Edgerton (1969), violence and other "improper" activities occur when alcohol is consumed because, in many societies, drinking situations are culturally agreed upon "time-out" occasions:

Over the course of socialization, people learn about drunkenness what their society 'knows' about drunkenness; and, accepting and acting upon the understandings thus imparted to them, they become the living confirmation of their society's teachings. (p. 88)

Both the study by Mass Observation and the ethnography of bar behavior by Cavan have observed that different expectations are brought to the drinking situation than those normally imposed in sober situations:

In the life of the ordinary Wcrktowner no occasion arises when he is officially sanctioned and encouraged to dance in the streets, unless the Monarchy is involved in some ritual climax. But it is all right for him to do it in Blackpool, and he often does, not necessarily because he has been drinking a lot, but because a lot of people have got drunk and don't care any longer for the social conventions that forbid them to dance in the streets. (Mass Observation, 1943, p. 254);

and:

Short of physical violence, little will provoke sanction from either management or other patrons, and even acts of violence, if short and quickly over, may be virtually ignored once they have happened. (Cavan, 1966, p. 68)

The anthropological evidence from MacAndrew and Edgerton and from Washburne is that drinking aggression is rarely an out-of-control behavior but when it occurs, it is usually a normative part of drinking: "Not only are the methods socially controlled, but the objects of aggression are limited" (Washburne, 1961, p. 262).

There is evidence that cultural expectations for drinking can also affect experimental studies on alcohol and aggression:

Male social drinkers who believed they had consumed an alcoholic beverage (vodka and tonic) behaved in a more aggressive manner, as assessed by the intensity and duration of electric shocks supposedly delivered to a confederate subject, than subjects who were told their drinks contained no alcohol. Again the actual alcoholic content of their drinks did not significantly affect their performance. (Lang et al., 1976, p. 278)

Maddox and Jennings (1959) and Orcutt and Briggs (1975) have shown that people come to drinking situations expecting certain kinds of behaviors. It is not unlikely that these shared cultural expectations influence the people to behave in expected ways. The research of Sobell and Sobell (1975) indicates that some ambiguity and confusion may exist in North American society concerning whether or not people who commit violent crimes are somehow less "guilty" if they've been drinking. This lack of a consistent and firm stand concerning alcohol as a "special circumstance" in crimes of violence may foster the notion of drinking as a "time-out". On the basis of anthropological data, MacAndrew and Edgerton report that: some cultures don't act in the least disinhibited when they drink; drunken comportment varies from culture to culture but can be fairly consistent within a culture; even within a society, drunken comportment can vary drastically from situation to situation; drunken comportment may change over time within a society; societies which accept drunkenness as an excuse for violence have more drunken violence; and in every society certain taboos are never broken even in the drunkest situations.

The "time-out" theory has some convincing arguments but these arguments are basically against the disinhibition model of alcohol-related aggression and they do not necessarily preclude alcohol having some causal role in aggression, mediated by various conditional and interacting factors.

C. The Drinking Context

Aggression is by definition an interpersonal act, requiring at least two persons; it follows that mere presence of many other persons, especially in the less formal contexts of bars and parties, might be sufficient to enhance aggression without any contribution from alcohol. (Bennet et al., 1969, p. 876)

Bennet et al. offer this as a possible explanation for their finding no effect of alcohol on aggression in an experimental setting. Drinking often occurs in crowded, noisy, and smokey environments. In many drinking situations interpersonal contact is more physical, more extended, and sometimes more intense than in comparable sober situations. The contribution of the drinking environment, by itself, to aggression and the potential interaction between the environment and the effects of alcohol have not been systematically investigated. How large a role the situational factors play in alcohol-related aggression is yet to be determined.

RESEARCH RELATING ALCOHOL CONSUMPTION TO AGGRESSIVE BEHAVIOR

The relationship between alcohol consumption and aggressive behavior has been explored from various methodological as well as theoretical perspectives. Evaluation of the research in this area requires the consideration of the different methodologies employed. Often contradictory findings reflect differences in perspective or methodology rather than contradictions in the alcohol-aggression relationship or the validity of the particular studies. For example, in recent years, two very similar paradigms have consistently found contradictory results. Bennett et al. (1969) and Lang et al. (1975) have studied the effects of alcohol on aggression using male subjects in a shock setting task and have found that the intensity and duration of shocks delivered is not significantly affected by alcohol. On the other hand, Shuntich and Taylor (1972) and Taylor and Gammon (1975, 1976) again employing male subjects in a shock-setting task, found that aggression increased with alcohol consumption. After ruling out the possibility that the contradictory findings were due to the type of alcohol consumed, Taylor and Gammon suggested that the difference could be attributed to the fact that the Bennett and Lang studies used a teaching task to measure shock setting (aggression) and the Shuntich and Taylor and Taylor and Gammon studies used a competitive task. Whether or not this turns out to be the correct explanation, this example illustrates, first of

all, that alcohol probably does not affect all kinds of aggressive behavior equally, and secondly, that the overall effects of alcohol on aggression should not be assumed on the basis of studies using a single measure of aggression. In fact, this example suggests that rather than asking the question, "Does alcohol increase aggression?", more appropriate questions might be, "Who becomes aggressive with alcohol? under what circumstances? and in what way?" Some research has been directed towards answering these questions. The following section presents a brief review of research on this topic.

When small differences in similar paradigms can make large differences in the results, it is that much more difficult to synthesize and collate research from entirely different disciplines, as is the research in this area. In order to examine the various findings this review has been organized into the following topics: methodology employed, definition of aggression, populations studied, results obtained, and potential contributing or mediating factors considered.

I. Defining Aggression

In the alcohol literature, there is no universally employed definition of aggression. Carpenter and Armenti (1976) suggest Buss's definition: "a response that delivers noxious stimuli to another organism". While this description more or less characterizes definitions employed in alcohol research, the term

"noxious stimuli" can be narrowly or broadly interpreted. A wide range of behaviors have been termed aggression, from the commission of violent crimes to joking at another person's expense.

The narrowest definitions are the operational definitions of the experimental studies. Usually, aggression is defined as the mean intensity of shock a subject sets during an experimental task (Bennett et al., Shuntich and Taylor, Taylor and Gammon). Lang et al. used shock duration as well as shock intensity. Secondary measures of opponent ratings (Taylor and Gammon) and verbal aggression (Lang et al.) were also included.

In the "experimental drinking party" paradigm, measures of aggression have included written measures: Thematic Apperception Test (Kalin et al., 1972), Heilbrun Need Scale (Williams, 1968), and humor preference (Hetherington and Wray, 1964); and behavioral measures: Bales category classification scheme (Takala et al., 1957), informal observation (Hartocollis, 1962), behavior coding using eleven categories of aggression (Boyatzis, 1974), and the Hostility-Outward Scale using content analysis procedures from Gottschalk and Gleser (Smith et al., 1975).

Other investigations have related self-report of aggression to alcohol consumption. Williams (1970) used the Gough and Heilbrun Adjective Check List (which includes a measure of aggression); McClelland and Davis (1972) and Boyatzis (1974) used an activities questionnaire designed to assess "assertive" type

behaviors including physical fights and other forms of aggression; Dotson et al. (1975) administered the Buss-Durkee Hostility Inventory; and Mandell and Ginzburg (1976) interviewed students about "a number of behaviors of concern to society: fighting, destroying property, auto accidents, involvement with the police" (p. 182).

The topic of alcohol and aggression has also been investigated from anthropologic and ethnographic perspectives. Typically, these studies employ loose, vague definitions derived from anecdotal evidence: "The basic data are statements by observers of the frequency of aggression and the kinds of aggressive acts that occur. There is seldom information on individual cases of aggression" (Horton, 1943, p. 284). Horton developed a six point scale for rating the aggressiveness of a society based on these data. The scale ranged from "1. All types of aggression are rare" to "6. Homicide is very frequent" (p.285). Similar global concepts of aggression have been used in other analyses of anthropologic data, for example, "extreme hostility" (Bacon, 1976) and "drunken brawling" (Shaefer, 1976).

Finally, the relationship between alcohol and aggression has been evaluated through the analyses of police and court records. In these studies, aggression is defined as the commission of a particular violent crime (homicide, for example) or violent crimes in general. Similar studies have examined the prevalence of heavy drinkers among men incarcerated for violent crimes (see Pernanen, 1976, for a review of these studies).

II. Subjects or Population Under Study

Experimental studies of alcohol and aggression usually employ male college students as subjects, sometimes a particular subgroup such as heavy drinkers, (Hetherington and Wray, Kalin et al., Williams, Bennett et al., Kalin, Shuntich and Taylor, Dotson, Lang et al., Taylor and Gammon). Males recruited from other than student populations were subjects in some of the "experimental drinking parties" (Takala et al., McClelland and Davis, Boyatzis) and male psychiatric interns were subjects in the Hartocollis study. Females were subjects in an unpublished study by Buss, Carpenter and Buss (cited in Carpenter and Armenti) and the study of Smith et al. on social interaction employed male-female college student couples.

Other populations which have been the focus of research pertaining, at least in part, to the question of alcohol and aggression are: high school students and teenage delinquents (see review by Mandell and Ginzburg), primitive cultures (Horton, Washburne, 1961, Child et al., 1965, MacAndrew and Edgerton, Schaefer), and offenders and victims of violent crimes.

III. Results

As described, the experiments using shock setting as a measure of aggression have not been consistent in their findings. Simulated bar settings have been somewhat more consistent but increased aggression with alcohol is not always found. Some of the studies of aggression in "experimental party" settings have found unequivocal evidence for an increase in aggression with alcohol consumption (Takala et al., Williams, Boyatzis). Other studies have not found so clear an effect. Kalin et al. found that fantasy of Physical Aggression increased only with certain dosages (low and high, but not medium) and only in certain social conditions. Moreover, scores on Non-physical Aggression fantasies were significantly lower in the alcohol conditions than in the sober condition. Smith et al. found a significant increase in the qualitative measure of Hostility-Aggression with the low dose but not with the high dose and no effect was found for either dose on the quantitative scores of aggression.

In the analyses of anthropological data, very frequently a greater than chance relationship between alcohol and aggression emerges:

Aggressive behavior under the influence of intoxication is almost universal. Among primitive societies it ranges from its very mildest form, which is simply the exchange of insults and harsh words, to its extreme form in which assault and murder occur. (Horton, 1945, p. 165);

and:

It does appear that to the extent that aggression between adults occurs, it is most likely to appear on the occasions when they have been drinking. However, among the various societies where there is drinking to intoxication, we have a range from almost no aggression connected with drinking to regular occurrence of some type of disruptive aggression. (Washburne, 1961, p. 259)

Interestingly, although a relationship between alcohol and aggression is often assumed in modern Western cultures, ethnographic descriptions of barroom behavior include very little in the way of descriptions of aggression (Mass-Observation; Cavan; Roebuck and Frese, 1976; Spradley and Mann, 1976). It appears that no direct ethnographic studies of alcohol and aggression have been undertaken.

Results from analyses of crime statistics vary but generally alcohol seems to be implicated in more than 50% of violent crimes sampled and evidence from prison samples indicates that alcoholics and heavy-drinkers are over-represented among violent offenders. It is evident that alcohol and violent criminal behavior are related but the causal or even precipitating role of alcohol in the occurrence of violence is unproven.

IV. Factors

Sometimes contributing or interacting factors have been included as part of the experimental design. Other times, factors have been introduced at the analysis stage or have emerged from the research findings.

A. Factors Tested Experimentally

Kind of beverage

(a) Distilled spirits vs. beer

Takala et al. found that, although the mean BAC in each group remained approximately the same during the "parties", aggression increased more when the group drank brandy than when they drank beer. In Boyatzis' study, the mean BAC in the distilled spirits group was slightly but not significantly higher than in the beer group; yet, men in the distilled spirits condition showed more aggression during the middle and late periods of the party than men in the beer condition (both groups showed more aggression than the comparison group).

(b) Vodka (low congener) vs, bourbon (high congener)

Examining the effects of distilled beverages differing in congener content, Taylor and Gammon found no significant difference overall between the effects of the two beverages on mean shock setting; however, the high-dose vodka condition set higher more uncontrolled shocks and evaluated their opponent more unfavorably than did their counterparts in the high-dose bourbon condition.

Amount consumed

Bennett et al. found no effect of alcohol on aggression regardless of dosage (.33 ml/kg body weight, .67 ml/kg, and 1.0 ml/kg) whereas Taylor and Gammon found that high dose conditions (1.5 oz. of 100 proof bourbon or vodka per 40 pounds of body weight) set significantly higher shocks than the low dose conditions (.5 oz. of 100 proof bourbon or vodka per 40 pounds of body weight). Smith et al. found a significant increase in the qualitative rating of hostility-aggression for the low dose session (.67 ml/kg body weight) but not for the high dose (1.0 ml/kg body weight).

Provocation

Taylor and Gammon and Lang et al. included a provocation factor in their studies. Taylor and Gammon observed a significant dose by kind of beverage by time block interaction indicating that provocation by the opponent in the course of the experiment differentially affected subjects in each condition. Lang et al. found a pronounced main effect for provocation over both alcohol and no-alcohol conditions but no significant interactions.

Expectancy

Experimental studies often disguise the beverage to prevent subjects from knowing whether or not they have been given alcohol but only one study has manipulated this expectancy factor (Lang et al.). They found that the subjects who had expected alcohol behaved significantly more aggressively in setting shocks than did subjects who expected tonic regardless of the actual content of the drink.

Third party intervention

In their 1976 study, Taylor and Gammon assessed the effect of a third party actively discouraging aggressive responses (pressure) as opposed to merely being present (no-pressure)

during the experimental task. They found that:

Relative to the intoxicated and nonintoxicated subjects in the no pressure condition, the intoxicated subjects in the pressure condition responded in a fairly restrained manner. (p. 928)

Need for social approval

Hetherington and Wray found that subjects who scored high on Need for Social Approval (NSA, Marlowe-Crown Social Desirability Scale) and high on Need for Aggression (NA, Edwards Personal Preference Schedule) were the only group whose ratings of aggressive cartoons were affected by alcohol. In the alcohol condition, they rated aggressive cartoons more favorably than did the high NSA - high NA group in the non-alcohol condition. The high NSA - low NA, the low NSA - high NA, and the low NSA - low NA groups were unaffected by alcohol in their ratings of aggressive cartoons.

Setting variables

Kalin manipulated two variables of setting in his studies of the effects of alcohol on male fantasies: classroom vs. apartment and attractive female singer present vs. taped music. He found no main effect of these variables on fantasies of Physical Aggression and Non-Physical Aggression, but found that the effects on fantasy of an attractive female singer tended to depend on the setting.

B. Factors Investigated but not Experimentally Manipulated

Group Size

Hartocollis gave intravenous alcohol to 15 subjects, 9 alone and 6 in groups. His informal observation was that "The subjects tested in groups exhibited more elation, aggression and boisterousness, and only they expressed any hostility " (p. 389).

Status or Group Role

Bruun (1959) found a tendency for there to be more negative reactions when brandy was consumed than when beer was consumed but only for individuals of certain status in the group: "isolates" (defined by sociometric choice outside of drinking situations) but not for "central persons" on this criterion; and "central persons" (defined by sociometric choice with respect to drinking situations) but not "isolates" on this criterion. Washburne suggests that, in primitive cultures, "Physical aggression is typically directed at peers, but sometimes toward status inferiors, seldom toward status superiors" (1961, p. 265).

Attitude towards aggression

A permissive attitude towards intoxicated aggression has been found to contribute to the frequency and intensity of drinking aggression of individuals:

individuals with a relatively permissive attitude toward aggression while under the effect of alcohol tend to increase the proportion of negative reactions more than others. (Bruun, p. 63)

Permissiveness towards drunken aggression within a culture also tends to be related to aggressiveness of drinkers:

It is our contention, then, that if we are ever to understand drunken comportment, we must focus on the shared understandings of the nature of drunkenness that obtain among men living together in societies. It is our further contention that in those societies in which drunken changes-for-the-worse occur, these changes must be viewed in terms of the increased (though variously defined and never unlimited) freedom that these societies accord to their members when they are drunk. (MacAndrew and Edgerton, p. 171)

The role of women

Women are grossly under-represented as subjects in experiments on alcohol and aggression and it appears, from anthropological analyses, that women as intoxicated aggressors are under-represented with respect to the percentage of the population of drinkers who are women:

A preliminary analysis of these statements showed that four kinds of aggressive acts are commonly reported: verbal conflicts, assault without weapons, assaults with weapons (leading to injury but not death), and homicide. In all cases these acts were committed by men. (Horton, 1943, p. 284)

Aside from a potential sex difference in frequency of drunken aggression, a number of suggestions relating to the presence or absence of women in drinking situations have been made. In some societies, they appear to function as peacemakers; in others, as objects of drunken abuse; and in still others, as instigators.

McClelland and Davis state:

The reason for leaving women cut of the picture is apparent from the findings reported in Chapter 2: their presence simply complicates the results, which are already difficult enough to understand. (p. 143)

Finally, it appears that in cultures where women are prohibited or restricted from drinking, extreme hostility while drinking is more common (Bacon, 1976).

Societal complexity

Schaefer found that the following factors within a society correlated highly with drunken brawling: extreme male insobriety ($r = .55$); hunting and gathering ($r = .40$); fixed settlement pattern ($r = -.47$); complex division of labor ($r = -.61$); simple political system ($r = .84$); social class distinctions absent ($r = .56$); and low social complexity ($r = .63$). (p.292-293).

Accordingly, he hypothesized that societal complexity is related to aggression in drinking situations:

It has been suggested that where the political system is simple, where political leaders may have a poor following, and where such leaders have little control over information that might be useful in regulating political action, anxiety, or a feeling of powerlessness is great and extreme, aggressive drunkenness is highly likely. (p. 315)

A DIFFERENT APPROACH TO STUDYING ALCOHOL-RELATED AGGRESSION

Reviewing the research in this area, it becomes obvious that an important area of research has not been explored. Studies of drinking and aggression either have been conducted in laboratories and at parties sponsored by the researchers or they have been concerned with cultural descriptions, usually of primitive cultures. Virtually no research seems to have been published on aggression in drinking establishments in modern Western society, other than the incidental descriptions included in ethnographies and assault reports. Questions concerning the circumstances of barroom aggression have rarely been asked, much less answered. It appears that the time is ripe for an approach that can ask these questions (as has been pointed out by Pernanen and Boyatzis in their review articles and by R. Sommer, Note 1). There are several relatively untried methods of approaching these questions: interviews and questionnaires, barworker informants, and systematic observation. To acquire even a partial understanding of naturally occurring barroom aggression all of these methods and others will need to be employed.

This project was an attempt to use systematic and unobtrusive observation in the study of barroom aggression. The frame of reference was the drinking milieu and this project was directed towards the study of aggression as part of this milieu. Alcohol-related aggression is often studied as a

kind of aggressive behavior (what proportion of violence involves alcohol, etc.); this research, however, treats alcohol-related aggression as a kind of drinking behavior. The goal has been two-fold: (1) to systematically observe and describe aggression which occurs in commercial drinking establishments, and (2) to identify attributes of the drinking context which predict aggression.

While published accounts of observational studies in bars are available (Mass-Observation; Scmmer, 1965; Cavan; Cutler and Storm, 1975), none of these accounts appeared to use a methodology totally suitable for achieving the goal of this project. Either the studies were largely descriptive or they systematically looked at one or two variables. Since part of this project necessarily included the development of a suitable methodology, the methodology is described in considerable detail.

CHAPTER 2: METHODOLOGY

For three months, two teams of observers spent a total of 40-56 hours per week observing barroom aggression. An attempt was made to allow the methodology to develop over the first eight weeks of the study without sacrificing reliability. Each incident of aggression was described fully; demographic information about each person involved in aggression was recorded; and after every observation period, whether or not aggression occurred, a large number of variables describing the setting were recorded. The initial set of variables were selected either on the basis of previous research or because they were known to vary among bar settings. Some modifications in recording data were made during the first three weeks but from the fourth week, coding of variables of the aggressors and setting remained unchanged and inter-rater reliability was calculated for each variable. From the beginning, in addition to coding pre-selected variables, observers made subjective notes about their experience in each drinking establishment. As the study progressed, patterns in these notes emerged and a whole new set of variables developed. (It was possible, ultimately, to impose an organization on these variables and code them for analysis. These empirically derived variables will be discussed in the results section.) By the third month of the study,

observers were able to maximize their efficiency to the extent that high reliability was maintained on coded data while a vast amount of material was compiled on secondary variables and ongoing barroom interpersonal interaction.

I. Scheduling

Before the project began, all the hotels in the yellow pages of the Vancouver and Coquitlam phone books were telephoned and asked what kinds of bars they had, what hours these bars were open, and whether or not there were entertainment. Most places willingly supplied this information but some gave unco-operative responses such as "regular hours", "why don't you come and find out for yourself?", and "What do you want to know for?", which tended to make scheduling more difficult. Legions, Army and Navy Clubs, and Neighborhood Pubs were also phoned and asked the same questions. At one time hotels and veterans' clubs were the sole public establishments for recreational drinking in Vancouver. In the past ten years licensing laws have changed considerably and cabarets, discotheques, neighborhood pubs, and restaurant lounges have become an important part of recreational drinking. Pubs were included in the sample, but cabarets, discotheques, and restaurant lounges were excluded because of admission charges and other prohibitive costs. Because of ambiguous information being

given on the phone, two cabarets and a show lounge were inadvertently included in the schedule and were visited during the study.

The drinking establishments in the sample were grouped in two's and three's according to the license and geographical location. Each group was matched to one other group which consisted of similar bars in a similar geographical area. For example, three Skid Row bars would be matched to three other Skid Row bars; three suburban legions might be matched to three legions in a comparable suburb. This procedure was only approximate and perfect groups and perfect matches were not always possible. By and large, however, bars grouped together turned out to be similar in many respects (clientele, decor, etc.)

A schedule covering 15 weeks was drawn up. Each bar was to be visited twice: once at night and once during the day (6:00 p.m. was the dividing line), once on a weekday and once on a weekend (Thursday was classed weekend). Thus group 1A might be visited Monday night and Saturday afternoon. Its partner, 1B, would be visited at the opposite times, for example, on Tuesday afternoon and Friday night. Daytime observations were scheduled to begin at various times between 9:00 a.m. (the earliest opening of any drinking establishment) to noon. The starting time of the evening observation period ranged from 5:00 p.m. to 7:00 p.m. depending

on the closing time of the last place to be visited. The schedule was drawn up so that both teams would work daytime one week and evenings the next.

Originally it was planned to alternate days observing in beer parlors with days observing in lounges; however, a brewery dispute which began during the sixth week of the project forced many beer parlors and legicns to close temporarily. During this time it was necessary to schedule observations mainly in lounges. For several weeks lounges were visited almost exclusively. When the dispute promised to continue indefinitely and some of the beer parlors had adjusted and reopened, observers returned to the beer parlors. At this point scheduling had to be made on a day to day basis since beer parlors during this period closed and opened without notice. Cbservers were supplied with a list of appropriate beer parlors in the downtown core, along with whether they were to be visited during the day or at night, weekday/weekend, and they observed in whichever places were open, subject to these conditions. A spinoff of the brewery dispute was that the beer shortage prompted the provincial government to make it possible for beer parlors to quickly acquire "pub" licenses and commence selling hard liquor (the beer parlor license is restricted to beer, cider, and wine). Many beer parlors seized this opportunity. Eleven beer parlors visited during the first half of the study had become "pubs" by the second visit. Other places scheduled as beer parlors but not previously visited also became "puhs". Although the "pub" license requires changes in physical lay-out (for example, seating

capacity), because of the unusual circumstances the hotels were allowed a six-month period of grace to make these changes. For the most part, the newly designated "pubs" visited by observers were virtually indistinguishable from the beer parlors that they replaced other than that they were now able to serve hard liquor. Most places were able to acquire sufficient quantities of imported beer so that patrons were able to continue to drink beer and only a small increase in hard liquor consumption was observed. (At the end of the project barworkers were interviewed concerning the effects of the strike on intoxication and aggression of patrons. A report of these interviews appears in the Appendix.)

Legions and Army and Navy Clubs were also affected by the the dispute. Many closed and others were admitting only their own members. Since these establishments are often situated in isolated locations away from the downtown core, it became impossible to schedule them and only two further visits were made to legions after the dispute began.

Further scheduling changes were instituted due to the developing methodology. During the first two weeks of the project extra meetings were scheduled for discussing variables and observing strategies. Observational periods were always two hours long but the number of places visited per day varied (sometimes

two plus a meeting, sometimes three). From the third to the eighth week, three places were visited daily for two hours at each place, except for one day a week when a meeting was held and only two places were visited for two hours each. As observers were able to observe and record more of the social environment, this much observation time along with travel and paperwork became unmanageable. For the seventh and eighth weeks, a slightly modified method of observation was tried. It involved one observer leaving during part of the observation period to record observations. Although inter-rater reliability, calculated by this time was high, and most observing could be done reliably by one person, there was more to observing than coding data and having one person leave during the observational period was not a satisfactory solution. Besides, in many places, leaving a single observer alone, particularly the female, could create unwanted problems and attention. To accommodate this collection of further data, observational periods were changed from two hours to two and one half, and two places were visited per day instead of three. The brewery dispute and other scheduling changes resulted in fewer drinking establishments being visited and some places being visited once rather than twice. An attempt was made with all these scheduling changes to preserve the balance between kinds of licenses, geographic location, time of day, and day of the week.

Table III: Observation in each type of place during the first and second part of the week and during daytime and evening hours.

In all, 633.75 hours of observation were collected from the middle of May to the middle of August (1978). The following table lists the hours of observation in each kind of place for each part of the week and time of day. Since some beer parlors opened earlier and closed earlier than lounges there is an overall trend for slightly more hours of observation before 6:00 P.M. in beer parlors. This was expected. Other imbalances are largely attributable to scheduling problems.

	<u>Beer Parlor</u>	<u>Beer Parlor</u> <u>Pub</u>	<u>Lounge</u>	<u>Neighbor-</u> <u>hood Pub</u>	<u>Legion</u>
Mon.-Wed.					
(day)	42.75	31	84.25	11	2
Mon.-Wed.					
(night)	50.75	15	55.5	10	13.5
Thurs.-Fri.					
(day)	52.5	28.25	55.5	10.75	5.75
Thurs.-Fri.					
(night)	29	40	72.5	8.75	9.5
Total	175	114.25	267.75	40.75	30.75

Cabarets, which are only open at night were visited for 5 1/4 weekend hours.

II. The Observers

There were two observing teams, each consisting of one male and one female. Three observers of the four worked from beginning to end of the project. The initial fourth observer (male) quit after five weeks because the unconventional hours were putting a strain on his family life. His replacement left after three weeks to take a higher paying job. The final fourth member of the team worked until the completion of the project. All observers were students (the females were current graduate students and the males undergraduates or recent graduates). Age of observers ranged from 19 to 36.

Male-female teams were found advantageous for several reasons. In many drinking establishments two women alone are assumed to be interested in meeting men and so a female observation team would run the risk of being joined and/or offending the would-be joiner, both of which are disruptive to the observation process. Occasionally during the project it was necessary for two females to be co-observers. When this was the case, "safe" places were selected and only once were observers forced to leave because of harassment. Even when accompanied by a male, there were several occasions on which the female member of the team was approached, either directly or indirectly, but without encouragement such advances were seldom persistent. There were a few places where prostitutes were soliciting openly and

aggressively and the presence of the female observer reduced the likelihood of the male being bothered. Also because the observers were in couples, other patrons were more hesitant about trying to engage them in conversation. In drinking establishments in which there was a high degree of tension and hostility, such an arrangement probably protected observers from becoming the targets of unfocused aggression. A further advantage of mixed-sex observers emerged over the course of the study. It may have been due to individual differences, but the female observers usually were able to overhear more conversation, able to spot aggression earlier, and more likely to consider a particular incident aggression than were the male observers.

III. Observing Procedures and Techniques

On entering the drinking establishment the first task was the selection of a seat. Ideally, it was one from which as many people as possible could be seen and heard. Seats against the wall or in a raised area usually afforded the best view. However, there were difficulties. The seats which were most suitable for observation were also the most popular among the patrons, probably for the same reason. If the drinking establishment were busy, often there was not a choice of seats. In crowded beer parlors it was usually impossible for the observers to see beyond a few rows of tables and to hear more than the people immediately next to them, no matter where they sat. The most occupied section of the room at the beginning of the observation period may have been deserted an hour later, the locus of activity having shifted to the opposite end. It was not uncommon to find several potentially interesting groups situated in different areas of the room, for example, at the bar, around the pool tables, in front of the T.V. Beer parlors which consisted of two separate rooms or which broke up one large room into sections by means of partitions made observing especially difficult. When such problems arose, the observers concentrated on the area in which they were seated, but kept track of what was happening elsewhere by taking frequent walks through the establishment, ostensibly to go to the washroom, watch a game of pool, purchase some food, or make a telephone call. Usually major aggressive incidents happening in hidden sections could be picked up using this

technique but observation of milder forms of aggression was limited to the area in full view. Sometimes it was possible to change seats part way through the observation period, which helped the observers develop a more complete perspective of the place.

One of the problems which frequently faced the observers was being conspicuous. In the Skid Row establishments it was obvious that they were of a different class and life style than the other patrons, no matter how appropriately they tried to dress and behave. For one thing, the female observer was often the only Caucasian woman in the place (the rest being native Indian). For another, the observers were sober and obviously not there to get drunk. In all establishments the fact that observers lingered over a single drink for two or two and a half hours was most noticeable, but especially so when there was a rapid turnover and/or the total number of patrons was small. The observers found that the most effective means of dealing with this problem was to spend much of their time talking together. They became quite adept at carrying on a conversation on one level, while still carefully observing.

While carrying on a conversation with a co-observer did not interfere with observing, being joined by a third party was occasionally a problem, particularly in beer parlors and pubs. Observers were monitoring 100 or so fluid variables and a third party could be quite disruptive to this task. In discussions, project members identified several distinct types of would-be

joiners. Some joiners were simply friendly and wanted to talk; others recognized the observers as non-regulars and were curious about them; some self-appointed organizers were concerned that observers were not having a good time; another group, often apparently alcoholic, were looking for listeners; and finally, there were angry persons in less reputable bars who tended to release their hostility on any available target. The observers were most vulnerable to these last two types because they did not fit in and they were quickly and accurately assessed as being unlikely to use the brutal rejection techniques of other patrons. By appearing to be engrossed in conversation, observers were able to prevent most attempts to join them. Avoiding eye contact with potential joiners was another important strategy. In some places, observers had to actively work at not being joined. As Sommer noted:

A patron can still arrange to be alone, bunching himself up at the end of the bar and staring down at his drink, or sitting at a remote table facing the wall, but these positions and postures must be maintained rigorously. Even this display of a desire for separation does not guarantee privacy, since at any time some sympathetic denizen may decide to initiate psychotherapy." (1969, p. 122)

Sometimes despite their efforts, observers were not left alone. When this happened, they tried to discourage the joiner by ignoring him/her as much as possible and by continuing their own private conversation while, at the same time, not offending the joiner. On occasion, it was necessary for one observer to talk to the joiner freeing the other observer

to do the task at hand. It did happen, although rarely, that observers were forced to leave the establishment before the end of the observation period because of a joiner. Hindsight suggests that once a joiner sat down with observers he/she rarely left, and in these cases observers would have been better to have left, themselves, and returned later to finish the observation.

Observation techniques tended to take enormous concentration. It was difficult for observers to maintain a continuous high level of concentration for three two-hour periods per day. The two and a half hour observation periods twice a day proved more manageable but even this period of time was excessive for good observation. Two hour observation periods twice a day followed by extensive reporting would probably maximize observers' capabilities for this kind of data collection.

Finally, an important aspect of this job was that observers provide each other with moral support. The hours were unusual and the task demanding. This, coupled with the fact that observers were in continuous contact for several hours daily, made it essential that they get along. A severe personality conflict could have made the job intolerable and detracted from the observers' ability to do the task. To alleviate the constant contact, observing teams switched partners every two weeks but it was still necessary for observers to make an effort to support each other. Project meetings were as much for additional support to observers as they were to iron out more concrete problems.

IV. Data collection

As soon as possible after each observation period, the observers independently filled in situational variable and aggression variable (when appropriate) coding sheets and then prepared a compromise coding sheet for analysis. At the end of the day they wrote impressionistic accounts of their visits. These accounts became more formalized and more extensive as the study progressed. Preparing compromise sheets had several benefits for the methodological process: often the combined memories of both observers produced more precise estimates; it aided in identifying and clarifying problems with the operational definitions; and close, independently arrived at, estimates tended to make the observers more confident of their abilities to observe and estimate the many variables.

At the beginning of the project, all the observers felt overwhelmed by the number of variables they were expected to remember and code. They all coped with their feelings of inadequacy by making frequent counts of the number of patrons and frequent estimates of percentages of age groups, dress categories, etc. Not only did this overemphasis suggest that the situational variables were more static than they really were, but it prevented the observers from concentrating on the social interactions taking place, thereby depriving them of important information concerning the circumstances surrounding aggressive

incidents. Also, at times the counts may not have been as unobtrusive as they had hoped. In retrospect, however, perhaps by providing feedback to the observers' intuitive estimates, this counting phase seems to have been an important step in becoming skilled at estimating the situational variables. Acquiring coding skills also involved establishing norms or standards for each level of a variable, especially for the more subjective variables such as decor, intoxication, and style of dress. This was possible only after visiting different types of establishments and witnessing a variety of behaviors.

An issue which arose early in the study was that of note-taking. Initially, the observers were unsure of their ability to keep track of all the variables and so felt the need to record data during the observation period. However, they soon found that this was not necessary, and, in fact, was a hindrance because it detracted from the observation continuity. Furthermore, the establishments in which observing was most difficult were often the ones in which note-taking would have attracted the most attention. Consequently, although observers were left to do what was most comfortable for them as individuals, written recording within the bar was generally restricted to the time of an aggressive incident, the number of individuals involved, and a descriptive phrase about the incident (in places where more than one incident was observed). All further details were recorded immediately following the observation period.

As observers became more confident of their ability to assess situational variables, they devoted more time to getting the "feel" of the place and to studying the social interactions. This was best accomplished by observing each table in turn. Usually a couple of minutes was sufficient to learn what people were discussing; to form an impression of how they were interacting with each other; and to decide whether or not this table deserved special attention because aggression seemed likely. Although there was a limit to the number of conversations it was possible to overhear, much of this information could be inferred from postures, gestures, facial expressions, etc. Once the initial survey was completed, the process was repeated. During this second reconnaissance, the amount of time allotted each table depended on whether or not there were a change in the interaction and whether or not aggression seemed likely. (It was not possible to test the accuracy of their intuitions during this study, but observers felt that they were often able to spot potential aggressors.) When coupled with quick counts on entering and leaving the place and whenever there was a noticeable change in numbers, this table-to-table strategy incidentally provided observers with the information necessary for coding the situational variables. This strategy also helped observers come to grips with crowded noisy places where it is difficult for new arrivals to get a feel for what is going on.

V. Recording Aggression

The intent of this research was to examine the prevalence and characteristics of intuitively defined aggression in drinking establishments. It was important that incidents recorded as aggression be ecologically valid, that is, that these incidents corresponded to what patrons and barworkers in the place would consider aggression. Fights and other physical aggression were obvious but milder forms of aggression were more difficult to define. The decision of whether or not a particular incident should be deemed aggression proved to be one of the major problems of the data collection. Often it was difficult for observers to decide when a particular behavior crossed the line from being merely "playful" and "harmless" to constituting aggression. To obtain some consistency, observers adopted an orientation for making this decision rather than an actual definition of aggression. It was decided that an incident would be considered aggression if it involved personal violation, behavior that was offensive according to the norms of the place, or an argument in which the participants had personal investment. Since an attempt was made to evaluate behaviors in terms of the norms of the drinking establishment, the criteria for determining aggression were to some extent variable. This reflects the reality, however, that the same behavior can be aggressive in one situation and not in another. As a rule, "dubious" incidents were

included as aggression and at the end of the project these incidents were reviewed and one involving only waitresses was discarded.

Once aggression was identified, data describing both the participants in the aggression and the incident itself were recorded. The framework for this description was taken from a previous study using barworker observers (Graham and Turnbull, Note 2) and underwent a number of changes to accommodate the different kinds of aggression being observed and the different perspective of the non-barworker observers. Usually, observers were able to record much more detailed descriptions of aggression than were the barworker observers in the previous study.

A. Participants in Aggression

Participants in aggression were described along a number of dimensions: status (customer, barworker), gender, age, dress, state of intoxication, beverage consumed, race, and number of male and female companions.

Status, gender, and age of aggressors

Status and gender were usually self-evident other than for a handful of aggressors who were quasi-employees (i.e. appeared to be cleaning up, etc. for free drinks) and they were classed as customers, and one aggressor who appeared to be male but insisted on using the female washroom saying she was a female (observers took her word for it and classified her as female). Age categories were 19-25, 26-35, 36-50, and over 50. These were the categories used in the previous observational study and were chosen as roughly reflecting the age demarcations of different lifestyles. Reliability on these estimates was good ($\tau = .89$) and differences were all attributable to borderline cases. For example, observers might agree that a person was around 35 but one would select the 26-35 age category and the other the 36-50 age category. Observers on this project found it particularly difficult to distinguish the late forties from the early fifties.

Style of dress of aggressors

Originally, four categories of dress were employed but during the first weeks of observation, the casual category was subdivided to try and capture some of the variance within dress that is commonly termed "casual". The final categories were: unkempt (dirty or ripped clothing); work clothes (uniform, work boots, hard hat, etc.; did not include white-collar work clothes); casual-jeans (jeans, shorts, T-shirt, etc.); casual-dressy (nice jeans, slacks, some dresses and skirts); dressed-up (suit and tie for men and dresses or skirts with stockings, high heels and so forth, for women; formal attire). The category, casual-dressy, tended to be the catch-all including everything from dressy jeans and a shirt, to a sundress, to the dark pants and jackets often worn by the older men, to the clothes most often worn by barworkers. Although reliability was quite good on this variable (Cramer's $V = .83$), it was the topic of much discussion among project members and considered one of the most difficult variables to assess. When disagreements occurred, they were most often between "casual-jeans" and "casual-dressy".

State of intoxication of aggressors

Two measures of intoxication were also recorded, one categorical and the second a rating on a scale of one to nine. The categories of intoxication were altered and eventually defined over the course of the first few weeks of the project. A person was classified sober if he/she showed no signs of being affected by alcohol and if the person was not seen consuming substantial quantities of alcohol. The category, slightly drunk, was intended to describe that sort of "glowy" stage of intoxication, not really drunk but not sober. This was the most frequently chosen category and was used to describe people who were seen to consume several drinks or who showed signs of having consumed alcohol, but who did not exhibit the gross impairment of drunkenness. To be classified drunk, a person had to show behavioral signs of intoxication, speech that was becoming louder or slurred, movements that were exaggerated, and some balance and co-ordination difficulties. "Very drunk" was reserved for the individuals with major speech and motor impairment, or who were in the process of passing out or who had passed out. Agreement was good on this variable but again the categorical judgements showed less reliability than the rating scale, with borderline cases still a problem (categories: τ = .83; rating scale: r = .92).

Beverage consumed by aggressors

The beverage being consumed by each participant was recorded under seven categories: nothing, draft beer, bottle beer or cider, hard liquor, wine, cocktail or liqueur, soft drink. Hard liquor was arbitrarily defined as rye, rum, vodka, gin, scotch, or brandy served alone or mixed with water or a soft drink. Cocktails and liqueurs included all other mixtures (screwdrivers, etc.). Sometimes this information was not available (for example, when individuals engaged in a fight across the room from the observers). When barworkers were involved it was not always possible to tell what if anything they had been drinking previous to the incident.

Race of aggressors

Five categories of race were used: white, native Indian, black, Oriental, and other (nearly always East Indian). Except for one instance when one observer had only seen the back of a participant, observers agreed perfectly in their categorization of race.

Number of companions of aggressors

The number of companions of each participant was recorded under the following categories: no male companions, one male companion, two, and more than two; and no female companions, one, two, and more than two. Sometimes the number of companions of an individual changed during the observation period. The category selected was of the number of companions seated with the participant at the time of the aggressive incident.

B. Aggressive Incidents

The actual aggressive incident was described under the headings of precipitating events, the nature of the incident, reactions of companions, bystanders, and barworkers, and how the incident ended (particularly whether any aggressors were told to leave).

C. Details of the Situation

Situational variables were assessed from the beginning but definitions did not become final and firmly established until the third week of observations. Data from the first weeks were recoded when necessary to be consistent with final definitions, and inter-rater reliability was calculated only for weeks 4 to 14.

Situational variables included characteristics of both the establishment and the clientele. Time and date of the observation period, name of the establishment, and observing team were reported. Geographic location of the establishment was recorded as either downtown or suburb. Skid Row establishments and hotels in the downtown area whose clientele consisted mainly of tourists, conventioners, and regulars who worked but did not live in the area, were classed as downtown. Establishments outside of the downtown core whose regulars typically lived in the area were classified as suburban. The demarcation was usually straightforward but when establishments were borderline, they were classified according to type of establishment and clientele rather than geographically.

Drinking establishments were further classified according to their government license. Establishments in the sample included beer parlors, beer parlor pubs, neighborhood pubs, cocktail lounges, legions, and cabarets. Often the license, along with geographic location, identifies a place as a certain kind of drinking establishment (in terms of function, clientele, and decor). The exceptions are the beer parlor pubs which are sometimes similar to lounges or neighborhood pubs but are usually much the same as beer parlors.

Seating capacity

Seating capacity is posted in every establishment but often in places not easily read by observers and usually the actual number of seats does not correspond to the stated seating capacity. To record this variable, observers estimated the seating capacity by counting. They classified the overall seating capacity into five categories: less than 50 persons, 50 to 100, 100 to 150, 150 to 200, and more than 200. These estimates were quite reliable ($\tau = .88$) and all differences occurred when the seating capacity fell on the dividing line between two levels.

Number of patrons

Observers also estimated the minimum and maximum number of people present at any one time and the total number of people in the establishment over the entire observation period. These estimates were highly reliable (minimum: $r = .98$; maximum: $r = .99$; and total: $r = .98$).

In nearly every drinking establishment, regardless of number of people present, the observations of minor aggression were based on a sample of approximately 10 to 40 people (usually those in the immediate vicinity of the observers). On the other hand, the record of fights and major confrontations probably includes all such incidents which happened anywhere in the establishment while observers were present. Thus, this study provides a good estimate of the actual frequency of major aggression in the

establishments visited but underestimates the prevalence of minor aggression. Finally, it was usually easier to pick up minor aggression in quiet, small places than it was in large, crowded and noisy places. Two extra measures were included to be able to evaluate this bias. Observers estimated the total number of people in the place whom they were able to see well enough to detect mild aggression displayed by body postures, etc. Reliability on this estimate was high ($r = .91$). They also estimated the number of people whose conversation they could overhear sufficiently to detect mild and quiet verbal aggression. Reliability on this estimate was not as high ($r = .58$).

Characteristics of patrons

Estimates were made of the percentage of the total number of patrons in categories of sex ($r = .98$), age ($r = .83$), dress ($r = .90$), beverage consumed ($r = .96$), race ($r = .99$), and state of intoxication ($r = .90$). These categories were operationally defined exactly as they were for coding characteristics of individual participants in aggressive incidents.

Percentage of people alone was estimated and these estimates proved very reliable ($r = .99$). For the purposes of this study to be classed as alone a person had to have only the minimal necessary interaction with barworkers and other patrons. Patrons who arrived and left unaccompanied but engaged in some social interaction with others were not classified as alone.

Drinking establishments vary considerably in how long patrons typically stay. An attempt to capture this variance was made by estimating the percentage of people who stayed for different lengths of time. Initially, there were four categories (less than 1/2 hr., 1/2 to 1 hr., 1-2 hr., and more than 2 hr.), but observers found it difficult to make these distinctions and two categories were finally chosen to describe the amount of coming and going in a place. Observers estimated the percentage of "leavers" (people who stayed approximately less than an hour) and "stayers" (those who stayed more than an hour). Reliability on these estimates was only fair ($r = .77$). Some disagreements in this category were due to one observer adhering more to the dividing line of one hour while the other used the "leavers" category more intuitively. This tended to happen when there were lunch-time or after-work crowds who stayed slightly longer than an hour. One observer might see these people as "leavers" while the other, judging strictly by the actual time patrons stayed in the bar, classed them as "stayers".

Atmosphere

A number of categorical variables were recorded to measure aspects of the atmosphere. These included ventilation, decor, noise level, crowding, and lighting. Agreement on these variables tended to be only fair. Part of the disagreement seemed to be caused by the forced-choice nature of the categories.

Observers often indicated on the coding sheets indecision over particular levels of a variable (for example, noise level), and disagreement more often reflected choosing different options for coding rather than grossly different perceptions of the situation. Categories were selected on the basis of their intuitive reasonableness and their meaningfulness in terms of interpretation. Rating scales might have resulted in greater inter-rater reliability but would have been more difficult to interpret.

Ventilation was classed in one of three categories: warm and stuffy, smokey but not stuffy, and fresh. Differences in categorization seemed to occur for two reasons: observers who smoked were less sensitive to smoke than non-smoker observers and one observer consistently experienced discomfort from stuffiness more easily than the others, resulting in her choosing "warm and stuffy" while her partner selected "fresh". These two observer biases reduced reliability which otherwise was quite good ($\tau = .68$).

Inter-rater reliability was lowest on the variable, decor (Cramer's $V = .57$). Four categories of decor were used to characterize the care and upkeep of the establishment: shabby (place not clean, furniture in disrepair, ashtrays emptied but not cleaned); ordinary (clean but no special effort made to develop a theme or create an atmosphere); nice (some thought and effort had been applied to the development of a theme and/or atmosphere); posh (expensive, stylish, upper-class). Perhaps the

words were too emotion-laden (some observers had a difficult time classing bizarre, ugly decors as "nice" regardless of how carefully and extensively the theme was developed). With one or two exceptions, all disagreements were between the categories ordinary and nice. Posh was rarely used to describe an establishment.

Predcminant color of each establishment was recorded when possible but often there was no obviously predcminant color and observers used different strategies to select a particular color, some taking into account carpeting and furniture and others using walls and ceilings. Since red and its affiliates seem to be related to aggressiveness (Sommer, Note 1) and arousal (Mehrabian and Russell, 1971), establishments were classified according to the presence or absence of red in the decor.

Noise level was originally divided into three categories but observers felt that four levels better reflected the four kinds of noise levels they experienced. These levels were: very quiet, low (could easily hear others seated nearby), medium (observers had to lean towards one another to converse comfortably and only patrons immediately next to observers could be heard), and high (observers had to shout to be heard by each other - usually only occurred when a band was playing). If noise level varied during the observation period, the highest noise level observed was recorded. Reliability was fair ($\tau_{au} = .72$) and disagreements mostly reflected individual differences in tolerance of noise, particularly confused or white noise.

Lighting level also began with three categories but changed to four. These were: dark (very difficult to see anything), dim (difficult to see across the room), medium (good visibility but not bright), and bright (well lit or natural light from windows during the daytime). Overall lighting was difficult to assess since it often varied for different parts of the room. Variability between observers seemed to be partly caused by the direction observers faced and by how much they were affected by the contrast between bright outdoor lighting before entering a fairly dim establishment ($\tau = .67$).

Crowding was assessed by choosing one of three categories: less than one-third full, one-third to two-thirds full, and more than two-thirds full. The reliability was good ($\tau = .81$) and differences were nearly always due to crowding levels that fell on the border between two of the categories.

Two other variables were recorded and each category of the variables was marked either present or absent. These were activities available and activities going on during the observation. Activities were subdivided into dancing, pool, shuffle board, darts, cards, pong, and other. Floosball (a kind of table soccer) and electronic wall games were the most frequent activities classified as other.

CHAPTER 3: RESULTS

I. The Aggressive Incidents

Two measures of frequency of aggression were used: physical and non-physical. Physical aggression included incidents involving threats or challenges to fight (although no actual contact was made), incidents with non-injurious, but aggressive physical contact (grabbing, pushing), and actual physical violence (punching, kicking). The remaining incidents were classified as non-physical. There was a total of 160 recorded incidents of aggression: 47 were physical and 113 non-physical.

Table IV: Means and standard deviations of frequency of aggressive incidents per observation period (2 to 2 1/2 hr.)

	<u>Physical</u> <u>Aggression</u>	<u>Non-Physical</u> <u>Aggression</u>	<u>Overall</u> <u>Aggression</u>
Mean	.16	.37	.53
Standard deviation	.52	.90	1.15

Incidents of aggression varying from very mild insults to actual physical violence were observed and recorded. In over 600 hours of observation, only 160 incidents, including very mild verbal aggression, were observed. No brawls and no incidents involving serious physical injury were witnessed.

A. Range

The following summaries of aggressive incidents illustrate the range of aggression which was recorded.

Mild:

(1) A man misplaced his beer and said to the waiter, "What the fuck did you do with my beer?" The waiter pointed to it.

(2) A woman and a man were arguing about her flirting with another man. She placated her companion saying, "You know you're the only one for me" and other similar remarks.

(3) A man made derogatory remarks about the piano player under his breath, but loud enough for others to hear him.

Moderate:

(4) A man fell against a women's table. She stood up and swore loudly at him telling him to get away from her table.

(5) A man had been loud and swearing during the evening. Finally, he stopped at a table, shouted "suckholes" and dropped his pants. He then did up his pants, went back to his table, and carried on as before.

(6) An argument arose between two women, apparently over religious issues (one was an Orangeman and the other a Catholic). One woman challenged the other to fight. The

bartender told her to sit down or she would be thrown out. She replied that she would leave without being asked, sat down, and left soon after.

Extreme:

(7) A man persisted in bothering a woman playing pool. Finally, she gave him a shove and viciously poked him in the stomach with her pool cue.

(8) A man was helping out around the bar (apparently for free drinks), playing bouncer. Another man was drunk and told by the bartender to leave. As he staggered out the "bouncer" kicked him causing him to knock against the wall and fall.

(9) A man took out a cigar to smoke. Another man grabbed his arm and twisted it backward, saying calmly but firmly, "I'm serious. I'll twist it out of its socket if you don't put that away." The first man put the cigar away and the second man told him that he could go to the back room if he wanted to smoke it.

B. Similar Incidents

Sometimes very similar incidents were observed, often of varying degrees of aggressiveness.

Jealousy was a common point of dissention. A mild incident was related above (2); some other "jealousy incidents" were not so mild:

A man spoke to a woman as she walked by. His female companion was angered by this and hit him on the head with her fist. The man did not hit her back but the two began to argue.

Evicting an undesirable patron can include violence as in the example of the would-be bouncer (8) or may be accomplished with a minimum of aggression as in the following example:

The waiter asked a patron to drink up as it was closing time. The patron made comments to the waiter's back about drinking "his damn beer in peace", etc. Later the waiter helped the man to the door and the man said to the waiter, "See you tomorrow."

A number of aggressive incidents were observed in which aggression began with one person making social overtures to another. The following are three examples of this kind of aggression:

A woman sat down at a man's table. He became angry and cursed at her, and said to her, "I never asked you to sit with me." He arose and moved to another table. The woman turned to another patron and said, "That's what you get for being nice."

A man was making overtures to a woman seated by herself at the bar. She ignored him and he became insulting, all the time insisting that he was just trying to be friendly. Finally, she called him a bastard and he stopped bothering her.

A man was trying to join in with the conversation at the next table. A man at the next table reacted angrily, swearing and threatening (shook his fist, pretended to crush a cigarette package, slapped the other man's hand away when the other man tried to tap him on the shoulder). The waiter and the man's companions told him to settle down.

II. Aggressive Individuals

While data were not collected concerning individuals not involved in aggressive incidents, overall characteristics of clientele in each establishment were recorded. Thus, it is possible to compare the sample of aggressors to the entire patron sample on the dimensions of age, gender, clothing, beverage consumed, race, and state of intoxication.

Including secondary participants (i.e. people who entered the incident after it had started) who may or may not have behaved aggressively, the 288 patrons involved in aggressive incidents differed from the overall patron sample on several dimensions:

(a) intoxication: of the aggressors, 8% were classified as sober, 32% slightly drunk, 45% drunk, and 15% very drunk, compared to 47% sober, 42% slightly drunk, 9% drunk, and 2% very drunk in the overall sample;

(b) race: 18% of the aggressors were native Indian compared to 4% in the sample and, of the female aggressors, 50% were native Indian;

(c) age: there was a trend for aggressors to be older than the overall sample of patrons but this may have been the product of the sampling of drinking establishments which did not include cabarets and discos.

The relative proportion of aggressors in each category of dress, gender, and beverage consumed corresponded roughly to the relative proportions in the overall patron sample, with two exceptions: percentage of people dressed-up (5% of aggressors compared to 12% of all patrons) and percentage of people drinking cocktails or liqueurs (3% of aggressors compared to 10% of all patrons).

Although observers were in establishments for less than three hours, 23 patrons were observed taking part in more than one incident of aggression: two people were involved in four incidents each; four people were involved in three incidents each, and 17 involved in two incidents each.

III. Variables Used in the Analyses

What follows is a description of the numerical coding of the situational variables. These include Situational Variables I (variables coded during the project for which inter-rater reliability was calculated), and Situational Variables II (variables created during the study and coded at the end of the project using notes and personal memories of observers). Many variables were ordered (for example, ventilation) but were not necessarily equal interval. These variables were treated both as continuous and categorical for the analyses and usually the most explanatory results were reported. For some of the categorical variables which could not be ordered (for example, overall atmosphere), it was sometimes more efficient in the regression and factor analyses to combine several categories either by creating combined categories or by leaving some categories out. This combining was usually based on two criteria: how well the categories fit together intuitively; and number of cases in that particular category (for example, a category with less than 20 of the 303 cases was usually combined with some other category when possible).

Simple correlations with frequency of aggression were calculated for all variables. Variables used in the multiple regression of Situational Variables I or Situational Variables II are designated with (*); variables used in the stepwise regression on all situational variables are designated with (R); and variables used in the factor analysis are followed by (F).

Table V: Situational Variables I

location: downtown (1), suburb (-1) (* R F)

license: beer parlor, beer parlor pub, lounge, cabaret, neighborhood pub, and legion; dummy coded with legion as reference category (* R)

time: 9am to noon (1), noon to 3pm (2), 3pm to 6pm (3), 6pm to 9pm (4), 9pm to midnight (5), midnight to 3am (6) (* R F)

day/night: before 6pm (-1), after 6pm (1) (* R)

day: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday; dummy coded with Saturday as reference category

weekday/weekend: Monday to Wednesday (1), Thursday to Saturday (-1) (* R)

seating capacity: less than 50 (1), 50-100 (2), 100-150 (3), 150-200 (4), more than 200 (5) (R F); dummy coded with more than 200 as reference category (*)

activities available: dancing, pool, shuffle board, darts, cards, pong, and other; dummy coded with other as reference category

activities going on: dancing, pool, shuffle board, darts, cards, pong, and other; dummy coded with other as reference category (* R); dancing with all others as reference category (F); pool with all others as reference category (F)

minimum: minimum number of patrons present at any one time (* R)

maximum: maximum number of patrons present at any one time (* R)

total: total number of patrons present during the observation period (* R F)

view: number of patrons within view of observers during observation period (* R)

hear: number of patrons whom observers were able to overhear during the observation period (* R)

age: % of total patrons who were 19-25, % 26-35, % 36-50, % over 50; % 26-35 treated as reference group (* R F)

Table V. continued

dress: % of total patrons who were unkempt, % work clothes, % casual-jeans, % casual-dressy, % dressed up; % in work clothes used as reference category (* R F)

males: % of total patrons who were males (* R F)

beverage consumed: % of total patrons drinking draft, % bottle beer or cider, % hard liquor, % wine, % cocktails or liqueurs, % non-alcoholic beverages; % drinking non-alcoholic beverages used as reference category (*) [Note: since the brewery dispute affected beverage consumption, this variable was excluded from the overall regression and the factor analysis.]

race: % of total patrons who were Caucasian, % native Indian, % Negro, % Chinese, % other; % other used as reference category; % Chinese and other used as reference category (*); % Negro, Chinese and other used as reference category (R F)

alone: % of total patrons unaccompanied (* R F)

leavers: % of total patrons who stayed in the bar less than one hour (* R F)

intoxication: % of total patrons who were sober, % slightly drunk, % drunk, % very drunk; % very drunk used as reference category (*)

intoxication of patrons: % sober + 2 X % slightly drunk + 3 X % drunk + 4 X % very drunk (R F)

noise: very quiet (1), medium quiet (2), medium loud (3), loud (4) (R F); dummy coded with loud as reference category (*)

crowding: less than 1/3 full (1), 1/3 to 2/3 full (2), more than 2/3 full (3) (R F); dummy coded with more than 2/3 full as reference category (*)

lighting: dark (1), dim (2), medium (3), bright (4) (R); dummy coded with bright as reference category (*)

ventilation: warm and stuffy (1), smokey but not stuffy (2), fresh (3) (R F); dummy coded with fresh as reference category (*)

decor: shabby (1), ordinary (2), nice (3), posh (4) (R); dummy coded with posh as reference category (* F)

red: red (or affiliate) predominant color (1); not red (-1) (* R)

Table VI: Situational Variables II

overall decorum: high - loud talk, minor obscenities noticed and disproved (1); moderate - loudness mildly disproved - arguments very disproved (2); permissive - no notice taken of loud or rough talk but arguments and abusive language disproved (3); very permissive - most behaviors permissible but physical violence curtailed (4); extremely permissive - anything goes (5)

swearing: mild or absent (1); present but restrained (2); frequent, acceptable, non-abusive (3); frequent, acceptable, abusive (4)

sexual bodily contact: none or very casual (1), discrete necking (2), heavy necking, touching (3), flagrant fondling (4)

drugs: no obvious use of drugs (1), people openly or obviously using drugs (2), drugs being sold (3) (* R)

prostitution: no obvious soliciting (1), discrete soliciting (2), soliciting open and aggressive (3)

control by barworkers: not applicable - no trouble seen (1), barworkers able to spot and defuse trouble before it occurs (2), barworkers handle problems calmly and efficiently (3), barworkers handle problems violently or ineffectively (4), barworkers avoid acting when problems arise (5)

combined decorum: overall decorum + swearing + sexual bodily contact + prostitution + control by barworkers (* R F)

kind of theme: "west coast" - wood, plants, sofas, etc.; medieval - coat of arms, swords, etc.; English pub - dark wood, heavy furniture, mugs; western-rural - spurs, reins, farm equipment; occupation - for example, fishing, logging; other theme, no theme; dummy coded with other theme as reference category (*)

theme: theme (1), no theme (-1) (R F)

cleanliness: spotless (1), well-cared for (2), slightly run-down (3), furnishings chipped and stained (4), filthy (5) (*)

expenditure: high initial expenditure and standards well-maintained (1), high initial expenditure but not maintained (2), low initial expenditure but money spent on upkeep (3); low initial expenditure and no maintenance (4) (*)

upkeep: cleanliness + expenditure (R F)

Table VI. continued

Seating: one large room with tables jammed together in rows (1); the same as 1 but with some partitioning with levels, etc. (2); low comfortable chairs and tables well spaced (3), high backed chairs and chesterfields (4); standing room - pub style (5) (R F); dummy coded with pub style as reference category (*)

composition of groups (more than one category possible): high percentage of people standing or sitting alone, small same sex groups (up to 4 people), small mixed groups, large same sex groups, large mixed groups, solitary couples, groups of couples; dummy coded present or absent (* R)

pleasantness of physical surroundings: scale of 1 to 10 (* R F)

overall atmosphere: convenience bar used mostly by white-collar workers ("executive" atmosphere); comfortable, friendly; intense, crowded; rough but friendly; tense, hostile; drab, no distinct atmosphere; other; dummy coded with other as reference category (*); dummy coded with executive, friendly, intense, rough-social, and tense scored present or absent (R F)

laughter (more than one category possible): little or no laughter; bitter, cynical laughter; nasty, teasing laughter at another person's expense; quiet, good-humored laughter; hearty, good-natured laughter; dummy coded present or absent (* R); quiet laughter and hearty laughter coded present or absent (F)

nature of conversation (more than one category possible): business-executive talk, small talk, hostile talk, intense interpersonal talk; dummy coded present or absent (* R); business and small talk scored present or absent (F)

regulars: % of total patrons who appeared to be regulars (* R F)

kind of regulars (more than one category possible): lunch-time; after-work; people who use bar as a "social club", people who come to the bar often but at irregular periods, usually unaccompanied and usually for only one or two drinks; other; dummy coded as present or absent (* R); lunch-time, after-work, and "social club" regulars scored present or absent (F)

friendliness to strangers: "open" - lots of talk between strangers and people expected to be willing to engage in conversation (1); "closed" - people keep to themselves and talk only with members of their own group (-1) (* R F)

Table VI. continued

barworkers: all male, all female, all female except bartender, mixed; dummy coded with mixed as reference category (*); dummy coded with all female and mixed as reference category (R)

barworker friendliness: hostile and rude (1), avoided any interaction with patrons (2), reserved (3), friendly but not familiar (4), on friendly and familiar terms with most patrons (5), actually sitting and drinking with patrons (6) (R F); dummy coded with sitting with patrons as reference category (*)

non-sexual bodily contact: scale of 1 to 5 (* R F)

major activity besides conversation: none, withdrawn drinking, solitary activities (reading, people watching), groups watching T.V., table games (chess, crib, etc.), active games (pool, darts, etc.); dummy coded with none as reference category (* R)

amount of movement: little movement in bar and little turnover of patrons, little movement in bar but large turnover, noticeable number of people walking through the place, frequent table-hopping and stepping to greet others, large numbers of people standing and milling about; dummy coded with noticeable number of people walking through as reference category (* R); dummy coded with little movement, little turnover and noticeable number of people walking through as reference category (F)

amount of conversation: very little (1), quiet within group conversation (2), loud within group conversation (3), lots of loud conversation with frequent exchanges between tables (4) (* R F)

food: full meals readily available (1), fast foods (hot dogs, etc.) available (2); nuts, pretzels available for free or cocktail hrs d'oeuvres supplied (3), nuts and chips available for purchase (4), no food available (5) (F)

rate of drinking: slow (1), moderate (2), heavy (3) (* R F)

noticeable number of people talking to themselves: yes (1), no (-1) (* R F)

entertainment: none, muzac, T.V., single entertainer, dance band, juke box or disco, stripper; dummy coded with none as reference category (*); dance band, juke box and stripper coded present or absent (R); dance band and juke box coded present or absent (F)

IV. Prediction of Frequency of Aggression

The premise and orientation underlying the initiation of this research was that aggression in public drinking establishments occurs within certain barroom ecologies. Guided by this premise, the results were collated and interpreted with the goal of distinguishing the barroom ecologies which most often include aggression. The distinction between aggression as criterion and other variables as predictors was an arbitrary one and in no way implies causal direction. For example, decorum expectations about a drinking establishment may determine the amount of aggression that occurs in the establishment, but correspondingly, the decorum expectations are usually based on the kinds of behavior (including aggression) which has occurred in that establishment in the past. Similarly, a shabby, run-down establishment may encourage aggression by implying that mistreatment of furnishings by violence is expected; on the other hand, the owner of such a place may be reluctant to make renovations which would soon be destroyed by the rough clientele.

This inter-dependency of variables of the drinking milieu does not negate the possibility of change; it does, however, indicate the artificiality of designating one variable to be cause and another effect. The system can often be disrupted by major changes on any one variable. For example, Alberta hotel owners felt that considerable changes in decorum expectations resulted from major renovations and institution of dress standards (Zwarun, 1978). Alternatively, in most bars standards of behavior are set, at least partly, by a core group of regulars (Clinard, 1962). Over the course of time, this core group can change (for example, from a younger crowd to an older crowd), and this change may include changes in behavior, and consequently, changes in behavioral expectations, although no changes in bar staff or physical environment occurred during that time period.

The first step towards taking rationally determined measures for decreasing aggression in commercial drinking establishments would seem to be to understand the circumstances of drinking which most often include aggression. The following analyses begin by describing the individual importance of specific variables in predicting aggression and culminate with descriptive explanations of the overall contexts of public drinking which most often include aggression. While it is of interest to evaluate the statistical importance of individual variables, the practical importance of any one variable should not be interpreted without considering the overall drinking context.

A. Variables

The circumstances of aggression included the physical environment, characteristics of patrons, and the social environment (Situational Variables I and II). A number of variables were found to correlate significantly ($p < .0005$) with aggression: state of intoxication of the patrons, race, length of time patrons stayed in the establishment, ventilation, decor, noise level, activities going on, location of establishment, decorum, theme, cleanliness of the establishment, expensiveness and maintainance of furnishings, pleasantness of physical surroundings, seating layout, atmosphere, kind of laughter, kind of talk, rate of drinking, amount of movement in the establishment, the presence of people talking to themselves, and kind of entertainment. (See Table VII.)

Since training and some changes in methodology took place during the first three weeks of the project, correlations were calculated omitting observations from these first three weeks. The pattern of correlations from this second analysis was identical to the pattern of correlations in the overall analysis; therefore, all subsequent analyses were performed on all the data (i.e. including the observations from the first three weeks).

Stepwise regression indicated that aggression was highly predictable on the basis of the variables measured. The adjusted R^2 , using Situational Variables I and II, accounted for over half the variance in predicting overall aggression. (See Table VIII.)

Table VII: Variables which correlate significantly with at least one form of aggression. (To compensate for the number of tests performed, the significance level was set at $\alpha = .19$, $p < .0005$, $N = 303$. For ordered variables with less than 10 values, the τ statistic is also reported.)

Situational variables I	Physical Aggression	Non-physical Aggression	Overall Aggression
% of sober patrons	-.36	-.32	-.41
% slightly drunk patrons	.20	.24	.28
% drunk patrons	.44	.28	.42
% very drunk patrons	.39	.30	.41
% caucasian patrons	-.37	-.36	-.45
% native Indian patrons	.41	.39	.49
ventilation	-.40 (-.36)	-.40 (-.31)	-.49 (-.34)
decor	-.24 (-.23)	-.26 (-.18)	-.31 (-.22)
noise level	.28 (.23)	.09 (.12)	.20 (.20)
dancing	.32	.12	.24
pool	.17	.19	.22
location	.13	.19	.20

Situational Variables II

overall decorum	.37 (.26)	.38 (.29)	.46 (.32)
swearing	.34 (.30)	.38 (.31)	.45 (.35)
sexual bodily contact	.36 (.29)	.35 (.26)	.43 (.29)
drugs	.27 (.31)	.17 (.27)	.26 (.34)
prostitution	.41 (.39)	.35 (.31)	.46 (.37)
control of barworkers	.45 (.42)	.59 (.57)	.66 (.61)
combined decorum variables	.49	.54	.64
theme	-.19	-.20	-.24
cleanliness	.40 (.34)	.40 (.28)	.49 (.35)
expense	.33 (.32)	.24 (.20)	.34 (.28)
pleasantness	-.28	-.32	-.37
tables in rows	.27	.20	.28
tables spaced, lounge style	-.19	-.14	-.19
hostile atmosphere	.46	.32	.45
friendly atmosphere	-.17	-.19	-.22
open to strangers	.09	.19	.19
quiet laughter	-.23	-.19	-.26
small talk	-.20	-.31	-.34
hostile talk	.38	.38	.47
rate of drinking	.34 (.30)	.22 (.22)	.33 (.30)
large turnover	-.21	-.16	-.22
lots of table-hopping	.31	.21	.30
people talking to themselves	.23	.38	.40
dance band	.22	.01	.11
juke box	.16	.24	.26

Table VIII: Adjusted multiple correlations of physical, non-physical, and overall aggression with Situational Variables I, Situational Variables II, and all situational variables (Spss7, Stepwise forward inclusion, criterion for inclusion: $F=1$)

	<u>Physical</u> <u>Aggression</u>	<u>Non-physical</u> <u>Aggression</u>	<u>Overall</u> <u>Aggression</u>
Situational Variables I (total of 58 predictors)	.61 (11 pred.)	.59 (21 pred.)	.70 (21 pred.)
Situational Variables II (total of 74 predictors)	.63 (23 pred.)	.64 (28 pred.)	.70 (29 pred.)
All variables (total of 95 predictors)	.70 (40 pred.)	.68 (36 pred.)	.77 (38 pred.)

The formula used for calculating the adjusted multiple correlations was: $\text{adjusted } R^2 = 1 - (1 - R^2) \left(\frac{N-1}{N-p-1} \right)$; and not the one used in the SPSS7 Regression Program.

B. Factors

Since many variables which correlated significantly with aggression also correlated highly with each other, the situational variables designated previously were submitted to factor analysis. The factor analysis was performed, not so much to determine the underlying dimensions of the drinking milieu in general, but rather to determine the dimensions of the drinking milieu relevant to predicting aggression. The clearest solution for this purpose appeared to be a three-factor solution using principle component analysis with a normal varimax rotation (Spss7). This solution produced one factor which was highly correlated with both physical and non-physical aggression. Using all three factors as predictors accounted for 40% of the variance in predicting overall frequency of aggression. (See Table IX.)

The loadings on each factor illustrated the inter-relationships of the predictor variables. (See Table X.)

Table IX: Correlations between scores on the three factors and frequency of physical, non-physical, and overall aggression.

	<u>Physical</u>	<u>Non-physical</u>	<u>Overall</u>
	<u>Aggression</u>	<u>Aggression</u>	<u>Aggression</u>
Factor 1	.47	.49	.59
Factor 2	.14	.13	.17
Factor 3	.23	.07	.16
Adjusted multiple correlation (using all three factors)	.54	.50	.63

Table X: Factor loadings and communality of each variable
(Loadings of .30 or higher are marked *.)

<u>Variable</u>	<u>Communality</u>	<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>
location	.37	.50 *	-.28	-.20
ventilation	.35	-.51 *	-.19	-.23
shabby decor	.29	.45 *	.29	.00
nice decor	.23	-.40 *	-.15	.21
% Caucasian patrons	.54	-.72 *	-.15	-.03
% native Indian patrons	.54	.71 *	.22	.01
friendly atmosphere	.36	-.57 *	.16	-.04
tense atmosphere	.41	.63 *	.10	.03
small talk	.23	-.45 *	.16	-.02
talking to self	.37	.57 *	.18	-.10
barworker friendliness	.15	-.38 *	.02	-.09
quiet laughter	.26	-.34 *	-.30 *	-.24
theme	.26	-.36 *	-.35 *	.08
seating layout	.46	-.46 *	-.49 *	.10
upkeep	.75	.66 *	.55 *	-.04
physical pleasantness	.54	-.64 *	-.34 *	.11
combined decorum	.77	.76 *	.42 *	.14
% casual-jeans	.45	.00	.61 *	.27
% dressed up	.40	-.06	-.63 *	-.06
% regular patrons	.40	.07	.62 *	-.08
ordinary decor	.23	.13	.42 *	-.18
seating capacity	.46	.16	.64 *	.05
pool	.46	.23	.63 *	-.13
non-sexual bodily contact	.23	-.03	.40 *	.27
large turnover	.22	-.11	-.38 *	-.24
table-hopping	.20	.20	.34 *	.21
"executive" atmosphere	.42	.03	-.65 *	-.04
"social club" regulars	.45	.08	.63 *	.23
business talk	.34	.02	-.57 *	-.11
juke box	.21	.19	.42 *	.01
open to strangers	.12	.12	.31 *	.12
total number of patrons	.47	-.01	.33 *	.60 *
% male patrons	.46	-.03	.36 *	-.57 *
% "leavers"	.46	-.20	-.41 *	-.50 *
loud laughter	.28	-.19	.31 *	.39 *
% patrons alone	.29	.22	-.01	-.49 *
% patrons aged 19-25	.40	-.24	.23	.54 *
% patrons aged 36-50	.25	.05	-.32 *	-.39 *
% patrons over 50 years	.34	.30 *	.22	-.45 *
noise level	.58	.11	.14	.74 *
crowding level	.48	-.01	-.10	.68 *
dancing	.25	.20	.07	.46 *
time of day	.48	.11	-.02	.68 *
amount of conversation	.27	-.05	.26	.44 *
lots of people milling	.29	-.10	.03	.53 *
intense atmosphere	.38	.01	.04	.62 *
lunch-time regulars	.19	-.19	-.14	-.36 *
availability of food	.17	.17	-.08	.37 *
intoxication of patrons	.60	.55 *	.27	.47 *
rate of drinking	.51	.47 *	.42 *	.35 *
% unkempt patrons	.06	.22	-.13	.22
rough-social atmosphere	.13	.20	.28	-.11
after-work regulars	.04	-.07	-.15	-.09

Each factor identifies a distinctive drinking milieu. The aggressive setting identified by the first factor seems to be characterized by: very permissive decorum expectations, unpleasant, unclean and inexpensive physical surroundings, a higher proportion of native Indians patrons and a lower proportion of Caucasian patrons than in most bars, a hostile atmosphere, the presence of a noticeable number of people talking to themselves; and to a lesser extent, poor ventilation, downtown location, shabby decor, tables in rows (beer parlor style), no theme to the decor, unfriendly barworkers, and a larger proportion of patrons over 50 than in other bars. Most Skid Row beer parlors fit this description.

The opposite, or "non-aggressive setting" identified by this factor appears to be characterized by: high standards of decorum expectations, pleasant, well-cared for and expensive surroundings, mainly Caucasian patrons, patrons more sober than in other bars, a friendly comfortable atmosphere; and less consistently, good ventilation, suburban location, nice decor with a theme, tables well spaced (lounge style), friendly barworkers, small talk, quiet laughter, and drinks being consumed at a fairly slow pace. Some lounges and most neighborhood pubs fit this description.

One milieu identified by Factor 2 ($r=.17$ with overall aggression) has the following characteristics: a large seating capacity, pool being played, "social club" regulars (i.e. a "hang-out"), a larger proportion of regular patrons than usual, a larger proportion of patrons wearing jeans and a smaller proportion dressed up than in other bars, physical surroundings not very clean or well cared for, and tables in rows (beer parlor style); and to a lesser degree, permissive decorum standards, more non-sexual bodily contact than in other bars, lots of table-hopping and most patrons staying in the bar for more than an hour, most patrons drinking fairly rapidly, a larger proportion of males and a larger total number of patrons than in most bars, a juke box in use, and an "ordinary" decor, usually not very attractive nor centered around a theme. Many of the large beer parlors fit this description,

The second milieu identified by Factor 2 tends to have the following characteristics: an "executive" atmosphere with business talk prevalent, a large proportion of patrons dressed-up and a smaller proportion of regulars than in other bars, clean, fairly expensive physical surroundings, well spaced tables (lounge style), and less reliably, high standards of decorum expectations, a large turnover of patrons with a larger proportion than usual who stay less than one hour, most patrons drinking fairly slowly, pleasant physical surroundings with decor centered around a theme, little bodily

contact, quiet laughter, a higher proportion of patrons aged 36-50 than in other bars, and no activities such as pool or playing the juke box. This is a quite accurate description of the type of lounge frequented mostly by white-collar workers and used mainly as a convenience bar.

Factor 3 identifies an evening milieu moderately associated with physical aggression ($r = .23$) and characterized by: high noise level and crowding, a large number of patrons, a larger proportion of females and younger patrons than in most bars, an intense, active atmosphere with lots of people milling about; and a smaller proportion of unaccompanied patrons and patrons who stay less than one hour than in other bars, patrons more intoxicated than in the average bar, patrons drinking fairly rapidly, loud conversation and loud laughter, dancing going on, and usually little or no food available. This setting is one of a "night-spot", particularly frequented by young singles.

The other setting identified by Factor 3 is the daytime milieu associated with: a small number of patrons, a large proportion of older patrons, patrons who are drinking slowly and are fairly sober, a larger proportion of unaccompanied patrons and patrons who stay less than one hour than in most bars, a quiet, uncrowded atmosphere, little movement in the bar, and lunch-time regulars.

CHAPTER 4: DISCUSSION

AGGRESSIVE BARS

In this study, drinking establishments varied enormously in frequency of aggression observed. In one bar (total of 5 hours of observation), 14 incidents were recorded; while in 115 drinking establishments, no aggression was seen. Over half of the aggressive incidents occurred in the 41 observational periods which scored +1 on Factor 1. These observations took place in 29 of the 185 drinking establishments and these 29 included most of the Skid Row bars, some bars in the area adjacent to Skid Row, some at the other end of the downtown area, and two bars in the suburbs. It was apparent from conversations with barworkers and patrons that most of these bars have a reputation for violence. Some were referred to by Cutler and Storm in their observational study of alcohol consumption in Vancouver beer parlors as places where "instances of aggression were frequently observed" (1975, p. 1177). In "Down the Hatch: A Twelve Hour Tour of Taverns, A to Y" (Staehling & Malcclm, 1978), the authors mention that the only fight they saw in their tour was in the bar mentioned above that chalked up 14 incidents. The factor analysis suggests that the aggressive drinking establishments have more in common than geographic location and reputation for aggression. From the factor analysis and from notes made by observers, it is possible to piece together a fairly detailed description of a prototypical aggressive bar.

The Aggressive Bar

A fairly large proportion of the clientele are people without regular work (unemployed, disabled, retired) or people with illegal work (prostitutes, dealers). The bar is frequented by at least one minority group (native Indian, black, gay). Patrons tend to be in and out of the bar all day and use the bar as a "home base" for social and other activities. For many of the patrons, this bar is one of a circuit of bars they visit during the day.

The older people talking to themselves (sometimes shouting and fist fighting with fictitious opponents), the disoriented conversations, the very intoxicated patrons, and the "business" dealings going on in the bar give the place a strange, almost bizarre, atmosphere. There is almost total tolerance for these behaviors. Unusual behaviors are accepted and often the source of gentle (or not so gentle) amusement; for example, the man who came into the bar and said sociably to another, "Still talking to yourself, Iffy?" Or the patrons who reacted to a man's demonstration of how to light a campstove by stealing parts of the stove from him and hiding

them. Similarly, extreme drunkenness is common and usually acceptable. The only reason for refusal of service seems to be that the person has passed out; and some instances were seen in which the person was awakened to be served another drink. Patrons were seen "helping out" for free drinks and in one case trading a watch for a drink.

In summary, the aggressive bar (at least the Factor 1 variety) tends to be a haven for individuals who often are not accepted elsewhere. There are very few limits on acceptable behavior and little pressure for patrons to behave "normally". This accepting attitude seems to be combined with suspicion and hostility ("tense atmosphere"), possibly because of the deals going on. Most of the barworkers are not friendly and avoid interaction with patrons as much as possible. Finally, the bar tends to be physically unattractive with a shabby, run-down decor, tables close together in rows, and poor ventilation. ✓

A COMPARISON OF OBSERVATIONAL FINDINGS WITH PREVIOUS RESEARCH

This study has examined different aspects of the alcohol-aggression relationship than has previous research. In the past, research on the mediating or contributing factors of alcohol-related aggression has centered around three specific types of variables: person variables (beverage consumed, amount of alcohol consumed, need for social approval, need for aggression, group role, and attitude towards aggression); specific situational variables (provocation, third party intervention, group size, classroom vs. apartment setting, and female singer vs. taped music); and global cultural variables (presence of women at drinking occasions and societal complexity). In many of the studies the effect of a particular variable on alcohol-related aggression was evaluated by comparison to the effects of that variable on non-alcohol-related aggression. To make this comparison some of the studies used a very contrived measure of aggression such as setting of electric shocks.

By contrast, the present study focussed on aggression which occurred spontaneously in public drinking settings. Many studies go to great pains to introduce effective placebos under the assumption that by making the situation more ambiguous, effects from the "social meaning" of alcohol will be reduced or eliminated and only the "pure" effects will remain. There is evidence that subjects are quite competent at

detecting whether or not they have been given alcohol (Smith et al., 1975) even when the alcohol was administered intravenously (Hartocollis, Warren and Raynes). And even if perfectly effective placebos were possible, it is unreasonable to assume that the effects of an unknown drug in a particular setting reflect the "true" effects of alcohol (Kalin et al., 1972, p. 5). The assumption of the present research was that expectations are part of the effects of alcohol. They cannot and should not be eliminated when the real effects of alcohol on social behavior are sought. Nor should they be eliminated when investigating factors which influence the alcohol-aggression relationship.

Although the observational procedure included the evaluation of many potential mediating variables of alcohol-related aggression, it was generally not possible to ask the same kinds of questions about these variables as had been done in previous research: for example, was reaction to provocation greater in drinking than in non-drinking situations? However, drinking settings which predicted aggression were identified, and descriptions of each incident of aggression and each person involved in the incident were recorded. On the basis of the interpretation of these settings and incidents, some comparison of the present research to previous research is possible for some factors, namely: kind of beverage consumed, amount consumed, group size, role of women, attitude towards aggression, third party intervention, provocation, and status.

Kind of beverage

Both Takala et al. and Boyatzis (1974) found more aggression at drinking parties in which distilled rather than brewed beverages were served. In the establishments sampled in the present study, there was a non-significant trend for the opposite to be true with aggression most likely in places with higher proportions of draft beer drinkers ($r=.10$) and wine drinkers ($r=.15$). Comparing patrons involved in aggression with the overall sample of patrons, the only difference in pattern of beverage consumption was that cocktail drinkers were under-represented among aggressors. Although drinking patterns were altered somewhat during the brewery dispute, analysis of data from the first six weeks of the study showed the same relationship between beverage consumption and aggression with an even stronger relationship between the proportion of draft beer drinkers and frequency of aggression.

The discrepancy between previous research and the present observational findings might be attributed to differing expectations for distilled and brewed beverages of Vancouver bar patrons compared to the subjects in the studies of Takala et al. and Boyatzis. Alternatively, it may be that consumption of distilled beverages actually leads to more aggression in controlled settings, but that in naturalistic settings the other factors of the drinking milieu are so much more important in the occurrence of aggression that the true effects of different kinds of beverages cannot emerge.

Amount consumed

Bennet et al. found no effect of various doses of alcohol on aggression and Taylor and Gammon found an effect, but only for their high dose condition.

In barroom observation, it is extremely difficult to make a reasonable guess about how much alcohol people have consumed, as it is common practice for people who drink in one bar to drink in other bars, at home, etc. Reliable estimates of blood alcohol content cannot be made during most naturalistic observation but judgments of state of intoxication can be made. While terms such as "slightly drunk", "drunk", and "very drunk" sound crude and unscientific, these subjective evaluations are probably more valid indicators of drunkenness than are carefully measured BAC's. In experimental research, there is the assumption that varying the dosage of alcohol automatically varies, in a consistent way, the level of intoxication. The assumption that a high degree of control over dosage implies a high degree of control over intoxication is questionable. There are indications that state of intoxication depends as much on circumstances of drinking and personality of the drinker as it does on the amount consumed (Wallgren & Barry III, 1970, p. 384).

It was the unequivocal finding of the present study that as level of intoxication of patrons increased, more aggression was observed. Furthermore, aggressors, on the whole, appeared

much more intoxicated than bar patrons in general. It should be noted that although level of intoxication can be considered a rough measure of amount consumed, the implicit dosages in the observational settings were of a much greater range than dosages consumed in experiments. Whereas subjects of experimental studies would rarely have BAC's of greater than .10, probable BAC's of patrons in bar settings would vary from .00 to .30 or perhaps higher.

Group size

In Hartocollis' study of intravenous alcohol, he noticed that only those tested in groups expressed hostility. It might be hypothesized on the basis of this study that people drinking alone are less likely to be involved in aggression. Support for this hypothesis was not found: 54 of the 160 incidents involved at least one patron who was sitting alone. In fact, there was a non-significant trend for places with a greater proportion of patrons sitting alone to have more non-physical aggression ($r=.16$) and for places with a greater proportion of solitary male-female couples to have less aggression overall ($r=-.16$).

The role of women

Anthropological surveys have found that women are less frequently involved in alcohol-related aggression. In the

present study, the proportion of women involved in aggressive incidents roughly corresponded to the proportion of women in the patron population. When incidents of aggression were grouped according to gender and status (patron/barworker) of the major participants, the following frequencies were observed: male patron-female patron (63 incidents), male patron-male patron (53 incidents), male patron-male barworker (19 incidents), female patron-female patron (10 incidents), male patron-female barworker (9 incidents), female patron-male barworker (4 incidents), and female patron-female barworker (2 incidents). It appears that females figure quite prominently in barroom aggression. However, the role of females in Vancouver barroom aggression needs to be interpreted in the light of a race by gender interaction; that is, native Indian female patrons are strongly over-represented among aggressors while Caucasian female patrons are under-represented. Since female native Indians typically drink in Skid Row beer parlors and since aggression is most frequent in these bars, this interaction probably reflects the social status of native Indian females in Vancouver rather than any racial difference. As a Vancouver newspaper stated, quoting the author of a recent book entitled *Indian Women and the Law in Canada*:

Citizens Minus:

One thing is clear - that to be born poor, an Indian and a female is to be a member of the most disadvantaged minority in Canada today, a citizen minus.

It is to be victimized and utterly powerless and to be, by government decree, without legal recourse of any kind. (O'Neil, 1978, p. 17)

The findings of this study suggest that barroom aggression is not the sole domain of males and that research on alcohol and aggression should not proceed as if it were, by studying male drinkers only.

Attitude towards aggression

Bruun found that men who considered intoxicated aggression acceptable were more likely to become aggressive when they consumed alcohol. Attitude towards aggression was reflected in a number of the variables in the present study but particularly by the variables "overall decorum expectations" and "control by barworkers". It was found that the larger the range of permissible behaviors and the less the barworkers set and enforced behavior standards, the greater the frequency of aggression. Acceptability of aggression was most conspicuous when people involved in physical aggression were neither warned nor refused further service nor asked to leave.

Intervention

Taylor and Gammon (1976) found that third party intervention in an experimental setting moderated the aggressive responses of subjects who had consumed alcohol. In the present study, some form of intervention took place in 44 incidents of aggression; intervention was most often by barworkers (29 incidents). Confirming the experimental findings of Taylor and Gammon, intervention was often

effective in peacefully putting an end to aggressive incidents, as in the following example:

Two men were sitting at adjacent tables and a disagreement arose between them. One man pushed the other and the other pushed him in return. Both were preparing to fight and shouting comments at each other. The waiters immediately separated them. One man was moved to another seat and both were warned not to continue.

Although intervention was effective in 28 incidents, it was ineffective in 11:

A group of men were throwing beer cans around. The manager cautioned them but as he left the group, one of the men pretended to throw a can at the manager's back. This same group were soon involved in a game of "baseball" using a beer can as the ball and a pool cue for a bat.

In five incidents, intervention was as violent or more violent than the original aggression:

An older man was apparently aggravating a nearby table. A male at this table became angry and grabbed the older man. His companion (an off-duty bouncer in the establishment) forced his way between the two and punched the older man. The older man was asked to leave by the barworkers.

The diversity of intervention observed in public drinking settings suggests that intervention is not a single entity which can be scored on presence or absence, but an important aspect of barroom behavior deserving of further, more intensive, study.

Provocation

Taylor and Gammon (1975) found that, as the experiment progressed, subjects who consumed different dosages of different beverages reacted differently to provocation from an opponent. Lang et al. found that the effect of provocation was the same for both alcohol and no-alcohol conditions. In the present observations of barroom provocation, there was no obvious overall tendency for bar patrons to "over-react" or "under-react" to provocation. Incidents were observed in which even extreme provocation did not elicit an aggressive response; and other incidents were observed in which provocation appeared to be very slight, yet the response very aggressive. There did seem to be a tendency for teasing and refusal of service to provoke aggression fairly often; on the other hand, threats and challenges to fight seemed to evoke placatory responses more often than might be expected. Possibly, all kinds of provocation are not equally provocative to people who have been drinking and investigations into the effects of provocation on intoxicated subjects should use kinds of provocation similar to those which typically occur in barroom settings.

Status

It was not possible to do a systematic analysis of the relative social status of individuals involved in aggressive incidents; however, a superficial examination supports Washburne's contention that aggression is more often directed at peers and status inferiors than at status superiors. Most patron-patron conflicts seemed to involve peers. Further support for this hypothesis appeared in situations in which the status of individuals was obvious such as the patron/staff distinction in bars frequented by white-collar workers. In these downtown "executive" bars, patron-staff aggression was always initiated by the patron. In other bars, patron-staff aggression was often initiated by an aggressive barworker.

CHAPTER 5: CONCLUSIONS

Reviewing the results, the findings can be summarized by two statements:

1. although aggression was observed in all kinds of drinking establishments, it was much more frequent in some kinds of bars than in others; and

2. bars with frequent aggression tended to be the less reputable ones, often located in the Skid Row area.

The final section will center around two questions. How well do the theories described in the Introduction account for these observational findings and, more generally, what can be concluded about the alcohol-aggression relationship on the basis of data collected in this study?

I. How Well the Theories of Alcohol-Related Aggression Account for Observed Barroom Aggression

A. Direct Changes in Behavior Caused by Alcohol

Disinhibition theory: Just as this model was inadequate for explaining differences in amount of alcohol-related aggression between cultures, it is also inadequate for accounting for the existence of "aggressive bars" within a culture.

B. Changes in Thinking

Less complicated individual with fewer coping mechanisms:

The variability between bars could be accounted for by:

(1) the baseline cognitive complexity of patrons in some bars is less than in others; and (2) in some bars, many more situations arise which demand the utilization of coping mechanisms.

Aggressive bars in this study did tend to be characterized by a tense atmosphere, with deals going on, and teasing fairly frequent. It might be expected that this sort of environment would demand more coping mechanisms than the lounge environment with very little social interaction going on or the "laid back" atmosphere of the neighborhood pub. However, this theory fails to account for the large number of incidents of aggression which were unprovoked and not likely the result of an alcohol-induced reduction in complexity of thinking or reduction in coping mechanisms.

Risk taking:

If an increase in the willingness to take risks occurs with alcohol consumption and if this increases the probability of aggression, one would expect aggression to occur equally often in all bars. This was not the case. The intuitive appeal of the risk taking theory may be based on the stereotype of the fool-hardy small sized drunk challenging the giant. In fact, this sort of aggression was rarely seen. Targets of aggression tended to be either physically weaker or of lower

status than the aggressor or of the same strength or status.

Reduced awareness (dissociated self and reduction in cues):

This theory would predict differing amounts of aggression in bars according to the state of intoxication of the patrons and the number of activities or situations in which insufficient awareness of social cues might lead to aggression. Presumably, the more interpersonal interaction going on, the more the opportunities for misperceiving a social situation.

Some observed incidents could readily be attributed to social misperceptions or perceived arbitrariness of another's actions; however, some incidents were not in response to another person's actions and could not be explained by the reduced awareness theory. This theory does not account for the fact that more aggression occurred in seedy establishments although other establishments had just as much activity going on and just as many opportunities for misperceptions.

Narrowing of the time dimension:

While this may well be a characteristic of the intoxicated state, there were no indications that the narrowing of the time dimension was responsible for increased aggression; and there are no reasons, inherent in this theory, why some places should be so much more aggressive than others.

Pernanen's model (combined theories of changes in thinking):

The problem with all the theories which attribute alcohol-related aggression to changes in thinking (including Pernanen's combination model) is that they cannot explain unprovoked aggression and unwarranted displays of power. Their usefulness is that they can account for some forms of barroom aggression, particularly aggression which arises out of ongoing social interaction.

C. Physiological Changes

Long-term effects:

This theory would predict that aggression would occur more often in bars frequented by a high proportion of long-term alcoholics. Results of this study were consistent with that prediction in that people who were apparently suffering from the long-term effects of alcohol were most often seen in the more aggressive bars (the measure of whether or not people were talking to themselves was one index of this). The importance of other factors such as race, decorum expectations, and physical surroundings suggest that the long-term effects of alcohol may not be the only determinant of frequency of aggression within a particular bar.

Immediate physiological effects of alcohol:

The theory which relates alcohol and aggression on the basis of the similar physiological processes of the intoxicated state and the pre-aggression or aggressive state, does not predict the large differences in frequency of aggression among different kinds of drinking establishments.

D. Emotional Changes

Emotional plasticity:

This theory would predict more aggression in some bars than in others, depending on the "prevailing cognitive and social environment" of each bar. The high correlations between decorum expectations, atmosphere, and aggression is consistent with this view of the effects of alcohol. However, although it was apparent in some incidents that aggression was the result of the emotional drinker's interpretation of the situation; it was equally apparent in other situations that the aggressive behavior was quite cold-blooded and not simply the interpretation of pharmacologically induced plasticity of affect.

Additive model of the mediating role of emotion:

Because this model incorporates effects of setting as well as effects of pre-drinking state and effects of alcohol, it would predict differential amounts of aggression according to the setting. The major problem with this model is that it

fails to predict the angry actions of very intoxicated patrons. This model, based on combined hypothetical scores on dimensions of pleasure, arousal and dominance, seems to indicate that it is after a moderate dose that aggression is most likely. The findings in this study were that aggression was also very likely among patrons whose alcohol consumption had far exceeded a "moderate" dosage.

E. Motive for Drinking

Tension or anxiety reduction:

According to Horton, aggression would be most likely among people who have a strong anxiety drive motivating drinking and strong repressed aggressive impulses. His theory was that aggression builds up for these individuals and erupts during drinking occasions because an alcohol-induced reduction in anxiety allows these aggressive impulses to surface.

Since many of the aggressive bars were frequented by alcoholics and drug addicts who might be expected to have higher anxiety drives for drinking, the first part of this theory may have some validity. However, there was no evidence whatsoever of any cathartic function filled by alcohol as asserted by Horton. On the contrary, in the more aggressive places, aggression seemed to be commonplace and an habitual activity of many of the aggressors.

Power concerns:

This theory suggests that alcohol in larger amounts and appropriate settings results in increased concerns with personal power and that these concerns may be expressed by aggressive behavior. Thus according to this theory, aggression would be most frequent in permissive settings in which patrons are drinking quite heavily. This was found to be the case in natural bar settings.

There are two problems with this theory: (1) it does not predict the large correlations between barroom aggression and physical surroundings, race and other situational variables; and (2), since an increase in power concerns among female drinkers has not been found, this theory cannot account for the considerable involvement in aggression of female drinkers in this study.

F. Explanations not based on the effects of alcohol

Predisposition:

According to this theory, bars frequented by less-socialized individuals, predisposed to aggression, would have a higher frequency of aggressive incidents. There is some evidence to support this explanation. First, many of the patrons of the aggressive skid row bars could be classified "less-socialized" in terms of the norms which govern straight society (i.e. prostitutes, drug addicts, alcoholics, and dealers made up a good proportion of the patrons). Secondly, a

number of aggressive incidents were initiated by patrons soon after they arrived in the establishment or by patrons who were just passing through. In these cases the aggression did not arise out of some provocative interaction.

Time-out:

The basic premise of the time out theory, that intoxicated aggression is more prevalent in contexts in which it is acceptable and rare in contexts in which such aggression is unacceptable, was substantiated by the findings in this study. The problem with the time out theory as a theory of alcohol-related aggression is that within the environment in which drunken aggression is acceptable, it cannot predict when aggression will occur and who is most likely to be involved. Nor does it suggest the individual parameters of the drinking environment which convey the message that aggression is acceptable.

The drinking context

It is clear that the "mere presence of others in the less formal context of bars" is an inadequate explanation for the pattern of aggressive incidents observed in this study. Also, the importance of state of intoxication of patrons in predicting aggression suggests that it is more than just the drinking context which is responsible for barroom aggression.

II. Towards a More Eclectic Approach

It is obvious from this brief critique of the various theories, that no single theory is able to account for data on alcohol-related aggression collected in naturalistic circumstances. To some extent this kind of evaluation of the theories is unjust since most proponents do not suggest these theories as all-encompassing total explanations. In fact, a number of the theories were not generated in answer to the alcohol-aggression question but were simply hypotheses raised about the intoxicated state in general and the implications for aggression were suggested as incidental extensions of these hypotheses. Nevertheless, there has been a tendency to regard the theories in isolation when formulating research questions.

Nearly every theory could be used to explain some of the variability in naturally occurring barroom aggression. Theories based on motive for drinking, the predisposition theory, the time-out theory, and the long-term effects theory all identify certain target populations and are useful for explaining some forms of aggression; namely, incidents which involve no provocation and are not related to current interaction.

The theories which suggest some change in thinking, perception, or emotion with alcohol consumption are useful for explaining some of the process of aggression, particularly when this aggression escalates from ongoing social interaction.

This exploratory study has shown the feasibility of using observation to collect reliable, meaningful data concerning barroom aggression. Alcohol is a social-affective drug and intoxicated aggression occurs within a social context. Contexts which seem to nurture aggression are distinguishable and one of these contexts has been identified by this study. The particular variables identified as predictors of aggression need to be validated, either by more controlled research or by replication in other cities. At least two further directions for research seem indicated on the basis on of the findings from the present study:

1. that studies of alcohol-related aggression concentrate on the places where aggression most often occurs and the people who most often become aggressive;

2. that within this context, more details be collected concerning the process of aggression - how does it start? when is intervention possible? what alcohol-induced psychological changes in the individuals involved seem to be contributing to the escalation process?

Finally, since there is every indication that no single theory can adequately explain the relationship between alcohol and aggression, a multi-theoretical, descriptive approach may be more successful in uncovering the important features of the alcohol-aggression relationship.

APPENDIX

INTERVIEWS WITH BARWORKERS ON THE EFFECTS OF THE STRIKE

Methodological Problems

It was very difficult to obtain any information whatsoever from barworkers. In most beer parlors, there are no stools at the bar and this makes it difficult to engage the bartender or waiter in conversation for any length of time. Even in places with bar stools, barworkers were usually more interested in talking to regulars or each other than in talking to a stranger. Furthermore, no matter how casually the issue was approached, many barworkers became very guarded when questioned about drinking and trouble. It was usually not possible to probe vague answers for clarification without arousing suspicion.

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Hastings Street area

Empress Beer Parlor Pub: The bartender said they were still getting the "old gang" (regulars) in spite of the strike. Business was not as dependable (steady) as usual, but still it wasn't that bad - no new patrons. Most of the beer drinkers stayed with beer (although he does sell hard liquor). They seemed to be getting used to American beer. He mentioned that the prices were hard on old people.

Regent Beer Parlor Pub: The bartender said that business was a bit down but regulars were still coming. Hard liquor and imported beer were the same price but most patrons drank beer even at the higher price. He said that he has had a temporary pub license since the strike has been in effect.

Patricia Beer Parlor Pub: Sat at the bar but could not engage the bartender in conversation as he was talking to an off-duty waiter who was sitting at the end of the bar.

Pennsylvania Beer Parlor: Could not exchange more than a few words with the bartender as he was very busy. He did say he hoped the beer strike would end - it was "screwing up business".

Drake Beer Parlor Pub: Bartender said he hoped the strike would end because business was kind of slow. They serve hard liquor on one side but most beer drinkers stayed with beer. At that point it started to get busy with the lunch crowd and the stripper starting - business seemed to be quite good.

Columbia Beer Parlor Pub: Bartender said they were getting mostly regulars but business had dropped a bit. Beer drinkers were still drinking beer but they "bitched" about the price and taste. Hard liquor sales were a bit up but that might be because it was summer. He said they had a few fights but mostly from the drunks and Indians who came from Hastings Street. Other than that - business as usual.

Hildon Beer Parlor Pub: Business wasn't all that good but they still got their regulars. He hoped the strike would end soon so they could get back to normal. They were selling mostly beer - people didn't like the prices, but they like beer (they do sell hard liquor and wine). Some people complained about the strike and price of beer but no trouble has come of it. The higher prices were hurting the poor old guys but he didn't say if they were getting less business from them because of this.

Granville Street area and West End

Austin Beer Parlor Pub: They still get most of the old regulars although business is unpredictable - generally less people - business slower, but not slow. Beer drinkers don't like American beer but they drink it anyway - no real increase in hard liquor.

Cecil Beer Parlor: Only one barworker on duty - she said that business was really slow - closed on Saturdays and hours were shortened. Recent business consisted mostly of regulars. She said that people who drank beer stayed on beer no matter what and that a lot of men drank large quantities of beer but they didn't get drunk because it was so weak. They had not had any more trouble or fights since the strike started.

Nelson Place Lounge: The barworker did not want to talk - kept to herself.

St. Helen's Beer Parlor: Bartender said business was slow but not really that bad - there were still regulars who kept coming and drinking beer even with the higher prices. It was difficult to get any more out of him because he started talking to another worker.

Blackstone Beer Parlor: Not possible to engage barworkers in conversation.

Dufferin Lounge: Quite busy at the time - bartender avoided the end of the bar where there were a few stools - left right away.

Ambassador Beer Parlor Pub: As in most beer parlors there were no stools at the bar and it was difficult to talk to the waiter - all he would say was that business wasn't that good.

Kingston Beer Parlor Pub: Was told that business since the strike hadn't really been different because they sell quite a bit of hard liquor - besides they serve a different type of clientele - office workers, etc. Beer sales hadn't been hurt very much and people were fairly good - no trouble.

Rembrandt Lounge: Business wasn't that bad - not really affected by the strike as some places had been. They sell mostly hard liquor and the beer drinkers drink beer regardless. At times business was slow considering that it was the summer months. No real trouble to speak of.

Ritz Lounge: Bartender was telling a friend that he hoped the strike would be over soon. It was difficult to talk to him directly, but from what he said, it seemed that business was a bit slow because they generally got overflow from the beer parlor and business in the beer parlor had been slow.

Fox 'n Hound Lounge: Sat at the bar but could not talk to bartender - he was busy and talked mostly to others.

Suburbs (Burnaby, New Westminster, Surrey, Coquitlam, Port Moody, Port Coquitlam, Vancouver)

Astor Lounge: The bartender said that business was a bit slow but that he couldn't really complain. He said that a lot of business was from people who went in and out of the beer parlor in the hotel - so when the Beer Parlor was slow at night, so were they. People were still drinking beer but in the lounge most drink hard liquor.

Mr. Sport Lounge: Bartender said he wished the strike would end - at times it was a bit slow. He said beer drinkers didn't switch but continued to drink beer. Regulars from the area were still patronizing the place.

Eldorado Lounge: The barworker said that business was poor - usually they got a lot of people from the beer parlor - people who go back and forth between the two places. They weren't selling more hard liquor than normal as beer drinkers continued to drink beer even at higher prices.

Royal Towers Lounge: Bartender said that it was a bit slow because they usually got a lot of spill-over from the beer parlor on weekends and busy nights. He said that from what he knew, people who really liked beer would stay with the imported beer and not switch to hard liquor.

Dell Beer Parlor: Tried to talk to the bartender and waiter but it was too busy - fairly large crowd for the afternoon - watching the strip show.

Dell Lounge: Difficult to talk to bartender but he did say that business wasn't that good. He was talking to waitress and so could not engage in further interaction with him.

Biltmore Lounge: According to the bartender business was a bit slow considering it was summer. They were selling quite a bit of American beer - people didn't like it as much but they drank it anyway - not much hard liquor served. The bartender evaded questions on aggression, saying that every place gets its drunks and trouble-makers.

Cariboo Trail Lounge: Business wasn't too bad, according to the bartender, but rather unpredictable. They were getting less spill-over from the beer parlor which they usually got when the beer parlor was busy. He said that some people are probably drinking at home more because of the cost of beer.

Jubilee Beer Parlor Pub: The bartender said that they were still patronized by all the old regulars and business hadn't been much affected by the strike. Beer drinkers drank the imported beer although they didn't like it as much. He said he thought they were drinking less beer because of the prices.

Barnett Lounge: It was not possible to talk to the bartender because two of her friends kept her occupied at the end of the bar.

Port Arms Lounge: Again, regulars were sitting at the bar and kept the bartender busy. It seemed that everyone in the place was a regular.

Brass Rail Neighborhood Pub: Was told that business wasn't bad. At first, when the strike started it had been, but beer became readily available and people were getting used to the strike. They sold hard liquor to pick up the slack. Most of the patrons were regulars - people who live or work in the area.

Wild Duck Inn Beer Parlor: The bartender said that business was not as good as it could be but then it wasn't that bad. They still got all their regulars - people who live or work around there. Although American beer was expensive people pretty well continued to drink beer. No more drunks than usual - not much trouble.

Commercial Lounge: The bartender said that business wasn't very good - people were staying home more - although regulars were still drinking at the hotel - as long as there were beer, even American. People were slowly getting used to the strike and so lately the business hadn't been too bad. He said they hadn't been hurt as much as some places.

OVERVIEW

Most of the information which barworkers volunteered, unfortunately, was restricted to the effects of the strike on their business. It was difficult to elicit information concerning the effects of the strike on aggression and other issues related to this project. The general consensus among barworkers was that the strike had caused business to become slower and at times unpredictable. Although this was usually stated in a casual manner, some barworkers were obviously quite distressed and bitter about it. Some beer parlors were very slow and lounges which depended on spill-over from the beer parlors were also slower than usual. Nearly all barworkers stated that their valued regulars continued to patronize their establishments. When barworkers were questioned about the effects of the strike on trouble and aggression they were generally vague and non-committal. Most indicated that the amount of aggression had not been more noticeable than usual - that obviously, there are always some trouble-makers. Even in bars in the Skid Row area, barworkers denied any increase in aggression (suggesting that the Vancouver Sun article (Stockland, 1978) entitled "Hot, beerless

summer takes toll with Skid Row violence" was more in reference to money problems generated by the high cost of liquor and not to any actual increase in violence in drinking situations). The overall effects of the strike on drinking habits seemed to be minimal. Apparently, beer drinkers continued to drink beer no matter what the price and did not switch to hard liquor or wine. When asked whether the lack of draft beer had affected the rate of drunkenness, barworkers were again very vague. In general, it seemed that the problems with drunkenness had not increased, and in at least one case, the barworker thought that the lower alcohol content of American beer was resulting in patrons being more sober than usual. In summary, the strike caused an overall decrease in business but did not seem to have a noticeable effect on drinking habits, drunkenness, or aggression according to the reports of barworkers.

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