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ALCOHOL, ASSAULT AND AREA:
AN EXAMINATION OF ALCOHOL AVAILABILITY
AND CRIME IN
EAST BATON ROUGE PARISH, LA

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Sociology

by

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**For Grandma, Mama
and
Sarah**

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ABSTRACT

An association between alcohol and crime has been proposed for over forty years in Criminological Literature. The research conducted in this dissertation uses pooled data on alcohol, neighborhood characteristics, and crime in East Baton Rouge Parish, Louisiana. The intention of the paper is to further augment our understanding of the alcohol-crime relationship by studying it at the macro-level. Using 278 Baton Rouge block groups as units of analysis, the results of the study confirm that the presence of package-only alcohol outlets have significant effects on assault and robbery within neighborhoods.

CHAPTER I: INTRODUCTION

An association between alcohol and crime has been proposed in sociological literature for over forty years (see: Wolfgang: 1958). This proposed association has traditionally been studied at the micro-level, with most researchers discovering "connections" between alcohol and crime by using interview or survey methods which directly engage criminals (or former criminals) with questions about their mental and physical conditions at the time that the crime was committed.

This dissertation continues a relatively new emphasis in Sociology by focusing on the macro-level effects that alcohol availability has on different crimes in the presence of other neighborhood characteristics within East Baton Rouge Parish, Louisiana. Data are taken from three official sources (U.S. Census Records for 1990, Baton Rouge Police Department Statistics 1989-1991, and Alcohol Control Board Statistics), and applied to a study of crime across 278 block groups in East Baton Rouge Parish. Both OLS and spatial analytic techniques indicate that the rate of package-only alcohol distributors is a prime estimator of robbery and assault in East Baton Rouge Parish.

The second chapter of this dissertation discusses previous literature into the issue of alcohol and crime. Theoretical writings on the issue, many of which have tended

to take on a didactic aire, date back as far as the late-eighteenth century United States (Parker and Rebuhn 1996). The social history surrounding the popular notions of an alcohol-crime association in the United States is explored in this chapter.

In the third chapter, the traditional research approach to the alcohol-crime issue is considered in depth. Previous research into the issue is reviewed, beginning with Wolfgang's (1957) original explorations into the proposed relationship. The influence of Wolfgang's work and its impact on forty years of research into the issue of general substance abuse and crime are also considered.

In Chapter IV, an alternative approach to the alcohol-crime issue which is grounded in a macro-level orientation is considered. This type of approach, which is currently becoming more in vogue in Criminology, focuses on alcohol availability rather than alcohol consumption, as a paramount factor in estimating crime. The approach, also allows an examination of the effects that alcohol availability might have on neighborhood crime in the presence of other macro-level explanatory variables. In contrast to previous, micro-level research, this research considers the alcohol-crime relationship to be a relationship mediated by macro-level characteristics. The results of previous work into the alcohol-crime issue are used to determine a set of propositions and to forge a macro-level theory of the

relationship between alcohol availability, spatial characteristics and crime. A series of empirically testable hypotheses are also presented here for further review.

Chapter V includes an explicit discussion of data and methods that were used to study the alcohol-crime issue across Baton Rouge block groups. Neighborhoods, represented by U.S. Census block groups, are the units of analysis here. The data are utilized to test for the possible statistical significance of alcohol availability on neighborhood crime rates in the presence of other explanatory variables. To ascertain whether or not alcohol availability has an effect in the presence of other neighborhood characteristics, both OLS and spatially-lagged¹ models are used. Also, to examine the issue further the possible significance of interactions between alcohol-availability and neighborhood characteristics is discussed here.

Chapter VI presents the results of the analysis and a discussion of those results. Both, descriptive data and maps, along with OLS and spatial regression results are presented in this section. Using the MLE procedure for spatially-lagged dependent variables (Cliff and Ord 1973) allows for a slightly more conservative interpretation of the results than OLS, yet both regression models largely yield the same results. A spatially-lagged interaction effects model is also employed here to indicate what factors might affect crime across neighborhood boundaries. Finally,

interaction and contextual effects are looked at within the framework of both MLE and OLS regressions.

The dissertation will conclude with a discussion of the implications of the findings in Chapter VII. Suggestions for social policy, if any, will addressed here; along with implications for possible future research.

**CHAPTER II:
THE ALCOHOL-CRIME RELATIONSHIP IN AMERICAN CULTURE:
LITERATURE REVIEW**

Parker and Rebuhn's 1996 *Alcohol and Homicide: An American Tradition* perhaps gives the quintessential exemplification of how most Americans have viewed the alcohol-crime issue. According to Parker and Rebhun, a firm link between alcohol and crime was established in the popular mind by the end of the nineteenth century. This belief, claim the writers, had much to do with the historical and social experiences of Americans with regard to alcohol and violence:

"Alcohol-related violence has taken the form of individual violence such as brawls in bars, duels of honor, and battles over the production and sale of alcoholic beverages, and collective violence in response to the government's attempts to control alcohol production and sale."

Parker and Rebuhn (1996:7)

As is seen in historical writings on alcohol, early American settlers, who called alcohol the "good creature of God", considered public drunkenness to be only a moral flaw of the individual. However, when the Puritans arrived in the early 17th century, they brought with them a notion of disorder and drunkenness as sinful (Erickson 1966). Accordingly, the Puritans also noted that many fights and other forms of deviance, such as: gambling, prostitution, etc., occurred in local taverns where alcohol flowed freely (Forrest and Gordon 1990).

Historical accounts of collective violence revolving around "alcohol-privileges" in the United States date back to 1791. In this year, the newly-formed American Continental Congress attempted to tax local farmers on their whiskey production. The colonists refused to pay the tax and the militia had to be called in to prevent anti-government rioting. Nevertheless, some violence ensued when revenue officials were tarred and feathered (Parker and Rebuhn 1996).

In the mid-eighteenth century, as the American frontier moved westward to the Appalachian mountains, concerns with alcohol and violence continued to grow among the American population (Parker and Rebuhn 1996). This is seemingly due to two related historical factors. The first was the rise of Quakerism in the East. Quaker theology prohibited violence of any sort; and consumption of alcohol by then was already known to be related to violence in local taverns. The second reason was the observation by the colonists that alcohol consumption by Native Americans made them behave in an increasingly aggressive manner (Eastman 1922).

Other historical documents give concrete testimony to the fact that Americans were growing increasingly aware of the possible relationship between alcohol consumption and violent behavior. In 1830, John Marsh wrote "[alcohol] makes every man that drinks it a villain" (Parker and Rebuhn 1996). Due to public fear and popular opinion, African-

American slaves were prohibited by law from consuming alcohol because of fear of rebellion.

Many other historical documents (see: Wolfgang and Ferracuti 1967) show that after the Civil War, the experiences of people in the reconstructing South were staggered by patterns of inebriation coupled with an often brutal "code of honor":

"To be honorable, a man not only had to demonstrate his freedom, self-reliance, and therefore strength, his ability to defend the virtue of his women, and willingness and courage to defend himself to the death."

(Parker and Rebuhn 1996:12)

According to these researchers, such "demonstrations of honor" could symbolically take the form of heavy drinking. Furthermore, many duels-to-the-death were fought within taverns by inebriated denizens over issues involving "honor" on the Western frontier.

Adding to the popular notions about the connection about alcohol-consumption and crime were the historical series of events known as the "Moonshine Wars" which occurred in the expanding early-American frontier. In the later part of the eighteenth century, bitter blood-feuds took place in the Appalachian Mountain chain between families who ran moonshine (Parker and Rebuhn 1996).

Cultural awareness about the possible relationship between alcohol and violence is displayed in much American literature. For example, the writing of several authors

about the growth of the American Western frontier in the late nineteenth century indicate that in the American west, violent frontier life and whiskey walked hand-in-hand. Alcohol consumption was weaved with the image of the "brave...heavy drinker", who could "out-ride", "out-fight", "out-drink" and "out-shoot" anybody (Parker and Rebuhn 1996).

In the late 19th century, popular notions of the relationship between violence and alcohol were fueled by news of both immigrant migration and criminal activity that came along with it. In cities such as Chicago and New York, hordes of multi-cultural immigrants with several different philosophies about drinking, were migrating at phenomenal rates. Irish and Italian immigrants were feared for their propensity to drink, gamble, smoke, curse, brawl, and engage in mob violence (Parker and Rebuhn 1996:15). Boston was especially concerned with the immigrant behavior of the Irish who were well established fighters and drinkers.

In the earliest days of Prohibition Era (circa: 1920) control over "bootleg" liquor flow was commonly known to be associated with criminal activities. There were many problems with "alcohol-related violence" during this time involving mainly the Italians and the Irish. On the streets of Chicago, "turf wars" with both money and respect as their spoils, were waged between members of the Irish O'Banion gang and the Capone crime "family" over control of illegal

alcohol flow (Sifakis 1987). The streets of New York flowed with blood during the Castilamaresse Wars, in which the remaining members of the Neapolitan Castellans fought with the Sicilian Mafia over control of alcohol flow (Sifakis 1987). Much popular concern with the association between alcohol and crime arose when the actions of these organized crime families hit the newspapers.

MODERN LITERATURE: ALCOHOL CONSUMPTION, CRIME AND SELF-DEPENDENCE

While a cultural examination reveals that popular culture has long assumed a relationship between alcohol and crime, examining the current and scientific literature shows that problems with understanding the nature of the alcohol-crime issue still exist (Forrest and Gordon 1990). Much previous literature about the possible alcohol-crime relationship relies on what is known about alcohol's physiological effects on the user. Yet, some of the most current literature on the alcohol-crime issue turned from the biological to the sociological in explaining the alcohol-crime relationship. These new theoretical perspectives on crime have revealed that the relationship between alcohol and crime might be more symbolic than biological in nature.

An examination of recent literature indicates that the symbolic perspective of alcohol consumption and crime revolves the idea of empowerment⁴. Access to alcohol, as

well as the ability to consume it, can be viewed as a sign of freedom, or as a means of "self-dependence". This idea has often been expressed in previous literature concerning the behavior of young minorities who view drinking, as well as criminal activity, as a means of demonstrating manhood, or, "toughness" (Gary 1986; Anderson 1986). Because committing crimes is also seen, at times, as a symbolic means of empowerment (Mitchell 1986), the idea of empowerment has recently been theorized to explain much of the relationship between alcohol and crime.

To be sure, examinations of our cultural background do show that there is a certain degree of "freedom" associated with alcohol consumption. As noted in Parker and Rebuhn (1996), drinking was a "white-privilege" during the days of slavery. Only whites and freedmen were allowed to distill and sell liquor (Bissel 1998). Also, according to Parker and Rebuhn (1996) the legal prohibition of alcohol to slaves was founded upon a long history of collective violence revolving around alcohol production and slave rebellions.

A thorough content analysis of historical literature involving alcohol-control policies indicates that there is a strong symbolic relationship in our culture between drinking and empowerment. Having uncontrolled access to alcohol for the first time represents one of the first "freedoms" for many young adults (Cookson 1992). Recent research has shown

that drinking is also employed as a form of gaining respect in inner city communities (Anderson 1986).

SUMMARY

Previous literature shows us that for American culture, the concepts of drinking and criminal activity have historically walked hand-in-hand. When looking at the historical and cultural experiences of Americans, it is easy to see how the popular notion that alcohol consumption is a causal factor in crime was derived. This fact is well documented in previous literature. In the next chapter, the focus is on how popular notions of alcohol and crime have affected research tradition in the criminological community with regard to the alcohol-crime nexus. Traditional research design is critiqued and an alternative way of studying the alcohol-crime nexus is proposed.

CHAPTER III: PREVIOUS RESEARCH INTO THE ALCOHOL-CRIME NEXUS

Although there had been many theoretical speculations that alcohol consumption was a causal force in the commission of crime, Wolfgang's 1957 series of interviews with convicted homicide offenders, in which he found a relationship between alcohol and homicide (Forest and Gordon 1990), was the first scientific study by a criminologist into the alcohol-crime issue. Since his work, which represents one of the most comprehensive studies into the alcohol-crime nexus, many criminologists have taken the stance that the *consumption* of alcohol will generally increase the probability that crime will occur. Considering the culturally-relevant notions of the alcohol-crime relationship in the United States, this focus on consumption as a prime causal factor comes as no surprise.

Since Wolfgang's work, speculations about the proposed relationship between alcohol and crime have generally taken on one of two forms of approach: *psychopharmacological*⁶ or *situational*. The first, and most prominently utilized, form of approach to the alcohol-crime issue can be called the biological approach. This approach is defined as one that is generally concerned with the physiological effects of alcohol on potential offenders and victims.

The second, and most recent approach to the proposed alcohol-crime nexus can be called the situational approach.

Rather than focusing on the consumption of alcohol and its effects on individual motivations and judgements, this approach focuses on the "setting" of alcohol consumption, as well as the exact situation in which alcohol is consumed.

Wolfgang's type of research can be called biological. The critical idea in most of the research done in this area is that persons under the influence of the physiological effects of alcohol will be more likely to engage in criminal behaviors in which they might not normally participate.

Wolfgang's 1957 inquiry into the association between criminal homicide and alcohol showed that there were often considerable amounts of alcohol present in the offender and the victim at the time of the offense. His method was to study the details of 588 criminal homicides that occurred in the Philadelphia area between 1948 and 1952. His study into the proposed relationship between alcohol and crime forged a forty year trend in alcohol-crime research. His work was probably one of the most important in the twentieth century, affecting forty years of substance-abuse research and theory to come.

The importance of Wolfgang's research, and its impact on Criminology is noted by Forrest and Gordon (1990). As a result of Wolfgang's study, the proposed relationship between alcohol and crime in criminology has been dominated by two major aspects. The first regards a theoretical approach, and the second, a methodological approach.

First, Wolfgang's work served to reenforce a trend in sociological thought that the consumption of alcohol could be held causally responsible for criminal participation. The results of the study secured the popular belief that alcohol consumption could be a causal force in violent crime.

As a result of the impact of Wolfgang's research, a pshyco-biological, or, biological, approach has traditionally been taken toward explaining the motivational effects that alcohol or other illicit substances may have on individual propensities to engage in criminal behavior. Like Wolfgang, most researchers of the alcohol-crime issue are particularly interested in criminal violence:

"...it [homicide]...is the ultimate act of violence, one that may be reasonably thought to be affected by substance use because it is a crime of passion that is often the result of a loss of self-control."

(Wiscorek, Welte and Abel: 1990)

A second way that Wolfgang's work was influential on the future of substance-abuse-crime research was methodologically. Wolfgang's study, like most that followed, involved no consideration of the setting or relationships of the participants' of crimes. Only an examination of official police records on alcohol-levels in the blood or urine of the participants, along with interviews of offenders were conducted. In this tradition, alcohol-crime methodology has a strong tendency to focus on the influence of alcohol consumption on offenders and/or victims. The

influence of Wolfgang's prototypical research project can be seen in countless research projects that rely on the offender-interview model to ascertain information about alcohol and crime (Miller and Welte 1987; Newcomb and McGee 1989; McMurrand and Hollin 1989; Cookson 1992; Spunt et al. 1994).

THE BIOLOGICAL APPROACH TO ALCOHOL-CRIME, AND THE OFFENDER INTERVIEW METHOD

The main idea behind the biological approach is that the consumption of alcohol will lower individuals' inhibitions, particularly with regard to their considerations of risk-taking. For potential offenders, this approach suggests that the consumption of alcohol lowers the inhibitions of those committing criminal acts, thus causing them to: 1) become more aggressive; and 2) think less rationally about the possibility of being apprehended and formally sanctioned.

On the other hand, for potential victims, the biological approach suggests that the consumption of alcohol will confound their estimations of safety with regard to placing themselves into certain situations or predicaments. In theory, consumption in general makes potential victims more likely to place themselves in harmful situations when under the influence of alcohol and/or to initiate interaction that results in being victimized. To be sure,

typical work done in the alcohol-crime field has been done at the micro-level.

One example of such a work is Miller and Welte's 1987 research into comparisons of incarcerated offenders according to their use of substances prior to arrest. In this dissertation, using data from jail inmate surveys, the researchers show that offenders who used alcohol made up the largest group among those who used drugs or alcohol prior to arrest (Miller and Welte 1987). Data from their survey, taken from the *U.S. Department of Justice's Survey of Inmates of State Correctional Facilities 1979*, and *Survey of Jail Inmates 1978*; is typical of most studies done from the biological perspective. The study shows that there is a strong relationship between crime and alcohol use; yet the data provide very little information on the socio-demographic characteristics of the respondents, as well as no information on the setting of the crime⁸.

A second example of an traditional alcohol-crime research project conducted at the individual-level is Cookson's (1992) study of alcohol use and offense type in 604 young male offenders. Cookson's study is unique, because it is not just concerned with alcohol use at the time of offense, but also with the pattern of drinking among offenders⁹. Her results show, among other things, that drunkenness at the time of offense is significantly associated with violent crime; but also that habitual

drunkenness is associated with all forms of delinquency. Yet, Cookson's study, like other traditional studies of alcohol and crime, is concerned with the individual characteristics of those persons arrested for alcohol related crimes. In her conclusions, she briefly implies that there may be a spurious relationship between alcohol and crime, and that "extroverted people may be attracted to both crime and alcohol." (Cookson 1992: 129).

Another example of a work done in the traditional alcohol-crime perspective is Spunt, Goldstien, Brownstien, Fendrich, and Langley's 1994 interviews with 268 prison inmates incarcerated in New York State Correctional Facilities. The nature of the questioning of the inmates was about the relationship between their use of alcohol, other substances, and their commission of homicide. Conclusions by the researchers suggest that there are two fundamental ways in which alcohol may be related to homicide. These can be placed under the rubrics of two separate categories: "Psychopharmacological" and "Economic Compulsive" (Spunt et. al 1994). Biological homicides, they suggest, occur when: 1) the offender's inhibitions are lowered by the consumption of alcohol, or 2) the offender is "coming-down" from the effects of alcohol. It is implied that the other category of alcohol-related homicide, Economic Compulsive, may occur when the offender needs money to support the alcohol habit.

Other examples of these types of individual-level approaches to the possible relationship between alcohol and crime include Blount, Tanner, Silverman and Vega's (1990) study of alcohol and violent crime among 1,076 Florida State penitentiary inmates; as well as Forrest and Gordon's (1990) ethnographic alcohol-crime research project that utilized five case studies.

In sum, from the traditional approach to the proposed relationship between alcohol and crime, the consumption of alcohol is seen as a precipitating factor in crime and delinquency. As such, consumption of alcoholic beverages is significant to the extent that it lowers social inhibitions, reduces the salience of feelings such as anxiety or guilt and raises levels of aggression

CONSIDERING THE WEAKNESSES OF THE TRADITIONAL PERSPECTIVE

Laboratory experiments notwithstanding, an anomaly is faced by the proponents of the psychopharmacological perspective with regard to "proving" the link between alcohol consumption and aggressive behavior in social settings. That is to say: the effects of alcohol on human behavior, in particular the propensity of people to become involved in criminal acts, may be somewhat overestimated in traditional thought. The fact that traditional thought about the alcohol-crime issue has carried over into social science is of paramount concern in this dissertation.

The experiences of many persons is such as to suggest that excessive alcohol consumption does not necessarily result in motivation to commit crimes; nor does it often result in victimization. In that anomaly, we find a problem for traditional sociological approaches to the alcohol-crime issue. In this research, an attempt is made to disentangle the alcohol-crime nexus¹⁰, and to search for other characteristics (eg: neighborhood setting) that may play a role in alcohol-related crime.

Let us consider what is known about the effects of alcohol. First, it is associated with numerous health problems such as delirium tremens (DTs), neuritis, lapse of memory and permanent damage to the brain, among other things (Bissel 1998). Still, at the individual level, alcohol consumption, even in large quantities, is by no means the all-powerful predictor that crime will occur (as many studies done in the psychiatric field views the alcohol-crime issue). To use an analogy: *using alcohol consumption as the paramount predictor of crime is much like using broken homes as the most powerful predictor of juvenile delinquency*. In other words, when other variables are not considered in the alcohol-crime nexus, criminologists face the danger of over-predicting the importance of alcohol consumption as a causal force.

From the biological perspective comes much research dealing with the effects of alcohol consumption on persons

in their interaction with other persons. Like Wolfgang's prototype, these studies utilize individual-level methods, usually drawing their information about alcohol-related criminal activity from personal interviews with convicted offenders. Along with the obvious problems with sampling on the dependent variable, settings in which alcohol-related crimes occur are of little interest to traditional alcohol-crime researchers. As Yochelson and Samenow (1976) claim:

"When discussing precipitating events and homicide, it is crucial to take into account the consumption of alcohol, or other behavior altering substances by the victim and the offender."

In a similar vein, Kantor and Straus (1987) argue that:

"People who anticipate getting into a dispute may prepare themselves by getting drunk. Being intoxicated may provide convenient rationalization, besides the courage to engage in violence."

These statements are important because they sum up the way that the alcohol-crime nexus has traditionally been viewed by criminology. From the biological perspective espoused by traditional criminologists, sociological variables play little role. The relationship between alcohol and crime is taken as *a priori*. Alcohol comes into play as a substance that lowers inhibitions, diminishing the abilities of both victims and offenders to think rationally, thus playing the primary causal role in crime.

Along with shared methodological problems, one common thread runs through these individual-level research models of alcohol and crime. This is that they all use consumption

of alcohol as the primary independent variable in their etiological assumptions. Other variables, such as neighborhood characteristics, socioeconomic status, education, etc. are hardly taken into consideration. Accordingly, individual-level theories of alcohol and crime rely too heavily on what is known about the physical effects of alcohol. Thus, the word biological has been used here to define these types of approaches.

In this research, we employ a macro-level analysis of the alcohol-crime issue which allows us to consider the effect that macro-level variables might have on the alcohol-crime nexus.

CHAPTER IV: EXPLORING ALTERNATIVE APPROACHES TO THE ALCOHOL AND CRIME ISSUE

There are at least two problems in traditional alcohol-crime studies that are addressed within this dissertation. First, as we have already discussed, in the traditional alcohol-crime study, there is a negligence of how macro-level factors might enhance (or decrease) the possible effect of alcohol on crime. For example, studies such as Cookson's (1992) ignore the neighborhood characteristics in which the offender resides. Thus, the micro-oriented methods used in traditional studies, tend to leave alcohol-crime researchers ignoring theoretical propositions which we know to be important in explaining the commission of crime, such as the neighborhood "disorganization" of the offenders. In contrast, this study looks at those macro-level characteristics which traditional alcohol-crime research ignores, and employs them as controls.

A second problem with the traditional studies is that there has been too much work done in the alcohol-crime area which focuses on violent crimes, as opposed to looking at alcohol's possible relationship with other types of crimes. In contrast, we suggest that researchers begin to look at how alcohol might affect the commission of other types of crimes (ie: auto-theft).

THE IMPORTANCE OF MACRO-LEVEL VARIABLES IN THE ALCOHOL-CRIME NEXUS

While variations on existing research themes have been done, a defining characteristic of most studies of the alcohol-crime issue is that the relationship between alcohol consumption and a direct causal effect on criminal behavior are almost always taken as an *a priori* assumption. Very few attempts have been made to identify how consumption interacts with "...other moderating factors that result in criminal activity." (Walfish and Blount 1989). Instead, the physiological effects associated with alcohol consumption, such as increased aggression, seem to be sufficient evidence for most criminologists to neglect the idea that alcohol consumption may not be a powerful predictive factor of criminal activities.

As a result of traditional beliefs about how alcohol affects interpersonal aggression, many researchers of the alcohol-crime issue have also neglected how individual differences (both sociodemographic and personality related) might affect the alcohol-aggression relationship (Lang and Siberel 1989). Still other researchers seem to be more interested in interpersonal aspects of alcohol-related crime such as the interactions between the participants, rather than with macro-level predictive factors (Pernenan 1981).

Newcomb and McGee's 1989 focus on alcohol-related delinquency as a result of "sensation seeking" among

inebriated youths is a prime example of how studies of interactions between alcohol consumption and other variables are breaking new ground in alcohol-crime research. As opposed to addressing "youths" as if they were a homogenous group, they making comparisons "personality types". Yet, their mistake is that they do not distinguish between the socio-demographic backgrounds of the youths or other aspects that may interact with alcohol-related crimes, such as neighborhood characteristics in which the crimes were committed.

This major negligence of possible *mediating* factors in the alcohol-crime issue has marred previous research, and becomes even more of a problem when one considers that the major task of criminology is the estimation of where, when, and under what circumstances the commission of criminal acts will occur. Yet, still multiplicative models such as Newcomb and Macgee's may provide answers to many of the questions about alcohol-consumption and crime that researchers have sought.

A major suggestion that this dissertation has to offer is a consideration of macro-level variables and their *interaction* with alcohol consumption. Four such research efforts, have been made in previous research efforts. These are discussed below.

EXAMINING ALCOHOL'S POSSIBLE EFFECT ON NON-VIOLENT CRIMES

Official statistics, as well as historical documents, would seem to indicate that the concern of researchers with regard to the possible relationship between the consumption of alcohol and the commission of violence is not misplaced. As Collins (1989) has documented, 80% of those arrested in the United States for concealed weapons, assault, murder, and shooting (ie: discharging a firearm within city limits) have been tested and found to have considerable amounts of alcohol in their urine. Similarly, according to reports taken from the Atlanta city coroner's office in 1974, showed that 54% of all victims had measurable levels of alcohol in their urine (Gary 1986).

Ritzer and Calhoun (1985), for example, contend the major problem associated with alcohol is its causal force in the commission of violent crimes. According to these researchers, it is difficult to dismiss alcohol's *causal* role in the perpetration of violence. However, very few studies have linked the consumption of alcohol to various types of *non-violent* crime and delinquency (Newcomb and McGee 1989).

In this dissertation, an effort is made which considers the possible effects of alcohol on *different types of crimes* (burglary, robbery, theft, auto theft, and assault) in order to augment the criminological understanding of the proposed relationship between alcohol and crime. As Cookson's (1992)

study shows, in many cases, the presence of alcohol can be linked to non-violent crimes as well as person crimes. Accordingly, in this paper, violent crimes are not considered as the *only* forms of crime that are suspected to be causally related to alcohol consumption.

Furthermore, as was pointed out in the second chapter of this dissertation, both alcohol consumption and crime are very symbolic in nature. As such, both alcohol consumption and crime might be considered as attempts to "empower" oneself. As such, it can be speculated that many other violent crimes (aside from homicide, which is the focus of much previous research into the alcohol-crime nexus) may be linked with alcohol consumption. These include several diverse types of criminal behavior, from vandalism to rape, or to homicide (Pernanen 1981;McMurran and Hollin 1989;Cookson 1992).

ALCOHOL-CRIME MODELING WITH MACRO-LEVEL VARIABLES

More promising research into the alcohol-crime nexus focuses on the possible mediating effects that alcohol consumption and neighborhood setting may have on criminal activity within block groups, or neighborhoods. Some of this research, indicates that the effects of alcohol consumption may have been overestimated in the past. For example, Roncek and Pravatiner (1989) show that the *neighborhood* in which alcohol consumption occurs, as opposed to alcohol consumption alone, is the key factor in the

prediction of crime. Following this departure, the research presented here takes such a macro-level approach to the alcohol-crime issue.

Although this is a fairly new approach, it is by no means the first time that setting has been connected with alcohol availability as a possible predictor of crime rates. Writers such as Homel, et al. (1992) and Parker and Rebhun (1996) argue that the characteristics that encumber the setting of consumption may have effects on the consumption patterns of individuals which could result in criminal behavior.

Still, popular thinking about alcohol consumption and individuals' lifestyle patterns continues to dominate social thought in some very pronounced ways. Not only do we label alcoholics with such derogatory terms as "drunks" and "winos", but society in general tends to focus on the drunken individual as an unpredictable and possibly dangerous person (Gusfield 1966). Due to the firmly-rooted traditional perspective on alcohol and crime, it stands to reason that the first criminological theory regarding the possible relationship between alcohol and crime was generated from a study into criminal homicide research (Wolfgang 1958).

Let us now consider the advantages of an approach which uses macro-level variables as control variables in studying the possible relationship between alcohol and crime. This

approach can be called the *situational* approach, because of its concern with both setting and possible interaction between setting and alcohol consumption as a "set of factors" which are related to crime.

THE SITUATIONAL APPROACH TO THE ALCOHOL-CRIME ISSUE

In the situational approach, the terms *situation* and *setting* refer respectively to the relationships of the participants, and the characteristics of the immediate surroundings as well as the neighborhood characteristics in which alcohol is consumed. These situational elements, therefore, are viewed as major factors in determining whether or not alcohol-related crimes will occur; and as major predictive factors as to where it will occur (ie: neighboring blockgroups). The concept of setting, which is of paramount importance to the theory that is developed below, may range from the specific place (ie:tavern/bar) in which alcohol is consumed to the general neighborhood surroundings.

Still, it is important to note that the situational approach discussed above does not ignore the fact that alcohol has a physiological effect on consumers. To do otherwise would be to ignore that alcohol consumption has been scientifically proven to have certain harmful physiological effects, that do indeed affect the outcomes of social interactions. These physiological effects range from increased aggression to lowered inhibitions. As much medical

research has documented, when people drink moderate to high doses of alcohol in laboratory settings, they are more likely to behave aggressively.

Yet, while results taken from biological studies discussed above often show consistent significant results about alcohol consumption at the time of criminal activity, they leave open the question of whether or not the setting of alcohol consumption, or the conditions that alcohol consumption occurs under, play a role in alcohol related crimes.

Neighborhood setting, as several researchers have shown, is an important mediating factor in the commission of many crimes (e.g.: Park and Burgess 1925). Furthermore, research done from the routine activities perspective shows that certain types of places are significantly associated with violent crime rates (Sherman, Gartin, and Burger 1979; Roncek and Meier 1991; Osgood et al. 1996).

Recent work done in the alcohol-crime field, takes setting as a paramount feature of alcohol-related crime. Due to the macro-level approach of such research, however, researchers are forced to focus on alcohol availability within neighborhoods (usually block groups) as a proxy for alcohol consumption. The first attempt at such an approach was put forth by Roncek and Pravatiner (1989). Using 1970 U.S. Census data and official police reports for the cities

of San Diego and Cleveland, the researchers use social disorganization variables to show an effect between alcohol and crime which is mediated by neighborhood characteristics. Their departure is taken from the early Concentric Zone Model (Burgess and Park 1925).

Employing the Concentric Zone model, Roncek and Pravatiner (1989) show that the relationship between violent crimes and alcohol availability increases as one moves toward the center of these cities. Using block-groups as their unit of analysis, they examine the "most-dangerous" 19 block groups within these areas. In their results, they show that all of the 19 most dangerous block groups have an above average amount of bars or taverns located within them. They also show that as these block groups "move" closer to the "zone in transition", their rates of violent crime increase.

In another situational approach to the alcohol-crime issue, Homel et al. (1992) employ a routine activities model to research the relationship between alcohol, environment, and violent crime. They take as their units of analysis 26 of the most violent taverns in Sydney, Australia, and show that setting, as opposed to the mere consumption of alcohol is a more adequate predictor of violent events. Focusing on the "venue" of violent crime, they call into the spotlight the idea that the immediate area, as well as the area surrounding the tavern itself are "hot spots". In the venue

of criminal activities, three elements of predatory violence converge: motivated offenders, suitable targets, and the absence of capable guardianship. From their research, they conclude that:

"...high rates of intoxication do not, on their own guarantee that violence will break out, since it is not clear that intoxication will inevitably increase the supply of motivated offenders and suitable victims, or that it will have any effect on the absence of capable guardians."

(Homel, et. al. 1992:689)

However, while results from Homel, Thompson and Thommeny's, as well as Roncek and Pravatiner's research shows that area specific characteristics do have an effect on alcohol-related crimes, the results of another study that considers the relationship between alcohol, area and crime do not seem as promising. Recently, Scribner, MacKinnon and Dwyer (1995)¹¹ have utilized Los Angeles, California Census data to test the risk of assaultive violence and alcohol availability in Los Angeles county. Using 1990 U.S. Census data for California in conjunction with official local police and Alcohol Bureau Records, the researchers have shown that higher levels of alcohol outlet density within block groups are positively associated with higher rates of assaultive violence, *independent* of neighborhood characteristics; social disorganization, notwithstanding.

Scribner et al. (1995) controlling for two standard measures of urbanism, population and density (see: Wirth 1938), show that neither of these factors are significant in

prediction of violent crime. However, the researchers do show that two other area-specific characteristics are significant when alcohol outlet density is controlled: 1) percentage black; and 2) percentage unemployed. In their conclusions, the researchers contend that the presence of alcohol outlet density "...could represent an environmental factor that shapes community norms related to alcohol consumption in a community." (Scribner et. al. 1995). Yet, in Scribner's model, the Social Disorganization variables prove to be ineffectual.

To be sure, contradictory results from these situational studies, have left open questions about the magnitude of area-characteristics in the alcohol-crime nexus. The relationship proposed in Scribner et. al. (1995) suggests that the density of alcohol-outlets is, in itself, a valid predictor of criminal activity. They argue that alcohol availability within spatial units is, itself, a self-contained ecological factor, predicting crime rates, with no other relationship to area characteristics. On the other hand, in the "hot spot" approach used by Homel et. al (1992) as well as the social disorganization approach used by Roncek and Pravatiner (1989), the availability of alcohol is a determinant factor that interacts with area characteristics to act as a predictive factor.

**NEIGHBORHOOD CHARACTERISTICS, ALCOHOL CONSUMPTION PATTERNS
AND ALCOHOL AVAILABILITY: TOWARD A NEW PERSPECTIVE OF THE
ALCOHOL-CRIME ISSUE**

In the past decade, the Social Ecology, or the Social Disorganization, paradigm has resurged to a new level of popularity among empirical researchers (Bursik 1988). For Bursik and Grasmick, there are three key issues at the core of social disorganization theory: neighborhood, a systemic approach to social control, and crime (Bursik and Grasmick 1993). It is basically a theory that focuses on areas as spatial units with "collective lives" that emerge from social networks. Underlying this theory is the idea that urban environment has an effect on social control, which, in turn, has an affect on neighborhood crime rates (Park and Burgess 1925). Studies done in this tradition have shown that index crime rates in spatial areas (ie: neighborhoods) vary with their characteristics of disorganization.

However, there have been two major problems with this type of research which this dissertation seeks to correct. First, little research attention has been paid to the possible effects of alcohol abuse as a manifestation of social disorganization. Second, in studies done at the "neighborhood" level, little attention has been paid to the spatial dependence of crime variables across neighborhood boundaries.

While previous research efforts have scientifically studied the relationship between alcohol availability and

neighborhood characteristics, there is no evidence that alcohol availability does not compound with social disorganization characteristics, nor with other neighborhood characteristics, to explain crime within block groups, or across neighboring boundaries.

Some work in criminological research that indicates both the incidence of alcohol abuse and the occurrence of high crime rates are prominent within subunits of large disorganized urban communities (Gary 1986;Skogan 1990). There are three possible explanations of this correlation, and each of these can be tied into aspects of Social Disorganization theory and how other characteristics of neighborhoods vary across space.

First, the occurrence of high crime rates and high alcohol consumption in these disorganized areas may be explained as a consequence of the psychological and social effects that arise from living in disorganized areas. Both alcohol and crime rates in these areas may be associated with feelings of powerlessness, depression, or even relative deprivation. Stark (1987) presents a series of propositions that weave together three elements of life in disorganized communities: 1) Aspects that characterize disorganized areas; 2) the ways that those aspects affect the individual's aptitude to view the moral order, and; 3) the ways in which that view of the moral order amplifies the volume of crime and deviance.

According to Stark, there are five aspects which characterize disorganized areas: density, poverty, mixed use zoning areas, transience, and dilapidation. These aspects affect the moral order, or the moral perceptions of the residents, by increasing moral cynicism and opportunities to commit crimes, as well as increasing the motivation to deviate. These areas are also characterized by a diminished social control, which corresponds to the ability of neighborhoods to regulate the actions of their residents.

Using Stark's reasoning, it may be suggested that the effects of living in such areas create social psychological pressures within residents that manifest themselves in a desire to drink, or take other substances, as a means of escape. As work by Mitchell (1986) tells us, heavy drinking may be a response to political, cultural, and social alienation. Heavy alcohol consumption in these areas may be a result of the intense social and cultural isolation that are found here.

A second way of explaining the correlation between heavy alcohol consumption and urban life from a Social Disorganization stance can be drawn from Skogan's (1990) study of disorder and decline in urban neighborhoods across the United States. In his *Disorder and Decline* (1990), Skogan presents research that shows that one of the most commonly perceived problems of residents in disorganized communities is public drunkenness, or drinking in public.

According to Skogan, drinking in disorganized areas is a form of both recreation and socialization, suggesting a link between the routine activities of residents and the demand for alcohol among residents. Groups of youths "hanging out", at local parks, in front of liquor stores, at bars, etc., for him, is a manifestation of disorder.

Skogan's research, in contrast to Stark's, focuses on the objective characteristics neighborhood setting, as opposed to the way that the individual relates to those settings. From Skogan's position, one is forced to consider the association between alcohol availability (rather than just alcohol abuse) and social disorganization from an economic standpoint. From his studies of disorganization and its relationship to public drunkenness, one may assume that alcohol retailers tend to thrive in areas that manifest features of social disorganization. Yet, in contrast to the approach that can be derived from Stark's research, the relationship between alcohol and area in the Skogan-derived approach has more to do with the characteristics of the area than with the area's affect on the residents' lifestyles.

The final, and, perhaps the best reason for believing that there is a correlation between neighborhood characteristics and alcohol consumption patterns is the most basic. As researcher, such as Skogan (1990) have pointed out: in socially disorganized areas, there is little control (regulation) by the community over the lifestyles of

individuals. Thus, control of both drinking patterns and crime patterns may walk hand-in-hand.

DEVELOPING A SPATIALLY AUGMENTED THEORY OF THE PROPOSED ALCOHOL-CRIME RELATIONSHIP

Thusfar, the basic intention of this research is defined as being to augment our understanding of the alcohol-crime nexus through the use of macro-level research. Much previous research has shown that area characteristics compound with levels of alcohol availability to affect crime rates within certain neighborhoods. This research seeks to confirm this. However, in order to do this, we must use a spatial analytic model. Still, we have only scratched the surface of the importance of spatially-lagged variables in our theoretical model which attempts to predict crime within neighborhoods.

The biological idea that alcohol consumption itself affects the occurrence of crime is acceptable *only* as starting point for a new approach. People who are under the influence of alcohol *do* become more disinhibited, and are more prone to do things that they might not engage in under normal circumstances. Yet, as we have already considered, changing the traditional approach to include macro-level variables in alcohol-crime studies may be a worthwhile effort.

As pointed out earlier, to accept the consumption of alcohol as a prime explanatory factor in criminal events

involves negligence of the situation and setting in which the alcohol is consumed. In contrast, many models which attempt to predict crime within neighborhoods using macro-level characteristics, such as situation and setting, are also flawed. This is because many researchers attempting to study the alcohol-crime nexus using the "neighborhood" as a unit of analysis have ignored the importance of spatial dependence across neighborhoods (Doreian 1980). For example, Scribner et al. (1995) point out that area characteristics, along with alcohol availability, is important in explaining crime within neighborhoods, yet, the researchers do not account for the possible power that spatial effects may have on crime .

What we must realize is that crime in any neighborhood may be affected by crime within contiguous neighborhoods, as much as it is affected by the other variables which criminologists believe to be important. Crime is not a confined phenomena, but also a phenomena whose effects may dynamically cross neighborhood boundaries. When using spatially distributed data, ignoring the presence of these dynamic spatial processes may inflate coefficient estimates in ordinary linear regression models.

From the situational perspective on the alcohol-crime relationship discussed above, it can be inferred that spatially distributed variables play a critical factor in the prediction of crimes within neighborhood. The

mathematical differences between spatial and linear estimation models are discussed below.

It is also important to note that spatially distributed *independent* variables are important in estimating coefficient drift¹⁷. Thus, for a more adequate understanding of the proposed relationship between alcohol, area characteristics and crime within neighborhoods, the use of spatial analysis is necessary.

Spatially weighted dependent variables, which are discussed in the next chapter are taken into account here, thus we can make more accurate tests of the following hypotheses. These propositions approach includes an integration of aspects from three distinct perspectives on the alcohol-crime issue: 1) the traditional Sociological approach to alcohol-crime; 2) Social Disorganization; and 3) Routine Activities Theory. Thus, it is possible to formulate an integrated theory of the alcohol-crime relationship by combining traditional perspectives on alcohol and crime with two modern (yet, strongly related) theories of crime.

The Traditional Approach

While the traditional approach to alcohol and crime was discussed earlier, it should be reiterated that alcohol is traditionally viewed as a disinhibitant in social situations which precipitates the occurrence of violent interaction or other crimes.

Social Disorganization Theory

Social Disorganization provides us with the first component of the integrated theory of alcohol-related crime presented here. Work done from a Social Disorganization perspective by both Skogan (1990) and Stark (1987) discussed above has already suggested that alcohol abuse may be a paramount problem in disorganized areas. We also know that these areas are defined by their high crime rates, which may be partially related to the problem of alcohol abuse. Although, we have yet to consider the relationship between alcohol abuse and crime in disorganized areas. From looking at previous literature in the Social Disorganization perspective, and other work that looks at neighborhoods, it is possible to draw the proposition that social and cultural isolation may interact with alcohol availability to increase the crime rates of certain areas.

Work by Shihadeh and Flynn (1995) has shown that social and cultural isolation is a defining factor of many disorganized neighborhoods. Because of this isolation, residents are said to be excluded from access to job networks, good schools, and politically alienated. Work by Sampson and Wilson (1995) also proposes that isolation may have a great deal to do with residents' exclusion from traditionally approved of forms of recreation. Accordingly, "unstructured socializing activities", a key concept in

Routine Activities theory can also be assumed to be tied into the isolation of people in disorganized areas.

It is predicted that in socially disorganized areas, which are alienated from cultural and social values of mainstream society, will exhibit a high demand for alcohol for three main reasons. First, because people in socially disorganized areas are not expected to have the necessary funding to enjoy more expensive forms of recreation, it can be proposed that they turn to less expensive forms of recreation, such as excessive drinking. Alcohol use and misuse in these communities, then, is assumed to be related to the fact that alcohol itself is an inexpensive and convenient form of recreation.

Second, because of the "distance" of these socially isolated communities from mainstream areas, other forms of recreation are presumed to be *physically* harder to obtain. For example, mobility may be limited in these area because denizens do not own automobiles. Similarly, in these areas which are cut off from the "goal and means" systems of mainstream society, excessive drinking may have arisen as a symbolic form of gaining respect.

Finally, in socially disorganized areas, there is no ability of the neighborhood denizens to regulate the behavior of the other residents (Hunter 1985). Excessive drinking, in socially disorganized areas, simply may be a

result of the ability of neighborhood residents to control the behavior of other residents.

Routine Activities Theory

As Bursik and Grasmik (1993) have said, Routine Activities theory is somewhat an "offshoot" of Social Disorganization theory because of its focus on ecological elements. However, the addition of Routine Activities theory to this integrated theory makes it possible to concentrate more on "unstructured activities" as predictors of crime rates, and less on the *total environmental setting* in which these unstructured activities occur.

The Routine Activities approach is an approach to crime that focuses on the temporal and spatial distributions of the key sustenance activities of a community (Cohen and Felson 1980). It is related somewhat to the Social Disorganization model because of its ecological bias and focus on spatial patterns (Bursik and Grasmick 1993: 65). From the Routine Activities perspective, crime occurs when motivated offenders and suitable targets converge in a particular time and location in the absence of a guardian that is capable of preventing violations (Bursik and Grasmick 1993).

By this line of argumentation, features of "total system activity" should result in a high crime rate within neighborhoods. As follows, routine activities should interact with alcohol availability to create an increase or

decrease in area crime rates. The use of interactions between routine activities theory and alcohol availability within certain block groups may be useful in explaining so-called "alcohol-related" crimes that typically occur outside of the household (i.e.: robbery, auto theft, etc.). In this theory, a Routine Activities approach is coupled with the biological, and social disorganization models to partially explain the relationship between alcohol and criminal activity across area.

From the routine activities approach, it is assumed that the relationship between alcohol and crime is most pronounced in areas with a large amounts of "total-system activity", or large amounts of people who cross paths on a regular basis (see: Cantor and Land 1985). Furthermore, it is suggested that the general atmosphere of densely populated areas, paired with alcohol availability in these areas, leads to a larger proportion of people in potentially alcohol-related criminal situations. For example, active night-life in these densely populated areas often results in people using alcohol; therefore, increasing the probability that they will become involved in criminal activities either as victims or offenders.

The concept of "unstructured socializing activities" is paramount in Routine Activities approaches. By unstructured socializing activities, theorists are referring to the lack of opportunities for people to socialize in traditionally

approved of situations, such as extracurricular school or work functions, or other approved organized activities. In the Routine Activities approach to crime, participation in such unstructured activities raises the probability that offenders and victims will cross paths frequently. For example, using a Routine Activities approach to crime, Osgood, Wilson, O'Malley, Bachman, and Johnston (1996) view an abundance of unstructured socializing activities as a likely predictor of deviant behavior within an area.

As a causal forces in crime, routine activities theorists point out that population of juveniles, who may be lacking in employment opportunities are prominent features of socially disorganized areas. Other research by Gottfriedson and Hirschi (1983) indicates that crime rates are enhanced by the amount of people in younger age groups, as well. Therefore, from our perspective the amount of juveniles in an area is expected to be related to that area's crime rates.

Furthermore, work by Byrne and Sampson (1985) suggests that the "new" Social Ecology paradigm has expanded its arena of interest into at least four other factors: family disruption, physical environment, socioeconomic status, and race. This suggests that education composition may be related to area crime rates. It is not hard to imagine that unstructured socializing activities often occur in areas in which there are many people with a lack of higher education

are predominant in the United States. It is at the point at which unstructured socializing activities are linked into both employment and educational characteristics that makes educational level of residents become relevant to this theory of alcohol-related crimes.

However, the weakness of the routine activities model in explaining alcohol-related crime, is perhaps that it does not go into detail enough about neighborhood setting to adequately expound the link between area and crime. It is a theory that is more concerned with the simultaneous activities of individuals than it is with the characteristics of the neighborhood surroundings. There is more of a concern with the *space/time* aspects, rather than with the *spatial* aspects. As Bursik and Grasmick write:

"...the primary ecological distinction between the routine activities and social disorganization models of crime reflects the integration of space/time considerations into the broader model [Social Disorganization]."

(Bursik and Grasmick 1993:69)

Nevertheless, as Social Disorganization researchers have pointed out, the true link between Social Disorganization and crime (routine activities notwithstanding) is primarily ecological. In socially isolated areas in which inhabitants commonly manifest high degrees of social alienation and disempowerment, there may be a lack of control on two levels: 1) the ability of

residents to restrain people from excessive drinking; and 2) the ability of residents to restrain people from participation in criminal activity. Therefore, in the perspective presented in this dissertation, spatial characteristics are considered to be of crucial importance in the estimation of alcohol-related crime across areas.

HYPOTHESES

The integrated theory of the alcohol-crime issue presented in this dissertation draws upon three theoretical perspectives to explain the possible relationship between alcohol and crime within neighborhoods. Our first hypothesis is drawn from the traditional idea that alcohol consumption is a causal factor in crime. At the macro-level, the way to test this is to look at both alcohol availability and crime rates within blockgroups:

- H1. More robbery, burglary, theft, auto-theft, and assault will occur in neighborhoods where there is more alcohol availability, regardless of socio-environmental surroundings.

From this proposition, two other "subpropositions" can be drawn. First, from our second tier of the integrated theory; Social Disorganization theory, we gain the ability to look at other characteristics of neighborhoods which may promote criminal activity. From this, we deduce:

- H1a. Burglary, robbery, theft, auto theft, and assault rates will be greater in neighborhoods with higher levels of social disorganization regardless of alcohol availability.

Routine Activities perspective is used to draw out a third "subproposition". This perspective focuses on the interactions between "unstructured socializing activities" and alcohol availability and their compounded effect on rates of burglary, robbery, theft, auto theft and assault. From the Routine Activities perspective of the alcohol-crime issue we can deduce:

- H1b. Burglary, robbery, assault, theft and auto theft rates will be higher in areas which exhibit more "total system activity" regardless of alcohol availability.

Testing, our first hypothesis, both with and without control variables, will be sufficient to allow us to examine whether or not alcohol-availability is explicitly related to crime within neighborhoods.

A second consideration of this research effort is that idea that alcohol availability may exhibit interaction effects between alcohol availability and other neighborhood characteristics. This idea is of crucial interest to this research project. Thus there are two other propositions that we want to test:

- H2. Rates of burglary, robbery, theft, auto theft, and assault will be greater in areas that exhibit both high levels of alcohol availability and social disorganization.

and:

- H3. Burglary, robbery, theft, auto theft, and assault rates will be higher in areas in which there are

less opportunities for legitimate socializing events coupled with a higher degree of alcohol availability.

When testing these proposition, we are directly testing a possible interaction between both social disorganization variables and routine activities variables and alcohol availability variables. It is expected that the interaction of alcohol availability with routine activities or/and social disorganization will have a significant and positive effect on crime rates within neighborhoods.

One other hypothesis is drawn from previous research efforts into at violence-alcohol issue. Violent crimes are usually at the crux of the alcohol-crime issue, yet, in this dissertation, they are not the only relationship of concern:

H4. Rates of violent crime will be greater in those areas with higher levels of social disorganization coupled with higher degrees of alcohol availability

There are two main goals that this research wishes to accomplish. First, that as a result of the findings, we can augment our understanding of the alcohol-crime nexus. A second goal is to demonstrate to criminologists the methodological value of spatial analysis in studies of alcohol and crime.

**CHAPTER V:
TESTING THE EFFECTS OF ALCOHOL AVAILABILITY ON CRIME RATES
ACROSS THE E.B.R. PARISH AREA: DATA AND METHODS**

This research effort takes data from 278 block groups in the East Baton Rouge Parish area and attempts to ascertain the presence of a relationship between alcohol outlet density and crime both within and across blockgroups. One of the major goals of the research is to investigate the possibility that alcohol availability affects area crime rates regardless of neighborhood characteristics. Another is to investigate the possibility that interaction effects between area characteristics and alcohol availability are significant.

East Baton Rouge Parish was chosen as an area to test the integrated theory presented in this dissertation. Since Baton Rouge has many perimeter block groups which are primarily "rural", the central part of the East Baton Rouge Parish Area, which consists of 278 block groups, was chosen for this research project.

Data are drawn and compiled from three official sources. The first source is a pooled data set of Summary Tape File 1A and 3A of the 1990 U.S. Decennial Census (U.S. Census Bureau 1992). Drawing data from the Census allows testing of variables taken from both Social Disorganization and Routine Activities theories and their possible interaction with alcohol availability. A second source of data is a pooled set of area-specific arrest

statistics taken from the East Baton Rouge Parish Sheriff's Office which were compiled in 1996 by Shihadeh and Shrum at Louisiana State University (Shihadeh and Shrum 1996).

Finally, in order to ascertain information about alcohol availability, the addresses of all of the sellers of alcohol in East Baton Rouge parish were obtained from the Baton Rouge Alcohol Control Board (ACB) have been acquired.

Key demographic variables of East Baton Rouge Parish area for 1990, show that there were a total of 376 block groups and 156,767 housing units in the parish in 1990. The units of analysis, however, are limited to the 278 block groups that are in located within the metropolitan Baton Rouge parish city limits. Table I shows descriptive statistics on the key variables within the 278 block groups that are used as units of analysis in this study.

Block groups were selected as the best possible unit of analysis for this study because they are arguably the best indicators of neighborhoods that the U.S. Census allows. Shihadeh and Shrum (1996), argue that the only other level of analysis that the U.S. census allows which might be used to approximate neighborhoods are census tracts. These researchers contend that these (tracts) are too heterogenous to strengthen assumptions about neighborhoods, and also contend that tracts may "encompass isolated subunits" (Shihadeh and Shrum 1996).

Table I.: Descriptive Statistics for Explanatory Variables

Variable	Mean	S.D.	Hi Val.	Lo Val
Package-only places per 100 households (1995)	.28	.47	2.82	.00
Taverns per 100 households (1995)	.25	1.16	18.52	.00
Percent Boarded up homes within Block Groups (1990)	1.88	3.45	31.31	.00
Percent of Movers within Block Groups (1990)	9.87	8.40	42.27	.00
Percent of Renters within Block Groups (1990)	42.23	25.42	99.67	.00
Percent aged 15-24 within Block Groups (1990)	6.94	7.77	41.41	.00
Percent of individuals living alone within Block Groups (1990)	11.54	8.80	.88	.00

n=278

KEY VARIABLES

The first thing that was needed in order to test the hypotheses presented above was a way to approximate alcohol availability within areas. To obtain this measure, data was acquired from the ACB on the addresses of all alcohol outlets in the parish. There were three types of alcohol outlets in general: 1) taverns, or bars, which are establishments that specialize in serving alcohol to patrons within the establishment's physical limits; 2) Package-only outlets, which sell alcohol to consumers to be consumed off the premises; and 3) restaurants.

After obtaining the addresses of all the outlets, they were then geocoded and placed into block groups using a GIS program called Arcview. Restaurants, because of their unique dynamics and function that they provide were removed from the analysis. A measure of overall alcohol-availability called *outlet density per 100 households*, which referred to the raw amount of alcohol outlets within a block group, was also removed from the analysis employed.

In the final analysis, two types of indicators of alcohol-availability across block groups were considered. The first indicator of alcohol availability was a measure called *taverns per 100 households* in each block group. The second indicator of alcohol availability was called *package-only places per 100 households* within these block groups.

The dependent variables, neighborhood crime rates, were measured using data taken from the Baton Rouge police department on: *Robbery, Assault, Auto-theft, Theft, and Burglary*¹³. In the analyses below, "neighborhood crime rates" are represented by the *log* of each of the five Index I crimes mentioned above; with each crime dealt with individually¹⁴. The data taken from the Baton Rouge P.D. includes reports about address-specific arrest rates in Baton Rouge Parish, from the years 1989-1991. These addresses were geocoded into block groups as measures of crime rates. Data was attained on the logs of all of the FBI's Type I Index Crimes, thus, allowing for testing of the possible relationship of alcohol availability and other factors on all types of crimes.

It is suspected that these crime rates within block groups are related significantly to alcohol availability, as the traditional approach would tell us. However, using the integrated model proposed in this dissertation, it is also suspected that other factors related to neighborhood characteristics work as more accurate explanatory variables of crime rates in their interaction with alcohol availability.

In order to test the hypotheses above, data has been taken from the 1990 U.S. Census. This information is used to account for characteristics of communities and then test their possible relationship to block group crime rates using

alcohol availability as both control variable in an additive model, and as an interaction term with alcohol availability. Indicators of social disorganization and routine activities are provided by the census.

Social Disorganization

From the Social Disorganization perspective, *transience*, is a key issue that must be taken into account as a possible estimator of crime within neighborhoods from the Social Disorganization perspective. Burgess and Park (1925) showed that the lack of ability of residents to invest in a local community was strongly tied into the long-term residence of members of a community. Transience, in this study is measured by taking data from the U.S. 1990 Census for people who moved into a specific block group in 1990. To obtain a statistical indicator of transience, the proportion of those people who *moved per block group in 1990* to those who did not is used.

Percent renters in an area to the percent owners is another key variable in the alcohol-crime study. Since the early days of Social Disorganization theory (circa 1925), transience in neighborhoods has been viewed as a positive correlate of crime. Ownership, in this research project, is assumed to indicate an inclination of people to make long-term investments in their immediate surroundings (Messner and Tardiff 1985). It is argued here that neighborhoods

with a higher degree of renters are less organized than those without.

Percent of houses which are *boarded up* in a neighborhood is another variable drawn from the Social Disorganization perspective. "Broken Window" perspectives on Social Disorganization theory claim that boarded up houses indicate a general lack of interest by residents in neighborhoods (Senna and Siegel 1986). Work by Reiss (1986), as well as work by Blumstien et al (1988), on neighborhood degeneration, shows that one of the primary signs of neighborhoods in decay is lack of ability of denizens to repair broken-windows and other features of neighborhood decay. Therefore, it is expected that the percent of boarded-up houses in a neighborhood is strongly related to social disorganization. In turn, this is related to the inability of neighborhoods to regulate the behavior of their denizens.

Routine Activities

The first variable drawn from the Routine Activities approach is percent of youths aged 15-24 within block groups. What is known about youths and crime comes from an understanding of the age-crime curve (Hirschi and Gottfriedson 1983). We know that they (youths aged 15-24) are more likely to be arrested for person crimes than any other unit of the population. These crimes may be associated with the consumption of alcohol in an atmosphere

in which they do not have steady forms of employment. Therefore, it is highly possible that their presence within neighborhoods contributes to criminal activity.

Routine Activities theory, also relays the idea that the amount of juveniles, who are often unemployed, will affect the amount of total-system activity¹⁵ within areas (see: Cantor and Land 1985). Potential offenders and victims in areas where there are large amounts of people will have a greater opportunity for socializing and crossing paths in this atmosphere. Thus, the *percentage of the population aged 15-24* is used as an indicator of unstructured socializing activities which are expected to result in a higher degree of criminal activity within neighborhoods.

Also, from a Routine Activities perspective, it seems as though there will be a greater opportunity for unstructured socialization activity in areas with a large number of youths. Furthermore, according to Newcomb and McGee (1989), "sensation seeking" (associated with youthfulness), is also of interest to researchers of the routine activities approach.

Another variable drawn from the Routine Activities perspective, is the *percentage of individuals living alone per block group*, that is, individuals who live by themselves, per block group is expected to be an indicator of routine activities. These individuals are expected to be

"easy-targets" for criminals within areas, therefore, one of the main criteria established by (Osgood, et al. 1996), availability of potential victims, is indicated by the values of this variable.

METHODS: SPATIAL ANALYTIC TECHNIQUES (DETERMINING THE APPROPRIATE MODEL)

There are two general possibilities of spatial analytic techniques to choose from in order to test our hypotheses; the spatial-error model, or the spatial-lag model. Choosing the appropriate model for this analysis involved a serious theoretical consideration of spatial dependence, or spatial autocorrelation of crime rates across Baton Rouge block groups. Spatial autocorrelation is described by Doreian (1980:32), as "...the situation where the observations of variables or the values of the disturbance term for different areas are not independent".

The first of these models, the Spatial Disturbances (or "Spatial Error") model, is derived by the formula:

$$y = xB + E$$

where

$$E = \rho W e + v$$

where v is a multivariate normal, or, a white noise term. This model is often used when spatial autocorrelation is not significant, or expected to be due to a "spill-over" in ignored variables (Anselin 1995). Because, spatial dependence is seen in the spatial error model as a

"nuisance", rather than as a factor that could increase the explanatory power of the model, it omits an additional weighted variable structure from the model.

The second possibility was to use a Spatial Lag model, which is derived by the formula:

$$y = \rho W y + xB + E$$

This formula is used when autocorrelation is significant, and must be dealt with as a substantiative factor (Land and Deane 1991). Since, it is believed that there is a systematic pattern to the overlap of crime rates from one group to another, this is the model that is likely to be used. Furthermore, it makes sense to think that a high percentage of offenders in one block group means that the crime rates in adjacent block groups will be systemically affected.

In testing for spatial dependence, which regards the systemic dispersion of crime across area, the first step involves the analysis of spatial autocorrelation to determine if (or, if not) spatial autocorrelation exists. To test the hypotheses presented in chapter II, therefore, a test of spatial autocorrelation, Moran's I, was first executed. The derivation of Moran's I is given by the formula:

$$I = (N/T) (y'Wy / y'y)$$

where N is the number of areas (278), T is the sum of spatial weights, $y'Wy$ represents a weighted dependent

variable derived from a row-standardized weights matrix which accounted for all values within a 1.9 mile radius (Doreian 1981). I , is treated as a standardized normal deviate and the test for autocorrelation is based on a variance between expected and observed frequencies (Cliff and Ord 1973).

From both the results of this test, and a sound theoretical basis, it was determined that the spatial lag model would be the best model to use. In the case being discussed, the value of I indicated that the log of area crime rates do significantly overlap. Once I was obtained, however, other considerations supporting the use of the lag model were considered (see below).

METHODS: OLS, SPATIAL-LAG MLE AND CONTEXTUAL EFFECTS MODELLING

Three methods are used to test the proposed relationships between alcohol, area, and crime. The first method involves standard OLS regression. The second method, Spatial-Lag modelling (see: Doreian 1980; Goodchild 1987; Anselin and Smirnov 1996), involves a direct Maximum Likelihood Estimation of the effects that both neighborhood characteristics and alcohol outlet density has on crime within blockgroups when accounting for a spatially-lagged dependent variable (crime). In order to approximate spatial-lag, a distance based contiguity matrix with a radius of 1.9 miles has been created¹⁶. Interaction

variables taking the multiplicative coefficients of neighborhood characteristics and alcohol availability measures are also tested using the spatial-lag model.

The third method used is known as OLS Contextual effects modeling, which accounts for the values of crime rates in block groups based on neighborhood characteristics. These models are only employed to test the effects of alcohol availability in different types of block groups.

Doreian (1981) discusses how previous articles in Sociological research have used traditional OLS modeling to explain spatially distributed phenomena. In this dissertation, non-spatial model is only invoked in order to obtain *estimates* of how well our instrumental variables explain crime across our 278 block groups.

However, there are several reasons why we should be careful in our interpretation of the OLS model (see: Doreian 1980). First, because contiguous spatial areas (block groups) are used as units of analysis, the idea of "direct representation", which refers to covariance between observations as a direct function of a distance metric, is neglected by OLS measures (Anselin 1995). That is to say that OLS does not consider the possibility that crime in certain areas may have direct and significant effects on crime rates in adjacent areas. Not to consider those effects may result in finding significance, where there is actually none. Thus, for us not to consider the use of the

spatial model is to express a certain degree of ignorance about the formal structure of joint spatial dependence.

The main reason for using the *spatial-lag* model as our primary means of testing the proposed relationship between alcohol and crime regarded the consequences of neglecting the substantive dynamics of crime. Evidence has already shown us that a true contagion process occurs among high crime neighborhoods (Burgess and Park 1925; Sherman and Kobrin 1986). As such, there is strong likelihood of crime phenomena spreading spatially across contingent block groups, and thus being substantially dependent.

Using the framework of the lag model, an attempt can be made to explore the possible alcohol-crime relationship, while accounting for the fact that the distribution of crime across area is a form of "true contagion", as opposed to being a simple manifestation of economic-behavioral processes within areas. Also, as Anselin and Smirnov (1996) have stated, the consequences of ignoring meaningful spatial-lag are more significant in terms of biasing estimates, since the spatial-error model omits a potentially significant explanatory variable.

The use of the spatial-lag model allows this research effort to focus on aspects of the potential relationship between alcohol and crime which the OLS model excludes. The inclusion of a weighted dependent-variable within the regression can help us to discover the true power of both

neighborhood setting and alcohol availability, along with the estimated effect of *spatially-weighted* crime rates in adjacent block groups.

One other major focus of this research project (related to the use of the lag model) was on the ordering of the potential relationship alcohol-crime relationship across block groups. Spatial analytic researchers in the past have almost always looked at important predictive variables as being causal within immediate polygons, rather than as variables which may have lagged effects on crime rates within adjacent neighborhoods. By *expanding*¹⁷ the weighted coefficients within the lag model, it can be determined how weighted independent variables within in one block group affect the weighted dependent variable. Thus, the lag model allows us to look at spatial-drift among coefficients which carry over from polygon to polygon (Anselin 1996).

Interaction variables, discussed throughout this dissertation, are also used in spatial-lag modelling. The intention of these is to permit a glimpse into whether area characteristics, coupled with alcohol availability, allow some insight into previously unanswered questions about cause-effect ordering for the alcohol-crime nexus. Thus, and attempt is made in this dissertation to sort out certain unclarities in the alcohol-crime nexus revolving around indirect or intermediate casual issues. The value of looking at interaction terms centers on the augmentation of

a relationship that is not yet fully understood according to many researchers:

"It is significant that most investigators of the alcohol-homicide or alcohol-violent behavior relationships do not concur about the cause-and-effect nature of these interactions."

(Forrest and Gordon 1990: 21)

To address Forrest and Gordon's concerns, questions posed into both spatial and multiplicative effects by this research may further help us understand the causality of the alcohol-crime nexus both within and across spatial boundaries.

POTENTIAL PROBLEMS WITH USING THE SPATIAL-LAG MODEL

A key methodological problem that might be encountered in using block groups as units of analysis must now be addressed. This problem, which is mainly related to the accuracy of the Baton Rouge Metropolitan Police Department data, hinges on the data's negligence of the mobility of offenders between neighborhoods. Imagine, for example, that a habitual offender travels just outside of his residential neighborhood and commits a crime.

This can not be accounted for by the simple address-specific arrest data used here. The data provided here by the Baton Rouge Police Department only account for where the criminal was arrested, as opposed to where the crime is committed. Thus, the arrest record gives us only partial information about the unit of analysis.

To solve the problem of spill-over in ignored variables, we could have chosen the spatial error model (Doreian 1980). In the case where spatial error exists, the values of y (crime rates) in one block group, might be non-systemically affected by the values of y in another contingent block group. Thus, the variation of crime across space can no longer be viewed as a dynamic-social process, but primarily as a result of the mobility of offenders. Thus, the weighted value of crime would have to be omitted as an explanatory variable. This is highly unlikely, as we understand that the spread of crime across neighborhoods is perhaps the epitome of social contagion.

Another, and much more systemic way of solving the problems that might be encountered by using the lag, as opposed to the error model, can be found in the output diagnostics of any spatial regression model run in SPACESTAT. Spatial regression diagnostics yield what are known as Lagrange Multiplier, or Lagrange Score tests¹⁸. There are two types of Lagrange tests which are produced in the output of every SPACESTAT run. The first is called the LM test for spatial dependence, while the second is known as the LM test for spatial error. While, it is important to note that LM tests indicate whether misspecification has occurred within the model, the probability of misspecification does not necessarily mean that identification of an alternative model is necessary; a high

probability of misspecification may indicate the need to be careful in our interpretations.

ADDENDUM: A WORD ON INTERACTION EFFECTS

The hypotheses presented in Chapter III. give indication that there may be critical interactions between neighborhood characteristics and alcohol availability on local crime rates. Thus, before considering the results of the models used to research the previous hypotheses, a brief discussion on the nature of interaction effects (along with their meaning for spatial analyses) is discussed.

While traditional research looks at alcohol consumption as the primary etiological factor in the commission of the "full range of criminal acts" (Gordon and Lightfoot 1985); the presence of alcohol coupled with other explanatory variables may actually have an indirect influence on the propensity to elevate crime rates within contiguous block groups. Indeed, researchers who have dabbled with the multiplicative effects of alcohol and other characteristics and found some surprising results. Cookson (1992), for example, contends that the appearance of significance between alcohol use and juvenile delinquency may be explained away by looking at "personality types". As she states:

"The impulsive, sensation-seeking, extrovert personality may well be attracted to crime as to

alcohol; and indulge in both frequently and heavily;
and most crime is acquisitive in nature"

(Cookson 1992:359)

Here, she suggests that personality type (X) causes alcohol use (Z) which causes (Y) crime.

The research presented here, however, looks at the potential alcohol-crime relationship across space. It considers possible interaction and indirect effects between alcohol and crime that have often received short shrift in recent literature. Interaction variables are those that measure the multiplicative effects of two or more variables on a spatially-lagged dependent variable (see: Jaccard, Tursissi and Wan 1990).

One of the goals of this research, for example, will be to look at neighborhood crime rates (these are discussed below) as a possible function of the multiplicative effects of alcohol availability with other neighborhood characteristics. If these interaction variables prove to be more accurate predictors of area crime than rudimentary social disorganization variables, then it will be possible to verify that the effects of alcohol availability, in the absence of certain social constructs, on crime may have been vastly overestimated in the past. Thus, this cursory examination seeks to augment the predictive power of social disorganization variables by using the multiplicative

effects of social disorganization and alcohol availability as estimators of criminal activity.

INTERACTION EFFECTS: ALCOHOL AVAILABILITY AND NEIGHBORHOOD CHARACTERISTICS

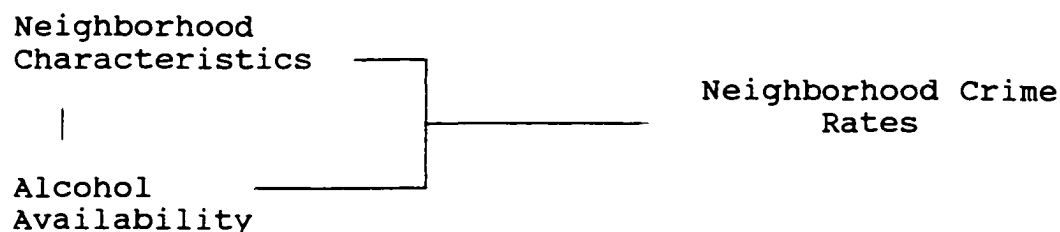
The propositions that can be derived from the perspective of alcohol and crime presented above suggest that alcohol availability is not a direct causal, but only a possible interacting factor in the explanation of spatially-lagged crime rates within and across neighborhoods. While the exact causal salience of alcohol in the alcohol-crime nexus has not been discussed, it is suggested that there are at least two possible conjunctions between alcohol and neighborhood characteristics with regard to their possible effects on crime rates within and across boundaries.

The first suggested relationship is an *indirect* causal relationship, which suggests that X exerts a causal impact on Y within an area, but only through its impact on a third variable (Jaccard, Turrisi, and Wan 1990). In the theory discussed above, such a relationship could be drawn out as follows:

*Neighborhood
Characteristics* — *Alcohol Availability* — *Neighborhood
Crime Rates*

Here, neighborhood characteristics are suggested to exert a causal impact on alcohol availability, which, in turn, is suggested to effect crime rates in these and contiguous areas.

The second possible type of causal relationship between alcohol and crime is a *moderated* causal relationship. This is one in which the relationship between X and Y is moderated by a third variable (Jaccard, Turrisi and Wan 1990). Here, the relationship between neighborhood characteristics and crime rates in contiguous areas may vary by the value of alcohol availability in block groups. Such a relationship can be drawn out as follows:



INTERACTION EFFECTS IN MULTIPLE REGRESSION

In their discussion of interaction effects in multiple regression, Jaccard, Turrisi and Wan (1990) point out that interaction effects are those which measure *moderated* relationships. The principle goal of this research is to test the moderating effects of alcohol availability (Z) on the effect of neighborhood characteristics (X) on area crime rates (Y). In their article, the researchers contend that three key issues: 1) *can we infer from sample data that an*

interaction effect exists in the population; 2) if so, what is the strength of the effect; and 3) what is the nature of the effect.

The first question, can we infer an interaction, can be answered by means of simple OLS test. By using the multiplicative effects of alcohol availability (A) and measures of social disorganization (D), for example, a new variable (AD) is created. The analysis presented in the following section proposes the generation and testing of ten new variables; each representing the multiplicative term of alcohol availability and some aspect of social disorganization or routine activities theory.

While, running the gamut of the new interaction variables that will be created is not yet necessary, an example of such a variable would be: Percent Moved in 1990 (M) * Taverns Per 100 households (T) within a given block group; this equation would create an entirely new variable (MT). Thus, testing whether or not there is a significant interaction between M and T, would require doing an Ordinary Least Squares regression that: 1) includes the log of any specific crime (ie: robbery) as the dependent variable; and 2) includes the means and effects of M, T, and/or MT on the dependent variable. If an interaction effect is present, then MT will show significance.

To test the strength of the interaction variables used, Jaccard, Turrisi and Wan (1990:10) suggest the use of eta

squared, which is "the proportion of variance in the dependent variable that is attributable to the interaction effect in the sample data". Such an equation would be written out as follows:

$$Eta^2 = SS(M*T)/SS(total)$$

where (M*T) is the sum of squares for the interaction term. However, to test the strength and magnitude of the interaction effects in OLS regression, we need only observe the regression slope.

CONCLUSIONS: INTERACTION EFFECTS IN SPATIAL REGRESSION

This research calls for the use of a methods that is becoming more utilized in the social sciences as of late; the Spatial-lag model. This model is discussed above. Unfortunately, no previous work discusses the addition of interaction variables to spatial models.

In chapter VI, alcohol availability and its relationship to spatially-lagged crime rates, is tested in four ways. First, alcohol availability is treated as an additive control variable in generic OLS regressions. Second, spatial-lag models are run estimating the spatially-weighted effects of individual crimes regressed on instrumental variables. Third, a contextual effects model examining the logs of crime is used to estimate the effects of alcohol availability in areas with different characteristics. And, finally, alcohol availability is

treated as an interaction variable coupled with neighborhood characteristics in both OLS and spatial-lag models.

There are benefits to be gained from using all four methodological approaches. OLS regression will tell us if our instrumental variables are significant on crime across the entire Baton Rouge area, however, OLS does this without accounting for the spatially-weighted dependent variables. Using alcohol availability as a control variable in an additive spatial-lag model will allow an examination of its independent effect on area crime rates; while controlling simultaneously for the independent effects of the other area characteristics. The contextual model will relay estimates for how the instrumental variables effect the potential for crime in different "types" of areas. Finally, by looking at the interaction effects between alcohol availability and neighborhood characteristics the possible explanatory power of the proposed interaction terms may be obtained and compared with those in the spatial-lag model.

CHAPTER VI: RESULTS

This chapter presents the results of an empirical examination of the alcohol-crime nexus from several possible angles. Table II is a correlation matrix of the key variables used in this analysis. Each of the hypotheses mentioned in the above chapter are tested here. Since each hypotheses assumes that alcohol density will be an estimator of each type of crime in the analyses, one-tailed tests of significance are employed in all of the following models. First, however, a test for spatial autocorrelation using Moran's I was used in order to determine the appropriate model for analysis.

TESTING FOR SPATIAL AUTOCORRELATION AND DETERMINING THE APPROPRIATE MODEL

As discussed in the previous chapter, before deciding on the use of a spatial lag-model or spatial error-model the significance and direction of spatial autocorrelation among instrumental variables had to be tested. The values of *Moran's I*, given in Table III, indicate the strength and direction of the spatial autocorrelation of variables in the study. I (as well as the Z -value) indicates the strength and direction of the spatial interaction.

Geographical researchers, such as Tobler (1970), have suggested that every social and physical phenomena is spatially autocorrelated. As Tobler's "First Law of

Table II. Correlation Matrix for Key Variables

	Taverns per 100 Households	Package e-only places per 100 househo lds	pct 15-24	pct board	pct moved in 1990	pct renter	pct living alone	assault	burglar	theft	auto theft	robbery
Taverns per 100 Households	1.000											
Package- only outlets per 100 households	.2977	1.000										
pct 15-24	-.0097	.0654	1.0000									
pct board	-.0151	.0556	.4848	1.000								
pct moved 1990	.1592	.1025	-.1495	-.0421	1.0000							
pct renters	.1527	.0854	.2133	.2028	.0639	1.0000						
pct living alone	.2111	.2461	.2133	-.1213	.6567	.6245	1.0000					
assault	.1251	.2223	.5574	.3863	.0012	.2900	.0428	1.0000				
burglary	.1804	.1804	.3570	.2684	.0281	.2351	.1648	.7827	1.0000			
theft	.2005	.1835	.2774	.1978	.0848	.2405	-.0878	.7318	.9209	1.0000		
auto theft	.1911	.1804	.3809	.2700	.1410	.3615	.2069	.8407	.8774	.9209	1.0000	
robbery	.2263	.2932	.4341	.3177	.1391	.3510	.2126	.7691	.7837	.7471	.7837	1.0000

**Table III.: Moran's I Test for Spatial
Autocorrelation (normal approximation)**

Variable	I	Z-value	Prob.
Percent Package-only places per Household	-.03	1.17	.23
Percent taverns per Household	-.05	1.78	.07
Percent Renters	.32	9.27	.00
Percent Boarded Up	.27	7.90	.00
Percent Moved 1990	.29	8.42	.00
Percent 15 - 24	.48	13.83	.00
Percent primary individuals	.33	9.55	.00
Log of Assault	.48	13.92	.00
Log of Auto Theft	.45	12.96	.00
Log of Burglary	.44	12.71	.00
Log of Robbery	.44	12.72	.00
Log of Theft	.34	9.77	.00

Geography" suggests: *everything is spatially related, but geographical proximity strengthens the relationships* (see: Anselin 1995). In other words, shared spatial proximity means that areas are likely to share characteristics. Taking a departure from Tobler's law, it was expected that crime and other social phenomena would be significantly autocorrelated across Baton Rouge neighborhoods.

The initial spatial diagnostics in Table III provide some insights into spatial dependence, which proved to be helpful in determining the appropriate regression model. With regard to Tobler's first law of geography, : "Everything depends on everything else, but closer things even more so..." (Tobler 1970: 1), results show only one exception to the rule of spatial dependence. From the results, we may conclude that the first law of geography does not apply to the placement of commercial establishments (or, at least alcohol distributors). However, all other variables fit Tobler's claim and are significant at the .01 level.

The *I* test for spatial autocorrelation produced values which indicate that the logged rates of the dependent variables (robbery, assault, theft, auto theft, burglary) are all positively spatially autocorrelated and significant at the .01 level. From the results, it is apparent that all other instrumental variables, except the alcohol availability variables, are positively and significantly spatially autocorrelated.

Because, the dependent variables (along with many of the control variables) prove to be positively spatially autocorrelated also, results seem to suggest that the use of the spatial-lag model is appropriate. To not account for the spillover-effect of crime rates as possible estimator variables in crime rates at this point is statistically unsound. However, the final decision to use the lag-model was based on more substantive concerns about the spatial dependence of the crime variables, as opposed to the results of statistical analysis.

Moran's *I* only tells us whether certain phenomena are significantly spatially autocorrelated, and thus, it is only a foundation on which construct a model of alcohol and crime. As many spatial researchers have pointed out in the past the decision on which model to use is largely a substantive, or theoretical issue (Goodchild 1986).

The *I* values for the logs of criminal offenses are relatively "high", and this indicates that crime is a heavily clustered phenomena. The positive clustering of crimes in the Baton Rouge area are mapped and illustrated in Figures D through H. The Moran's *I* value for assault ($I = .48$) indicates that assault exhibits the strongest spatial dependence of all the crimes. Theft, with a Moran's *I* value of .34, appears to be the least spatially autocorrelated of the crimes.

With regard to choosing an appropriate model, the primary concern is the fact that the dependent (crime) variables are spatially autocorrelated. The results of table III indicate that at the .01 level, the logs of burglary ($I = .44$), assault ($I = .48$), robbery ($I = .44$), auto theft ($I = .45$), and larceny ($I = .34$) do show significant and positive spatial dependence across area.

It can be theorized that crime rates are spatially dependent due to at least two factors. First, because there is bound to be some dynamic overlap of social processes, one might expect that attitudes regarding criminal behavior spill over from one neighborhood to the next. Indeed, some research has shown that crime is a phenomena that involves modeling behavior (Wolfgang and Ferracuti 1967). Second, since criminals residing in certain neighborhoods do not intentionally "pick" which neighborhoods to commit criminal acts in, it can be assumed that neighborhoods that share proximity with a high crime areas are likely to experience a certain degree of "crime spill-over".

This "spill-over" effect can only be accounted for by the spatial-lag model. With this in mind, we can see how crime rates in one neighborhood might be dependent on crime rates in contiguous neighborhoods as a result of socialization in a close proximity setting. Accordingly, the decision to use the lag model is based on the idea that the log of crime rates from each neighborhood will act as an

estimating factor of crime in adjacent neighborhoods. Thus, both empirical data (Moran's *I*) and theoretical reasoning indicate that the use of the spatial dependence model is a correct choice.

Maximum Likelihood Estimation of the spatial dependence (or "lag") model used here is based on the assumption of normal error terms (cf: Cliff and Ord 1973). Placement of explanatory variables into the model yields a pseudo- R^2 measure that is also known as a "Squared Correlation"¹⁹. Results of the spatial-lag model are discussed and compared with the results of the OLS models in the following chapter.

To reiterate, the results of Moran's *I* are not the paramount decision-making element on which to base a model choice. However, the results do indicate that the use of a spatial-lag model is appropriate.

SPATIAL AUTOCORRELATION AMONG OTHER VARIABLES

As is discussed above, the primary concern of model selection is based mainly on the autocorrelation of the dependent variables. Still, autocorrelation among other variables in the study do give some insight into general spatial relationships. Table III indicates that all of the explanatory variables, along with the dependent variables (logged crime rates), are significantly spatially autocorrelated *with the exception of the density of taverns and package-only places across blockgroups in Baton Rouge.*

Moran's I indicates that neither the placement of package-only places ($I = -.05$), nor taverns ($I = -.03$), are significantly spatially autocorrelated across neighborhoods. These alcohol density measures, which are the only variables in the study which do not significantly cluster, do not apply to Tobler's "first law". To explain this, it can be suggested that commercial districts, such as those that include taverns and package-only places, are intentionally spatially distributed so they do not cluster.

Much work in economics has shown that commercial establishments are geographically positioned in order to ensure that optimum sales will be achieved (Kerr and Littlefield 1974). As such, sellers of any product (such as alcohol) may strategically place their businesses at random distances in order to attract larger amounts of customers from surrounding areas. If so, then this may explain the discrepancy in Moran's I to account for spatial autocorrelation of alcohol establishments across Baton Rouge.

RESULTS: HYPOTHESES TESTING

The first step of the research process was to use both standard OLS regression and Cliff and Ord's (1973) Maximum Likelihood Estimation technique to test proposition H1, which suggests that alcohol availability will affect crime rates within block groups regardless of neighborhood characteristics:

- H1. More robbery, burglary, theft, auto-theft, and assault will occur in neighborhoods where there is more alcohol availability independently of routine activities and social disorganization.

To test this proposition, two models were run for each type of crime in Tables IV-VIII. In the first model of each table, only the effects of alcohol availability within neighborhoods, on the logged crime rates are taken into account. The second model in each table adds both the routine activities and social disorganization variables into the model.

Burglary: OLS and Spatial Results

Table IV, Model A shows the results of burglary regressed on the two alcohol availability variables: *percent taverns per 100 households*, and *percent package-only stores per 100 households* in an OLS regression. The linear pattern would seem to indicate that an increase in *package-only stores* would cause an increase in the log of burglary across Baton Rouge neighborhoods of each package-only place per 100 households within a block group. *Taverns per 100 households*, on the other hand, shows no significant relationship with burglary.

In the full OLS model (Table IV, Model b), probability levels indicate that the alcohol availability variables are not significant in estimating burglary within neighborhoods. An R^2 of .19 shows that the entire model explains only 19% of the variance in the logged rates of burglary when not

accounting for spatial overlap. The linear relation shows that burglary is not significantly related to alcohol availability when other neighborhood characteristics are added into the model. *Percent renters* is significant ($p = .023$) and shows a positive unstandardized coefficient (beta) of .229. *Percent boarded up* is also significant ($p = .086$), but with a relatively weak coefficient (beta = .111).

The OLS "full model" results indicate that lack of neighborhood resources, and possibly transience, may be significant factors in the estimation of burglary. Thus, the OLS results do not support the hypothesis with regard to burglary.

In Table V, Model A, the a spatial-lag MLE model is utilized to test the possible relationship between alcohol and burglary. MLE results indicate that within block groups in Baton Rouge, *Package-only* stores per 100 households have a significant ($p = .091$) and positive effect ($B = 45.78$) on burglary. Results indicate that for each increase in package only stores per 100 households within a blockgroup, there is a general increase in the log of burglary rates. *Taverns*, as in the OLS model shows no significance. The Squared Correlation of .16 shows us that the first spatial model (Table V, model a.) explains 16% of the variance in burglary. Furthermore, when the weighted log of burglary is taken into account, it also proves to have a significant ($p = .000$) and positive effect ($B = .85$) on burglary rates

within blockgroups. Results of this model seem to support the proposition that alcohol availability has a significant effect on crime, yet only with regard to package-only stores.

In the full spatial lag model (Table V, Model B) with the addition of the routine activities and social disorganization variables, the relationship between package-only places is confounded by the presence of the routine activities and social disorganization variables. Package-only places loses its significance as an estimator of burglary, while percent age 15 -24 within block groups is a positive ($B = 3.43$) and significant ($p = .103$) predictor of burglary. This would seem to confirm what we already know about the propensity of youths to commit property crimes (cf: Steffensmier and Allen 1989). The other significant variable in our OLS regression is percent renters ($p = .089$), which shows a positive relationship with burglary ($B = 1.55$). As is expected, the weighted log of the burglary rate is also a positive ($B = .75$) and significant ($p = .000$) predictor of burglary.

Twenty three percent of the variance in the logged rate of burglary is explained by the model.

Table IV: Additive OLS Regressions for Burglary

Model A.			Model B.	
	beta (B)	sig t	beta (B)	sig t
Taverns per 100 household	.092 (.210)	.122	.068 (.155)	.227
Package-only per 100 household	.140 (.791)	.018	.062 (.351)	.269
Percent renters			.229 (2.37)	.023
Percent boarded up			.111 (8.59)	.086
Percent moved 1990			-.218 (-6.84)	.034
Percent 15 -24			.223 (7.65)	.001
Percent living alone			.149 (4.54)	.050

R²: .03

R²: .19

Sig f:

.014

.000

Thus, none of the results support the proposition that alcohol availability affects the log of burglary rates in neighborhoods. Yet, there are noticeable changes in the results of both tables when the routine activities and social disorganization variables are accounted for. Also, in both cases, the spatially weighted dependent variable (pWy) has a significant effect on neighborhood crime rates.

In the OLS regressions three variables (*percent renters, percent aged 15 -24, and percent of individuals living alone in a neighborhood*) showed positive and significant. Yet, in the lag model, only *the weighted log of burglary (pWy), percent renters and percent aged 15 -24* show significance. Disparities in the results of both models will be discussed in the next chapter, with particular attention being given to theoretically explaining of the influence of the spatially-lagged dependent variable on the full models. Still, alcohol availability appears to have no apparent effect on burglary in either of the full models, thus, we can not support our hypothesis with regard to the idea that alcohol availability within blockgroups acts as an estimator of the logged rates of burglary in East Baton Rouge neighborhoods. This applies to both the rates of tavern and package-only places within these metropolitan areas.

Table V: MLE Spatial Lag Models for Burglary

Model A.			Model B.	
	B	P	B	P
Weighted D.V. (w_log of burglary)	.85	.000	.75	.000
Taverns per household	12.34	.263	10.41	.348
Package-only per household	45.78	.091	28.74	.293
Percent renters			1.55	.089
Percent boarded up			3.79	.374
Percent moved 1990			-3.43	.241
Percent 15 -24			3.43	.103
Percent living alone			1.52	.443
	Sq. Corr.: .16		Sq. Corr.: .23	

Robbery: OLS and Spatial Results

Table VI, Model A, shows the results of the log of robbery rates regressed on *taverns* and *package-only establishments* in a linear model. OLS results indicate that *taverns per 100 households* have a significant ($p = .083$) and positive ($B = .100$) effect on the log of robbery rates. *Package only places per 100 households*, in the OLS model, is significant ($p = .000$), with a positive standardized coefficient ($B = .273$).

Table VI, Model B, shows that with the social disorganization and routine activities variables added, *package-only establishments* are still significantly ($p = .000$) related to robbery in the OLS equation. This relatively weak positive standardized coefficient ($B = .180$), even in the presence of significant social disorganization variables suggest that *package-only places* might have an influence on robbery.

All of the social disorganization variables prove to be significant in the full OLS model. *Percent renters* ($B = .229$) shows a moderate positive relationship with the log of robbery in the OLS regressions ($p = .013$), while *percent 15-24* shows a moderate positive relationship ($B = .113$) with the logged robbery rate. *Percent of boarded up houses* also displays a moderately weak positive ($B = .110$) relationship with the log of robbery rates ($p = .064$).

Table VI: Additive OLS Regressions for Robbery

	Model A.		Model B.	
	beta (B)	sig t	beta (B)	sig t
Taverns per 100 household	.100 (.205)	.083	.055 (.131)	.281
Package-only per 100 household	.273 (.806)	.000	.180 (.494)	.000
Percent renters			.229 (1.87)	.013
Percent boarded up			.110 (4.89)	.064
Percent moved 1990			-.113 (-4.39)	.229
Percent 15 -24			.296 (5.66)	.000
Percent living alone			.175 (4.54)	.012

$R^2 = .08$

$R^2 = .32$

Sig f:

.007

.000

Table VII, contains results wherein Cliff and Ord's MLE procedure is used to look at the effect that the alcohol availability variables have within a spatial lag model. Results of Model A indicate that *package-only stores per 100 households* is significant ($p = .000$), showing a positive relationship ($B = 104$) with the log of robbery rates within neighborhoods. In this model, the weighted log of robbery also proves to be a positive ($B = .80$) and significant ($p = .000$) predictor of burglary. Unlike the OLS model, however, in the lag model, *taverns per 100 households* is no longer significant at the .10 level.

In the full model (Model b.), even with the addition of the routine activities and social disorganization variables, *package-only establishments per 100 households* remains a positive ($B = 87.90$) and significant ($p = .000$) estimator of robbery. Other variables which prove significant in the MLE model are *percent 15-24* ($p = .004$) and *percent renters* ($p = .079$) which are both positive and significant estimators of robbery. Also, in the final model, which yields a squared correlation of .39, the weighted log of robbery is also a significant ($p = .000$) and positive ($B = .65$) estimator of the logged robbery rates within block groups.

Results of both MLE and OLS regressions support our hypothesis with regard to robbery. However, the hypothesis

Table VII: MLE Spatial Lag Models for Robbery

	Model A.		Model B.	
	B	P	B	P
Weighted D.V. (w_log of robbery)	.80	.000	.65	.000
Taverns per 100 household	13.60	.186	7.26	.469
Package-only per 100 household	104.49	.000	87.90	.000
Percent renters			1.45	.079
Percent boarded up			2.08	.595
Percent moved 1990			0.92	.718
Percent 15 -24			5.39	.004
Percent living alone			1.87	.298
	Sq. Corr.= .27		Sq. Corr.= .39	

that alcohol availability effects robbery is *only supported for package-only places per 100 households*. Reasons as to why taverns per 100 households has no apparent effect on robbery are discussed in the next chapter.

Theft: OLS and MLE Results

Table VIII., Model A, shows the OLS estimates for theft regressed on *taverns* and *package-only* establishments. Only 3% of the variance is explained here. Results indicate that the unstandardized coefficient (B) for *package-only places* has a positive value of .157. As the value of *package-only stores per 100 households* increases in Baton Rouge, so will the log of theft ($p = .009$). The variable *taverns per 100 households*, on the other hand, has no significant effect on the log of theft rates, in Model A, but nears significance in the one-tailed test ($p = .105$).

In Table VIII, model B, the routine activities variables and social disorganization variables are added into the OLS equation. Here, it appears that alcohol availability loses its significance on the logged rates of theft within neighborhoods. The percent of the variance explained by this final model is only 14%. Results show that *package only places per 100 households* no longer remains significant, but nears significance ($p = .104$). With the addition of the routine activities variables, as well as the addition of the entire collectivity of the appropriate

Table VIII: Additive OLS Regressions for Theft

	Model A.		Model B.	
	beta	sig t	beta	sig t
Taverns per 100 household	.096	.105	.061	.284
Package-only per 100 household	.154	.009	.094	.104
Percent renters			.196	.061
Percent boarded up			.068	.305
Percent moved 1990			-.151	.152
Percent 15 -24			.176	.014
Percent primary individuals			.160	.040

$R^2 = .02$

$R^2 = .14$

Sig. F:

.002

.000

social disorganization variables, the effect of taverns is no longer approaches significance. The significant explanatory variables for theft found in Model B are *percent renters* ($p = .061$), *percent 15-24* ($p = .014$) and *percent of people living alone* ($p = .040$) within a blockgroup.

As can be seen in the full OLS model, all of the significant variables have positive coefficients. The fact that *percent 15-24* has a positive standardized coefficient of .176. Again, this confirms the known about age distribution and property crimes: younger people tend to commit property crimes in greater proportion (Blumstien et al. 1979). It can be theorized as well, that people living alone, as well as renters, are easier targets for thieves. However, the theoretical implications of these results will be discussed in the next chapter.

Table IX, Model A, displays the results when employing a MLE spatial lag model which regresses the log of theft on alcohol availability measures, while taking into account the estimated effects of spatial spillover. Results show us that *package-only places per 100 households* is a significant ($p = .035$) predictor of theft with a positive ($B = 55.54$) unstandardized coefficient. The pseudo- R^2 of .12, indicates that the MLE model provides us with a "better mathematical fit" than does the Ordinary Least Squares

Table IX: MLE Spatial Lag Models for Theft

	Model A.		Model B.	
	B	p	B	p
Weighted D.V. (w_log of theft)	.79	.000	.71	.000
Taverns per 100 household	14.64	.174	10.04	.354
Package-only per 100 household	55.54	.035	43.28	.105
Percent renters			1.47	.098
Percent boarded up			1.19	.777
Percent moved 1990			-1.92	.483
Percent 15 -24			2.62	.197
Percent living alone			1.87	.342
	Sq. Corr. = .12		Sq. Corr. = .19	

model when the spatially-lagged dependent variable ($p = .000$) is added into the regression.

The full model, Model B, which controls for routine activities and social disorganization variables, finds no significant explanatory variables for the log rates of theft except the spatially-lagged dependent variable ($p = .000$) and *percent renters* ($p = .098$), which both prove to be positive estimators of theft. Unlike the OLS results which show significance for *percent 15 -24* and *percent of individuals living alone*; in the spatially-lagged MLE model for theft, none of these variables show significance. From our findings, we can not support our hypotheses with regard to theft. However package-only places per 100 households closely approaches significance ($p = .105$).

Auto Theft: OLS and MLE Results

Table X, Model A, is a standard linear regression of auto theft on *taverns per 100 households* and *package-only places per 100 households*. The results show that *package-only places* significantly contribute to the occurrence of auto theft in Baton Rouge ($p = .004$). For each package-only place per block group in Baton Rouge, the log of auto theft increases, showing an unstandardized coefficient of .169. Yet, only .04 of the variance in auto theft is explained by Model A..

In the second OLS model (Table X, Model B), 25% of the variance is explained with the addition of the routine activities and social disorganization variables ($R^2 = .25$). *Percent package-only places per 100 households* when regressed on the log of auto theft is not significant ($p = .104$) with a weak and positive coefficient ($\beta = .087$). *Percent renters* is a powerful estimator of motor vehicle theft with a standardized coefficient of .874 and a significance level of .000. *Percent of people living alone* ($p = .039$) is also positive and significant

In Model B, the same anomaly which occurred for burglary with regard to the transience variables arises. While *percent renters* ($\beta = .874$) is positive and significant ($p = .000$), *percent moved in 1990* is negative. This will be discussed more in the next chapter as well.

Table XI, Model A, uses the MLE Spatial Lag model which explains 21% of the variance in auto theft, when the weighted dependent variable is taken into the equation along with the alcohol availability variables. Results show that *package-only outlets per 100 households* within a blockgroup is a significant ($p = .051$) and positive ($B = 44.92$) estimator of auto theft, while *taverns per 100 households* has no significant effect on the logged rate of auto theft.

Model B, Table XI, shows the results of the full model in an MLE equation. The model indicates that, with the

Table X: Additive OLS Regressions for Auto Theft

	Model A.		Model B.	
	beta (B)	sig t	beta (B)	sig t
Taverns per 100 household	.097 (.131)	.102	.051 (.101)	.342
Package-only per 100 household	.169 (.824)	.004	.087 (-.173)	.104
Percent renters			.874 (2.90)	.000
Percent boarded up			.081 (5.41)	.192
Percent moved 1990			-.174 (-4.73)	.076
Percent 15 -24			.243 (7.23)	.000
Percent living alone			.150 (3.98)	.039

$R^2 = .04$

$R^2 = .25$

Sig f:

.000

.000

Table XI: MLE Spatial Lag Models for Auto Theft

	Model A.		Model B.	
	B	P	B	P
Weighted D.V. (w_log of auto theft)	.84	.000	.73	.000
Taverns per 100 household	10.87	.174	5.74	.532
Package-only per 100 household	44.92	.051	32.40	.152
Percent renters			2.13	.004
Percent boarded up			1.10	.757
Percent moved 1990			-1.32	.569
Percent 15 -24			3.14	.071
Percent living alone			0.87	.595
	Sq. Corr. = .21		Sq. Corr. = .32	

addition of the routine activities and social disorganization variables, only *percent renters* ($p = .004$), the weighted log of auto theft ($p = .000$), and *percent aged 15-24* ($p = .071$) prove to be positively correlated with auto theft. *Package-only places per 100 households*, however loses its significance in the full MLE model. Thirty-four percent of the variance in the log of auto theft is explained by this model. From our results, however, we can not support the hypothesis that alcohol availability affects crime with regard to auto theft.

Assault: OLS and MLE results

In the first model of the final OLS table (Table XII, Model A.) the log of assault rates is regressed on our alcohol availability variables. In Model A, *package-only places* are found to be significantly related to assault ($p = .000$), with a moderately strong positive standardized coefficient of .230. Surprisingly, *taverns per 100 households*, have no significant effect on the log of assault within block groups. This would definitely appear strange considering what our culture thinks about the proposed connection between bars and fighting. Only 5% of the variance in the logged rates of assault within East Baton Rouge neighborhoods is explained by alcohol availability variables this model.

Table XII: Additive OLS Regression for Assault

	Model A.		Model B.	
	beta (B)	sig t	beta (B)	sig t
Taverns per household	.063 (.143)	.277	.055 (.125)	.257
Package-only per household	.230 (1.27)	.000	.117 (.652)	.017
Percent renters			.293 (3.01)	.001
Percent boarded up			.109 (8.26)	.055
Percent moved 1990			-.186 (-5.73)	.038
Percent 15 -24			.394 (13.25)	.000
Percent living alone			.027 (.888)	.678

R^2 : .05

R^2 : .38

Sig f:

.000

.000

In Table XII, Model B, the R^2 of the full OLS model is .38. The significance of *package-only places* on assault holds at the .01 level with a positive coefficient ($B = .117$). Other variables *percent 15 -24* ($p = .000$), *percent renters* ($p = .001$), and *percent boarded-up houses* ($p = .055$) per 100 households, explain positive changes in the log of assault rates within neighborhoods. *Taverns per 100 households* does not attain significance in the full OLS model. Again, the issue of transience leaves us to grapple with the fact that *percent moved in 1990* has a negative ($B = -.186$) relationship with assault.

Table XIII, Model A, which displays the MLE spatial-lag model, once again gives us an insight into the potential positive effects that *package only places* may have on neighborhood crime rates. As in all cases, the weighted dependent variable proves to be significant ($p = .000$) and positive ($B = .79$) as an explanatory factor. Statistics indicate that in a regression of assault on the alcohol availability variables, *package-only outlets per 100 households*, is positive ($B = 79.65$) and significant ($p = .002$). This model explains 23% of the variance in the logged assault rates within blockgroups. Again, *taverns per 100 households* is not a significant estimator of assault within neighborhoods.

The final model for assault in Baton Rouge (Table XIII, Model B, is a regression of the logged assault rates on the

Table XIII: MLE Spatial Lag Models for Assault

	Model A.		Model B.	
	B	P	B	P
Weighted D.V. (w_log of assault)	.79	.000	.52	.000
Taverns per 100 household	6.19	.563	7.70	.451
Package-only per 100 household	79.65	.002	56.37	.025
Percent renters			2.34	.005
Percent boarded up			3.82	.342
Percent moved 1990			-2.28	.285
Percent 15 -24			8.89	.000
Percent living alone			-0.52	.639
	Sq. Corr. = .23		Sq. Corr. = .43	

full gamut of variables. With the addition of the routine activities and social disorganization variables, the MLE model explains 43% of the variance in assault, with the weighted log of assault proving to be a positive ($B = .52$) and significant ($p = .000$) estimator of assault. Results yield significance for three variables: *package-only places* ($p = .025$), *percent renters* ($p = .005$) and *percent 15-24* ($p = .000$), all of which have positive unstandardized coefficients. Yet, in the lag model, unlike the OLS model the *percent moved in 1990* has no significant effect on assault.

From these results of the assault model, we can support our hypothesis with regard to assault. but once again, *only with regard to package-only places*.

TESTING INTERACTION VARIABLES IN SPATIAL LAG MODELS

One question that arises with regard to the previous results is: *how can the loss of strength of the alcohol availability variables be accounted for in many of our final models?*. From the preliminary models, at least two conclusions can be drawn: 1) the density of package only outlets proves to be a powerful predictor of crime rates within block groups; and 2) the density of such outlets seems only to be a powerful estimator of *person* crime rates (specifically assault and robbery) within East Baton Rouge neighborhoods.

In many cases of explaining crime rates within block groups, the alcohol availability variables lose strength as explanatory factors of crime when other variables (eg: percent 15 -24) are added to the model. To explore this discrepancy, a set of interaction variables has been included into a series of MLE spatial lag models. It was suspected that interactions between disorganization/routine activities and alcohol availability variables could explain more about the nature of the alcohol-crime nexus. Thus, one of the key factors distinguishing this research effort is the inclusion of these interaction variables.

Recall that two key hypotheses (H2 and H3) suggest that *alcohol availability will have a more powerful effect on crime rates within disorganized areas*. Interaction variables were created by taking the multiplicative effects of every endogenous variable in the study and compounding these with certain alcohol availability measures. Since all variables in this study are interval level, the creation of interaction variables did not pose a great problem. All-in-all, 10 interaction variables were created to be entered into MLE spatial lag models (*Taverns per 100 households (TPH) * percent renters, TPH * percent moved in 1990, TPH * percent boarded up, TPH * percent primary individuals, TPH * percent 15 -24, Package only per 100 households (POPH) * percent renters, POPH * percent moved in 1990, POPH * percent boarded up, POPH * percent primary individuals, and*

*POPH * percent 15-25*). These MLE models were based on the "full" models from tables IV-XIII.

It is theorized that criminal activity is a function of alcohol availability that is intermediated by neighborhood conditions within block groups, therefore, MLE models testing interactions call for a one-tailed test with a significance level of .10. Testing the previous hypotheses tell us that crime is associated with alcohol availability, but testing **H2** and **H3** can tell us if this is the case even more so in "bad areas".

In Table XIV, the probabilities and coefficients for a set of interaction variables based on the MLE spatial lag models discussed above are displayed. However, two things must be noted before proceeding. First, since alcohol availability variables prove to be significant for the person crimes only (robbery and assault), it was chosen only to cover these crimes in table XIX. Second, since, only the interactions of the control variables with the *package-only per 100 households* variable proved to be significant, they are the only ones presented in the table. Below, the inclusions of the multiplicative variables into the spatial-lag models for both robbery and assault is discussed. How the addition of these variables affected other variables in the multiplicative spatial-lag models is not discussed, as none of the interaction effects were of particular interest in the final models.

TESTING INTERACTION EFFECTS WITHIN LAG MODELS

In Table XIV, column A, the results of a multiplicative MLE regression are displayed. Note that I will mention the probability values of the other study variables in the report below for the reader's sake, yet these values are excluded from Table XIV to conserve space.

When using *package only per 100 households (POPH) * percent renters*, the interaction term yielded no significance, while *package only places per 100 households* ($p = .000$) remained significant with a positive unstandardized coefficient ($B = 88.97$). In the model, three other variables show significance: *percent 15-24* ($p = .003$), *percent renters* ($p = .003$), and the weighted log of robbery rates ($p = .000$). From this model, which explains 40% of the variance in robbery, we can not ascertain that robbery rates are effected by the compounded effects of package-only stores and percent renters within neighborhoods. The results of this model, therefore fail to support H3 with regard to robbery.

Using *POPH * percent moved in 1990*, as an interaction variable in the full model yielded a squared correlation of .40. In the full model, *POPH * percent moved in 1990* ($p = .117$) was a positive ($B = .009$) estimator of the logged robbery rates, which neared significance at the .10 level. Yet, no significance was apparent.

**Table XIV: Interaction Effects on Person Crimes within MLE
Spatial Lag Models**

	Column A.	Column B.
Interaction Variables	Robbery	Assault
<i>Package Only Places per 100 households (POPH) * percent renters</i>	p = .139 B: .002	p = .209 B: .002
<i>POPH * percent boarded up</i>	p = .737 B: -.007	p = .487 B: .951
<i>POPH * percent moved in 1990</i>	p = .117 B: .009	p = .245 B: .818
<i>POPH * percent people living alone</i>	p = .066 B: .011	p = .191 B: .008
<i>POPH * percent 15 - 24</i>	p = .628 B: .003	p = .650 B: .003

In another interaction model, *POPH * percent boarded up*, showed no significant effect on the log of robbery rates, yet *package only places per 100 households* ($p = .000$) was still significant and positive ($B = 89.6$). The model itself showed a squared correlation of .40.

The fourth interaction model involving robbery rates used *POPH * percent of individuals living alone* as an interaction variable. In the full model, *POPH * percent of individuals living alone* was a negative ($B = -.007$) and significant ($p = .066$) predictor of robbery rates. Also, in this equation *package only places per 100 households* ($p = .000$) proved to remain a positive and significant estimator of robbery rates. The results, however, show no support for H3 with regard to robbery, however. In fact, the results of the interaction term seem to run quite contrary to the hypothesis. This will be discussed more in the next chapter.

In the final interaction model for robbery, *POPH * percent 15-24* yielded no significance as an estimator of robbery. The model yielded a squared correlation of .40, yet from the results of this model, we can not support H3 with regard to robbery. Table XIV, column B, shows the results of the interaction variables, within the context of a regression of assault on the full gamut of explanatory variables. In each model, the rates of *package-only stores* continue to be significant estimators of assault, as in the

previous models. Similarly, other key variables in the study, such as percent renters, remain positive estimators of assault. The model, however, clearly fails to support H2 or H3, with regard to assault.

FURTHER EXPLORATIONS OF CONTEXTUAL EFFECTS WITH ASSAULT AND ROBBERY

The results of interaction modeling within the framework of Cliff and Ord's Maximum Likelihood Estimation procedure were unanticipated. Much previous research using the Ordinary Least Square method shows significant interaction between alcohol availability and neighborhood characteristics in the estimation of crime. As is suggested in H2 and H3, it was expected that neighborhood characteristics would combine with alcohol availability measures as significant explanatory variables. Yet, using the MLE procedure, only one interaction term yielded significance as a predictor of robbery across neighborhoods. These results, seem to contradict the findings of Parker and Rebuhn (1996) and Scribner et al, (1995) who have shown that alcohol availability interacts with other area characteristics (eg: routine activities, lack of social bonding opportunities, etc.) to predict criminal activity.

It is well known that certain forms of interactions are too subtle to be detected with traditional interaction terms. In order to address this methodological problem, contextual effects modelling was deemed appropriate. Thus, examine the possibility of significant interaction further,

each indicator variable of social disorganization (*percent renters, percent moved in 1990, and percent boarded-up housing*) was scaled into a summated single-indicator of social disorganization. The scaled variable, which had a low, but adequate, alpha score of .49 was used to decompose the sample into two different types of neighborhoods: 1) *High Disorganized Areas*; 2) *Low Disorganized Areas*. An attempt to divide the areas on the basis of routine activities indicators failed because the scale showed an alpha score of only .19. Thus, the sample was further broken-down into two subunits which allowed tests of the possible contextual effects of alcohol availability in two separate models controlling for *percent 15-24* and *percent of people living alone*.

The six models examining contextual effects employ OLS regression because of the inappropriateness of using spatially-lagged variables as estimators when dividing the sample into non-spatially aggregated units. Once again, because previous results suggest that alcohol availability only has a significant effect on person crimes, only assault and robbery are examined.

Table XV, Model A, looks at the effects that measures of alcohol availability have on the logged rates assault across both high and low disorganized areas. While no significant interactions turned up between disorganization and alcohol availability in the full MLE models, this table

Table XV: Contextual Effects of Alcohol Availability within High and Low Disorganized Areas

Model A:
Contextual Effects on Assault

	Low Disorg.	Hi. Disorg
Percent 15 - 24	B= 20.58 (p=.000)	B= 13.86 (p=.000)
Percent Living Alone	B= 2.42 (p=.596)	B=- 1.32 (p=.450)
Taverns per 100 Households	B=- 44.13 (p=.493)	B= 14.99 (p=.316)
Package-Only stores per 100 households	B= 128.42 (p=.012)	B= 33.45 (p=.170)

R² = .33 .28
Sig F: .000 .000

Model B:
Contextual Effects on Robbery

	Low Disorg.	Hi. Disorg
Percent 15 - 24	B= 15.64 (p=.000)	B= 10.97 (p=.000)
Percent Living Alone	B= 18.45 (p=.001)	B= 2.40 (p=.184)
Taverns per 100 Households	B=- 21.84 (p=.738)	B= 16.03 (p=.154)
Package-Only stores per 100 households	B= 131.30 (p=.011)	B= 69.31 (p=.045)

R² = .30 .20
Sig F: .000 .000

suggests that *package-only stores per 100 households* ($p = .01$) may have a greater effect on assault only in communities with lower-levels of disorganization ($p = .01$; $B = 128.42$). However, when observing neighborhoods with high levels of disorganization, alcohol availability has no significant influence.

In Table XV, model B, the contextual effects of alcohol availability on robbery are tested. Results show that *package-only places* are significant and positive estimators of robbery across both high and low disorganized neighborhoods, yet they are a stronger estimator of robbery in areas with less disorganization. The table shows that in neighborhoods with lower levels of disorganization *package-only places per 100 households* has a positive unstandardized coefficient of 131.30, while in neighborhoods with higher levels of disorganization, this measure of alcohol availability has a weaker positive unstandardized coefficient of 69.31.

Table XVI, shows that *package-only outlets* have significant and positive effects as estimators of assault rates across areas with both a high and low percent of *people aged 15-24*. In areas with the least people living alone, the table indicates that *package-only places* ($B = .005$) are a slightly more powerful estimator of assault, but the difference in the unstandardized coefficients between the two categories is negligible.

Table XVI: Contextual Effects of Alcohol Availability across Degree of People Aged 15 - 24

Model A:
Contextual Effects on Assault

	Low Percent 15-24	Hi. Percent 15-24
Percent Renters	B= 1.02 (p=.514)	B= 3.65 (p=.000)
Percent Moved in 1990	B=- .90 (p=.839)	B=- 5.30 (p=.108)
Percent Boarded Up	B=- 25.37 (p=.123)	B= 6.45 (p=.098)
Taverns per 100 Households	B= .003 (p=.056)	B= - .00 (p=.358)
Package-Only stores per 100 households	B= .003 (p=.025)	B= .00 (p=.031)

R² = .15 .13
Sig F: .000 .001

Model B:
Contextual Effects on Robbery

	Low Percent Living Alone	Hi. Percent Living Alone
Percent Renters	B= 1.06 (p=.000)	B= 3.51 (p=.001)
Percent Moved in 1990	B=- 3.30 (p=.000)	B=- 1.29 (p=.711)
Percent Boarded Up	B= 4.56 (p=.000)	B= 7.47 (p=.070)
Taverns per 100 Households	B= .37 (p=.919)	B= .001 (p=.372)
Package-Only stores per 100 households	B= .90 (p=.050)	B= .003 (p=.004)

R² = .33 .20
Sig F: .000 .000

Table XVII, shows much the same pattern for robbery across East Baton Rouge neighborhoods with varying degrees of people . Package-only stores per 100 households continue to have significant and positive effects on both assault and robbery rates across neighborhoods. The difference in unstandardized coefficients remains negligible.

**ADDENDUM: ESTIMATORS OF PERSON CRIMES ACROSS 4
"LEVELS OF DISORGANIZATION"**

Further contextual investigations into the effect of alcohol on person crimes showed why no significant interactions emerge between disorganization indicators and alcohol availability measures in previous models. To get at the root of the issue, the sample was also divided into quartiles based on Scheurmann and Kobrin's (1986) idea of stages of deterioration²³. The result of this decomposition divided the entire sample into 4 "subsamples" which allowed us to look at the effect that alcohol availability has on person crimes across different "levels of social disorganization"

The interquartile decomposition presented in Table XVIII draws from Scheurmann and Kobrin's (1986) idea of "community careers in crime" which suggests there are three stages of community deterioration: 1) emerging; 2) transitional; and 3) enduring. In testing the contextual effects, tables are used in which ranked quartiles are expected to represent an entirely different temporal phase of social disorganization.

**Table XVII: Contextual Effects of Alcohol Availability
across Degree of People Living Alone**

**Model A:
Contextual Effects on Assault**

	Low Percent Living Alone	Hi. Percent Living Alone
Percent Renters	B= 5.07 (p=.000)	B= 5.34 (p=.000)
Percent Moved in 1990	B=- 14.36 (p=.024)	B=- 13.41 (p=.000)
Percent Boarded Up	B=- 28.43 (p=.318)	B= 13.11 (p=.010)
Taverns per 100 Households	B= .18 (p=.975)	B= .001 (p=.309)
Package-Only stores per 100 households	B= .005 (p=.018)	B= .003 (p=.008)

R² = .34 .25
Sig F: .000 .000

**Model B:
Contextual Effects on Robbery**

	Low Percent Living Alone	Hi. Percent Living Alone
Percent Renters	B= 4.28 (p=.000)	B= 2.87 (p=.021)
Percent Moved in 1990	B=- 8.30 (p=.181)	B=- 7.19 (p=.029)
Percent Boarded Up	B= 24.98 (p=.000)	B= 11.23 (p=.025)
Taverns per 100 Households	B= .001 (p=.545)	B= .003 (p=.013)
Package-Only stores per 100 households	B= .005 (p=.011)	B= .003 (p=.001)

R² = .33 .22
Sig F: .000 .000

Scheurmann and Kobrin's "stages of disorganization" can be gradually depicted as follows:

Quartile 1	Quartile 2	Quartile 3	Quartile 4
STABLE NEIGHBORHOODS	EMERGING NEIGHBORHOODS	NEIGHBORHOODS IN TRANSITION	ENDURING NEIGHBORHOODS

While no significant interactions appeared in previous efforts, the results emerging from the contextual analyses also suggest no systemic patterns of interaction. Although, one potential anomaly in the contextual examination that may be worthy of further investigation is the loss of significance of package-only places in the third quartiles for each of the person crimes considered. Arguably, even though package-only places have been a strong predictor of person crimes throughout this analysis, they may not work as well to estimate person crimes in neighborhoods in transitional states of deterioration. Still, from the cross-sectional data used here, such a pattern is not truly amenable to analysis.

Table XVIII divides all neighborhoods into 4 "subunits", with each of these subunits indicating a certain level of neighborhood social disorganization.

Sixteen percent of the variance in assault is explained by the model for stable neighborhoods. The model indicates that in stable neighborhoods (n = 68) neither package-only stores nor taverns have significant effects on assault. In the second quartile (n = 68), 31% of the variance is

explained by the model. Package-only stores ($p = .037$) have a significant and positive effect on assault in emerging neighborhoods.

For the third quartile ($n = 70$), which represents transitional neighborhoods across East Baton Rouge, the Ordinary Least Squares model accounts for 26% of the variance. Package-only store rates, however, no longer have a significant effect on assault. In the fourth quartile ($n = 68$), which represents the neighborhoods with the highest degrees of disorganization (Scheurmann and Kobrin call these: "enduring neighborhoods"), there is another rise in the significance of package-only stores ($p = .07$) on the logged rate of assault. In these neighborhoods package-only places are a significant and positive estimator of assault.

Model B, looks at the possible contextual effects that alcohol availability might have on different "levels" of disorganization with regard to the logged rates of robbery. For stable neighborhoods, the entire model explains 17% of the variance in the logged rates of robbery. In the areas of East Baton Rouge which exhibit the least degree of social disorganization, package-only store rates per household ($p = .029$) are a significant and positive estimator of robbery rates. For the emerging disorganized neighborhoods, 25% of the variance in logged robbery rates is explained by the model.

**XVIII: Contextual Analysis of Alcohol Availability on Person
Crimes across Stages of Disorganization**

**Model A:
ASSAULT**

Stage of Deterioration	1st Quartile STABLE (n=69)	2nd Quartile EMERGING (n=70)	3rd Quartile TRANS. (n=70)	4th Quartile ENDURING (n=69)
% 15 - 24	p= .022 B= 18.43	p= .000 B= 17.51	p= .000 B= 13.81	p= .000 B= 13.34
Percent Living Alone	p= .755 B=- 3.07	p= .403 B=- 1.86	p= .596 B=-2.78	p= .617 B=- 1.00
package only stores per 100 households	p= .396 B=106.27	p= .037 B=123.73	p= .495 B=-34.91	p= .070 B= 87.92
taverns per 100 households	p= .891 B= 13.81	p= .359 B=-78.32	p= .372 B= 95.85	p= .198 B= 14.43
R ²	.16	.31	.28	.30
Sig. F	.018	.000	.000	.000

**Model B:
ROBBERY**

Stage of Deterioration	1st Quartile STABLE (n=69)	2nd Quartile EMERGING (n=70)	3rd Quartile TRANS. (n=70)	4th Quartile ENDURING (n=69)
% 15 - 24	p= .393 B= 4.60	p= .000 B= 15.87	p= .000 B= 11.32	p= .000 B= 11.36
Percent Living Alone	p= .129 B= 13.07	p= .021 B= 14.33	p= .674 B= 2.27	p= .408 B= 1.68
package only stores per 100 households	p= .029 B=257.06	p= .064 B=112.00	p= .779 B= 14.72	p= .058 B= 93.52
taverns per 100 households	p= .246 B=109.59	p= .163 B=-122.2	p= .063 B=207.34	p= .235 B= 13.44
R ²	.17	.25	.22	.24
Sig. F	.016	.000	.002	.001

For the third quartile ($n = 70$), which represents transitional neighborhoods 22% of the variance in robbery is explained by the model. Only percent 15 - 24 ($p = .000$) is a significant and positive estimator of assault. As is the case for assault, package-only stores have no effect on robbery for neighborhoods in transition. However, taverns are a positive and significant estimator of robbery within these neighborhoods. For the enduring areas (4th quartile), package-only places ($p = .058$) once again have significant and positive effects on robbery rates.

CONCLUSION ABOUT INTERACTIONS

When the sample is divided into quartiles based on degree of disorganization, no emerging pattern can be seen with regard to the effect that package-only stores have on person crimes. Thus, while examining the interquartile models may help to expose the reasons for the failure of the created interaction variables to show support for H2 and H3 within a linear modeling scheme, it points to no significant pattern of interaction. The most noticeable characteristic with regard to the analysis remains the unwavering relationship of package-only outlets to person crimes across all types of areas.

SUMMARY

With regard to the attempt to disentangle the alcohol-crime nexus presented above, of particular interest are package-only places, or stores from which alcohol can be

bought, but not consumed on the premises. Four general ideas can be drawn from this research effort into the alcohol-crime nexus:

1. Package-only places are interwoven with violent crimes within neighborhoods independently of neighborhood characteristics
2. The effects that package-only places have on violent crime are not intermediated by neighborhood characteristics
3. No significant pattern of interaction is found when the main terms are decomposed into subunits based on level of social disorganization
4. When the trans-spatial lag is controlled for in dependent variables, many other theoretical estimators of crime lose their significance

A final hypothesis which has been drawn from previous research efforts into the violence-alcohol issue has already been directly addressed by the results of this research. As we have already discussed, violent crimes are usually at the crux of the alcohol-crime issue for most researchers. If alcohol availability is a valid measure of alcohol consumption within areas, then our results do concur with the focus of 40 years of previous research. Research dating back to Wolfgang (1958) ties alcohol into the issue of interpersonal violent crime more than any other types of crime.

The results of this research show a consistent relationship between alcohol availability and person crimes. The bottom line is that alcohol availability functions as an estimator of violent crimes within the context of

"neighborhoods". To be sure, we can now confirm the following with a certain degree of confidence:

H4. Rates of violent crime will be greater in those areas with higher levels of alcohol availability.

In the next chapter, a theoretical attempt is made to explain why this is the case only for package-only outlets. The results are discussed on the following pages and the question of why package only places prove to be such a powerful predictor of person crimes is considered.

CHAPTER VII: DISCUSSION AND IMPLICATIONS

The first topic of discussion regards which hypotheses are supported and which are not. In doing this, it will be possible to ascertain what conclusions can be drawn from the results of the entirely macro-level research effort employed here, and how alcohol availability may fit into the alcohol-crime nexus.

- H1. More robbery, burglary, theft, auto-theft, and assault will occur in neighborhoods where there is more alcohol availability, regardless of socio-environmental surroundings.

This hypothesis, which proposed that alcohol availability would affect crime positively and independently of neighborhoods proved to be true only for person crimes (robbery and assault), however, results indicated that only the package-only places per 100 households, not taverns per 100 households, is a relatively strong estimator of crime rates.

There is evidence here which points strongly to an integrated routine activities/social control argument. The significance of package only places per 100 households models makes sense when looked at from a traditional routine activities perspective. Cohen and Felson (1979) claim that three conditions must be present: 1) available victims; 2) motivated offenders; and 3) absence of social control. The data seem to suggest that what makes these places so

"dangerous" when aggregated into a neighborhood setting that they may be "magnets" for these three conditions.

Accordingly, it could be argued that the presence of package-only stores effect neighborhood crime rates through their effect on the nature of overall total system activity.

At the risk of making the ecological fallacy, it can be suggested, from a Routine Activities perspective, that three of the conditions required to promote criminal activity within neighborhoods are satisfied by high rates of package-only alcohol distributors within neighborhoods. The first condition which is necessary for the occurrence of predatory crimes is the "availability of victims". People with money in their pockets do frequent these "package-only" sites, which may be convenience stores, grocery stores, etc.. They go to these places with the sole intention of making a purchase and may often have money on their persons, thus, they become potential robbery or assault victims.

The second criterion of routine activities theory that is arguably satisfied by the presence of package-only stores may be the concept of "motivated offenders". If alcohol availability is a valid proxy for consumption patterns, it could be argued that high alcohol availability within neighborhoods might attract the most motivated offenders, that is, those who may be impaired by the biological effects of alcohol consumption. If this is true, the high person crime rates in neighborhoods with a plentitude of package-

only stores, might be explained by the tendency of alcohol to disinhibit the potential offender to the point of committing violent crimes, as opposed to the less-violent crimes which prove to be unrelated to alcohol availability measures in the analysis. This is, however, pure speculation, for we can not possibly ascertain the concept of offender motivation with the macro-level data that we have used here.

The third criterion of the Routine Activities perspective on crime which may be satisfied by a high degree of package-only outlets is the "absence of proper guardianship". It is possible to theorize that a high level of unregulated consumption of alcohol occurs within neighborhoods with high rates of package-only outlets. The package-only outlet, in essence, functions to distribute alcohol within neighborhoods, but has no way of regulating the conditions under which alcohol consumption occurs. Thus, neighborhoods with high rates of package-only stores might be characterized by high degrees of unregulated socializing activities which revolve around alcohol consumption.

Another question that must be addressed is the question of why taverns do not seem to have an effect on person crimes. This finding, in fact, seems to contradict many popular notions about bar rooms being the axis of several

predatory crimes, in particular, brawls and fights, which may lead to criminal charges of assault.

To explain the insignificance of taverns on neighborhood crime rates requires some theoretical introspection on the conditions of bar rooms themselves. In other words, a consideration of the "bar room setting", is necessary to explain its ineffectual relationship to predatory crime rates within their own neighborhoods. Again, we are at risk of committing the "ecological fallacy" with regard to expecting the "setting" of a place to be responsible for the motivation of individuals, however, in attempting to realize the theoretical significance of the variables used in the study we must consider the issues from all logical angles.

Osgood et al (1996) have infused the traditional routine activities argument (see: Cohen and Felson 1979) with elements of social control theory. The researchers have introduced to the original argument the idea of "unstructured socializing activities". For Osgood et al (1996), "unstructured socializing activities" can be defined as those activities that occur in the absence of guardianship or, without social control. The fact that taverns do not have a significant affect on neighborhood predatory criminal activity might be explained by the "structured nature" of bar room environments and social alertness in the neighborhoods that surround them. First,

when we consider Homel et. al's findings, suggestions arise about the nature of the barroom settings.

The barroom setting as Homel, Thompson, and Tommeny (1989) suggest, can be an extremely controlled environment. Within barrooms themselves, there are often "authority figures", such as bouncers, bartenders, and sometimes, even agents of social control who have relative control over events that occur within. These authority figures are prepared to deal with the possibility of person crime within the barroom.

Another reason that there may be no relationship between taverns and crime rates may relate to the "safety situation" of potential victims in those areas. One idea to be taken into consideration is the propensity of potential victims in tavern areas, or "strips" to travel in numbers. People usually frequent taverns with at least one or more partners, therefore, they may be less likely to fall victim to person crimes in these neighborhoods. This condition may fail to encourage motivated offenders to make a move on potential victims in these neighborhoods.

Another aspect of neighborhoods with a high proportion of taverns which may discourage potential offenders is the possibility that patrol cars and other agents of social control may frequent these areas, either undercover or not. Again, the issue of authority and social control is raised by these findings about taverns.

Maps of Baton Rouge (not shown) also indicate that, although the distribution of taverns does not significantly cluster in any particular centrality, the heaviest tavern rates are found in neighborhoods which border on major thoroughfares and intersections, such as Airline Highway and Florida Boulevard. The placement of taverns in the 278 East Baton Rouge Parish neighborhoods selected for study may have to do with either zoning or strategic economic placement of such establishments in order to attract the maximum amount of clientele.

At the heart of this matter lies the concept of zoning. It is possible that high tavern areas are more physically accessible to police response than areas with package only stores. Patrol cars may routinely "sweep" these neighborhoods with large amounts of taverns, cutting down on response time to criminal incidents. This also makes sense if we look at criminals as rationally-thinking individuals who plan their crimes to some degree before committing them. Thus, crimes occur in areas without taverns, but significantly within areas where there may be less controlled drinking behavior, and also less social control.

With regard to hypotheses:

- H2. Rates of burglary, robbery, theft, auto theft, and assault will be greater in areas that exhibit both high levels of alcohol availability and social disorganization.

and:

- H3. Burglary, robbery, theft, auto theft, and assault rates will be higher in areas in which there are less opportunities for legitimate socializing events coupled with a higher degree of alcohol availability.

both hypothesis suggested that there would be a linear and positive three-way interaction between neighborhood characteristics, criminal activity and alcohol availability within areas. Yet, when interaction terms were created between key variables in the study, they appeared to have neither an intermediate, nor multiplicative effect, on crime rates within neighborhoods.

The results of the MLE interaction modeling used in this dissertation seem to contradict the findings of several researchers (Parker and Reburn 1996; Scribner 1995) who find that alcohol availability significantly and positively interacts with routine activities and social disorganization to raise neighborhood crime rates. The other researchers who have suggested positive interactions, however, have all employed OLS modelling which is less conservative than the MLE modelling used in this dissertation.

This research endeavor has shown that there is no linear relationship between neighborhood characteristics/alcohol availability and criminal activity. Furthermore, when the sample was decomposed into subsamples, based on characteristics of social disorganization, no noticeable pattern of contextual relationships were found between person crime rates and alcohol availability.

EXPLAINING THE SIGNIFICANT RELATIONSHIP BETWEEN PERSON CRIMES AND PACKAGE-ONLY OUTLETS IN EAST BATON ROUGE

Finally H4; which states that alcohol availability will affect the rates of person crimes within neighborhoods has been proven through the findings of MLE techniques. This is important because, it makes a statement about the focal point of almost forty years of alcohol-crime research, in which the onus has been placed on explaining violent crime. From the results, we know that the traditional emphasis on violent crime started by Wolfgang's (1958) alcohol-homicide research has not been misplaced. Indeed, while other forms of deviance have been examined in this survey, all research efforts lead back to the idea that violence within neighborhoods may be affected by alcohol availability within these neighborhoods.

One measure of alcohol availability that particularly concerns us with regard to violent crimes is "package-only" places. These "package-only" can range from convenience stores to supermarkets, and are an important factor in predicting both robbery and assault at the macro-level. To explain the relationship between package-only stores and neighborhood predatory crime rates, we have already drawn on elements from both the physiological and the macrosocial.

It is incorrect to suggest that the macro-level data used in this dissertation can tell us anything directly about the behavior of individuals within the neighborhoods,

which are our units of analysis. Still, one might be tempted to assume that alcohol availability in an area could possibly be related to patterns of alcohol consumption within that area. As such, it could be assumed that alcohol availability might have a physiological, and therefore an effect on "patterns of social interaction" between individuals within that area.

With regard to the physiological links between alcohol and violence, we must look at American cultural experience. It is well documented that, in American culture, alcohol impairs judgement in such a way that people are more likely to engage in aggressive forms of interaction (Parker and Rebuhn 1996). The effect that alcohol consumption has on human behavior is known as "selective disinhibition", which is a failure to recognize internalized and externalized constraints (Parker and Rebuhn 1996). Selective disinhibition operates in such a way that the individual is compelled to follow self-gratifying behavior, regardless of what constraints are placed on him/her. As Parker and Rebuhn (1996) state, the disinhibiting effect of alcohol is to undermine the operation of active constraint:

"This effect should be seen as a continuum, along which there is a point at which active constraint is overcome and violence results."

(Parker and Rebuhn 1995:36)

On the purely macro-social level, we can be more certain of our theoretical propositions about alcohol

availability and violence. From the routine activities perspective, package-only stores can be viewed as "hot spots" of criminal activity (Scribner 1995). Osgood, et al. (1996) mesh a subcultural theory with routine activities theory to explain criminal activity. A key concept in the theory is "unstructured socializing activities", which refer to activities which carry no agenda.

Taking a departure from Osgood, et al. (1996), along with the original Routine Activities theory of Cohen and Felson (1979), it is possible to theoretically explain the relationship between package-only establishments and person crimes. From the original Routine Activities theory, we can draw the idea that package-only outlets (most of which are convenience stores and gas stations) attract at least two conditions required for the occurrence of violent crime: 1) potential victims; and 2) motivated offenders.

People are drawn to the "package-only" outlet 24 hours a day. Often people frequent "package-only" outlets not to buy alcohol itself, but to purchase other commodities such as gasoline, soft drinks, etc.. These people are probably seldom prepared for attacks or robberies and often carry money for the purpose of buying commodities such as gasoline, soft drinks, etc.. These people, in turn, become potential victims within neighborhoods. Since many people turn out at these package only stores with money on their persons, and are also often unprepared for attack at a

critical moment, offenders may be provided with additional motivation.

A third factor required for the occurrence of violent crime is the absence of guardianship. Package-only outlets, unlike taverns, provide "uncontrolled" liquor distribution within neighborhoods. Liquor is sold at these places, however, once the alcohol is off-premises, people are left to consume alcohol on their own terms. This factor, the absence of guardianship, may act as a sparkplug for unstructured socializing activities. This absence of guardianship, also may be the motivation of potential predatory offenders.

Still, the issue of why alcohol availability affects violent crime is elusive. With the aggregate level data used here, it is hard to relate aspects of individual decision-making to crime patterns, however, it is probably more likely that the settings which define the package-only alcohol outlet's surroundings have more to do with the occurrence of crime than alcohol availability itself.

SUMMARY

Drawing from the final outcome of this research project, it can be ascertained that there are some well-established variables in predicting rates of crime which do not confound the effects that package-only places have on person crime rates in East Baton Rouge's parish area. This is the case even when controlling for the trans-spatial lag

of crime across block groups, which, in itself, deletes the effect of many variables which have otherwise been known to have powerful effects on crime.

It is suggested that future research and social policy center on one key issue uncovered by this paper That is: The package-only establishment and its relationship to predatory criminal activity in East Baton Rouge Parish. However, before any action at all is to be taken, some problems with this research must be addressed; particularly: 1) the elusiveness of the data in explaining individual action and 2) the generalizability of Baton Rouge data.

While the results of this examination do show some promise, the first problem that must be addressed regards the assumption that alcohol-availability has anything directly to do with crime at all. This theory about how alcohol availability effects predatory crime within East Baton Rouge neighborhoods leans heavily on past research about the concept of selective disinhibition. Therefore, the assumption that alcohol affects individual decision-making is implicit in the theory. While much previous research tells us that alcohol is related to predatory crime, the aggregate level data employed in this analysis can not give us micro-level insights. Thus, it is extremely hard to relate aspects of individual decision making to the alcohol-crime nexus from the data that we have here.

A second problem involves the generalizability of the results. Although our results can be considered somewhat generalizable, there are some characteristics about East Baton Rouge Parish that may cause inference problems when generalizing. East Baton Rouge is a major city, yet a great deal of its residents are college students. In practical terms, Baton Rouge is a "college town". Accordingly, one must question the generalizability of this data to other urbanized areas, such as New Orleans.

Drawing from Schuermann and Kobrin's (1986) analysis of neighborhoods in transition, I believe that we must further explore the possible interaction effects between "neighborhood type" and alcohol availability. While no significant patterns of interaction are seen here in the contextual models, it is arguable that there may be some temporal phases of neighborhood disintegration in which alcohol availability disproportionately effects neighborhood crime rates.

Future research into the issue seems promising. Obviously, the first step of future research must be toward a longitudinal analysis of the data. We have already seen that the presence of package only stores is related to the logged crime rates for each neighborhood. The next step should be toward a longitudinal and spatial analysis. If the theory presented here is valid, then any reduction of the density of package-only outlets should effect a decrease

in the logged rate of person crimes, and for an increase, vice-versa.

As a final suggestion, in order to better understand the issue, we need more accurate police data on crime in East Baton Rouge Parish. The data we have now tell us only where the arrest was made, as opposed to where the crime occurred. While it is logical to assume that many criminals commit crimes within their own residential vicinity, we must consider the crucial idea of mobility. Thus, it is recommended that in order to better understand (and, thus, control crime), the Baton Rouge Police acquire public support for funding to begin keeping more accurate data on where crimes were committed as opposed to where offenders were arrested. This concept is particularly important with regard to the longitudinal analysis suggested earlier.

The results bear other implications for social policy regarding the distribution and tactical placement of East Baton Rouge Police officers. Our data give us statistical information about "hot spots". Perhaps a reduction of crime in the East Baton Rouge Parish area would be viable if police would broaden some of their patrols to include both package-only neighborhoods, and those neighborhoods adjacent to taverns with greater frequency. Such an effort might allow more adequate response time to person crimes in these types of neighborhoods.

NOTES

- 1 Spatial-lag modelling, is a method which uses the weighted estimations the dependent variable to estimate crime within an area.
- 2 The American Temperance Movement began in 1826, with the formation of the American Temperance Society. The movement reached its pinnacle in 1869, when the Temperance Party ran Neal Dow, a Connecticut governor who had the prohibition law passed in that state in 1849, for president. By 1895, the politically potent Anti-Saloon League had reached a national scale. During this time, reformists who had the ear of the government managed to raise alcohol taxation greatly.
- 3 The "Moonshine Wars" of the mid-19th century can be compared to modern day "drug war". The wars were fought by citizens in the Appalachia area seeking to avoid excess taxation on the alcohol they produced. Farmers, who could make more profit on corn liquor than corn, took aggressive action against government agents seeking to control the flow of alcohol. As a result of the farmers' success against the government, a new "social-order" was established, based on the lack of government control in the Area.
- 4 I refer to empowerment on two levels here; the first regards the concept of symbolic empowerment, while the second regards financial empowerment. These ideas are grounded in an integrated understanding of subcultural and strain theories. Symbolically, the concept of status explains why people are murdered over Air Jordans. Strain theories explain more financially oriented crimes.
- 5 It is argued, in the remainder of this paper, that people who are deprived of symbolic and financial power are likely to be residents of disorganized neighborhoods. They are referred to as the "disempowered" in this paper because they lack the proper resources to efficiently establish "order" in their neighborhoods.
- 6 The term "psychopharmacological" was borrowed from the work of Spunt et. al. (1992) who employ it to describe the biological and psychological effects that alcohol has on human disposition. Traditional Criminological approaches to the alcohol-crime relationship are "psychopharmacological" because they rely generally on

what is known about these effects and ignore the issue of setting. However, the word was later replaced with the word "biological".

- 7 The concept of selective disinhibition is described in detail in the last chapter. It is a concept which involves the effects that alcohol has on our perceptions of social control. The idea is a presupposition of many research efforts into the alcohol-crime issue.
- 8 A critical fallacy of biological approaches is that they entirely ignore "setting" and "situation". The approach tells us nothing about the possible effects that place and time may have had on crime.
- 9 Cookson's work records what type of alcohol an offender was drinking at the time of the offense (eg: wine, hard liquor). Other than that, it hardly differs from traditional psychopharmacological approaches.
- 10 The term "alcohol-crime" nexus is borrowed from Forrest and Gordon (1990). The term "nexus" suggests there is an implicit connection between alcohol and crime. An attempt is made in this paper to unravel the alcohol-crime nexus by controlling for other macro-level variables which might confound the potential effect of alcohol on crime.
- 11 It is important to note that Scribner is a M.D.. It is apparent in his research that he is using several variables, such as population density, which are sociologically outdated.
- 12 "Coefficient drift" refers to tendency of regression coefficients to fluctuate when boundaries of the analysis are changed. As Anselin (1995) claims, there is also clustering of variables within polygons, which hypothetically accounts for "drift" among coefficients when different models are employed. This suggests that the crucial spillover effect that is accounted for in the spatial lag model is justifiable under the assumption that variables are evenly distributed within the context of blockgroups.
- 13 The decision to neglect certain Index I crimes is based on the following presuppositions: 1) rape is often an unreported crime, therefore, our statistical data might be flawed and homicide is a rare-event phenomena. So rape and homicide are excluded from this analysis.
- 14 Although the correlation table indicates that it would

have been possible to scale all crimes, it was decided since the crimes have different dynamics, each of them should be looked at separately.

- 15 The term "total system activity" is from Cantor and Land (1985), who use opportunity theory to explain criminal activity in the post World War II U.S.A. Basically, the idea suggests that crime will increase proportionately to unstructured activities. In Cantor and Land's research, they use unemployment as a proxy for unstructured "total system activity".
- 16 Although the weights matrix in this paper used referred to as a "contiguity matrix", it is important point out that it is what Anselin (1995) refers to as a "distance-based" contiguity matrix. In a true contiguity matrix, only contiguous areas are used in a weights matrix. In this paper, all areas within 1.9 miles are accounted for in the weights matrix. As seen from looking local maps, the units selected for analysis have a great variance in size. Examination shows the researcher an interesting fact, that is, the smallest block group in E.B.R. parish has a length .016 miles. Considering that the average human being can walk and average speed of 2-3 miles per hour, ignoring the importance of extended contiguous block groups was deemed inappropriate.
- 17 Expansion of a variable involves weighing that variable so that it can be used as an estimator. The models using expansion variables are not displayed in this paper because of the inherent weaknesses of the model.
- 18 The LaGrange Multiplier test is essentially a test of the appropriateness of using a spatially-lagged model. Essentially, it tells if the significance level of spatial autocorrelation of the dependent variable deems the use of spatial-lag model appropriate. With each SPACESTAT output, a LaGrange multiplier test is performed and a probability statistic is given. Because it is not protocol to force readers to endure treatises on retesting for spatial autocorrelation, the results of LaGrange Multiplier tests are not presented in this analysis. Yet, in all cases these tests indicated that the use of a spatial-lag model was appropriate.
- 19 In the SPACESTAT manual, Anselin (1995) refers to a "squared correlation" in a MLE spatial-lag regression as being different than an R-squared in an OLS regression. Anselin's squared correlation can be referred to as a pseudo- R^2 ,

because it is derived as a indicator of "goodness-of-fit" after the spatially-lagged dependent variable is added to the model. Thus, the squared correlation should not be interpreted exactly the same as the R^2 in an OLS model.

- 20 SPACESTAT is a statistical analysis program which can interface with the Arc View Geographic Information System.
It was used to run all of the MLE models presented in this paper. The program allows the use of a large range of spatial analytic models, including tests of significant spatial autocorrelation.
- 21 Anselin calls this the "Doughnut model" because it employs the weighted independent variables from surrounding areas to estimate a phenomena in a central area. Thus, the analogy would seem to be appropriate.
- 22 Arc View is a Geographic Information System. It was used to create the maps discussed in this paper.
- 23 Although, variables representing disorganization did not scale with a high alpha level, Scheurmann and Kobrin's theories on the four "stages of deterioration" fit the interquartile analysis like a glove. Though no significant pattern in contextual effects is discovered in these analyses, I suggest further research along these lines in the conclusion of this paper. In other words, it may be possible to some degree, or highly likely, that the temporal aspect of disintegration, which can not be accounted for in this analysis, interacts with alcohol availability.
- 24 The public perception of problems related to alcohol consumption in East Baton Rouge Parish was highly escalated in the Fall of 1997 when an L.S.U. student, Benjamin Winn, died of acute alcohol poisoning in the parking lot of a local tavern. The tavern was closed shortly thereafter by local authorities. This is a concrete illustration of how we tend to attack problems with alcohol consumption by limiting alcohol availability. While such attempts to reduce alcohol-related problems "look good on paper" there is hardly evidence that reducing alcohol availability is anything more than a "knee-jerk" reaction.

REFERENCES

- Anderson, Elijah (1986) *Code of the Streets*. Atlantic Monthly Review. Sept.
- Anselin, Luc (1995) *New Directions in Spatial Econometrics*. Springer Press. New York
- Anselin, Luc (1996) Simple diagnostic tests for spatial dependence. *Regional Science and Urban Economics*, 26 77-104
- Anselin, Luc and Smirnov, Oleg (1996) Efficient Algorithmyms for constructing higher-order spatial lag operators. *Journal of Regional Science*, 36, 171-92
- Bissell, LeClair (1998) *Alcoholism*. Microsoft Encarta Reference Suite. Microsoft Corporation
- Blumstien, Alfred; Cohen, J.; Farrington, David (1988) Criminal Career Research: Its Value for Criminology. *Criminology*, 26, 1-32
- Bursik, Robert and Grasmick (1993) *Neighborhoods and Crime: The Dimensions of Effective Community Control*. Batnam Press. New York
- Byrne, J. and Sampson, R. (1985) Key Issues in the Social Ecology of Crime. (in *The Social Ecology of Crime: Theory, Research and Social Policy*. Byrne and Sampson eds.)
- Cantor, David and Land, Kenneth (1985) Unemployment and crime rates in the post World War II United States: a theoretical and empirical analysis. *American Sociological Review*, 50, 317-32
- Cohen, L.W. and Felson, M. (1979) Social change and crime rate trends: a routine activities approach. *American Sociological Review*, 44, 588-607
- Cookson, Hazel (1992) Alcohol use and offence type in young offenders. *The British Journal of Criminology*, 32, 352-60
- Collins, James (1984) *Alcohol use and Criminal Behavior: an Executive Summary*. U.S. Dept. of Justice
- Cliff, A.D. and Ord, J.K. (1973) *Spatial Autocorrelation*. Methuen Press. New York
- Doreian, Patrick (1980) *Linear models with spatially distributed data: Spatial disturbances or spatial effects*. *Sociological Methods and Research*, 9, 29-60

Doreian, Patrick (1981) "Estimating Linear Models with Spatially Distributed Data" taken from the book: *Social Methodology* (edited by Linehardt, Samuel). Joesey-Bass Publishers. London

Eastman, Charles (1922) *Indian Boyhood*. Little. Boston, Mass.

Erickson, Kai (1966) *Wayward Puritans: a study in the sociology of deviance*. Wiley Press, New York

Forrest, Gary and Gordon, Robert (1990) *Substance abuse, homicide, and violent behavior*. Gardner Press, New York

Gary, Lawrence (1986) Drinking, homicide, and the black male. *Journal of Black Studies*, 17, 15-31

Goodchild, Michael (1987) *Spatial Autocorrelation*. Geo Books. Norwich

Gottfriedson, Michael and Hirschi, Travis (1990) *A General Theory of Crime*. Stanford University Press. Stanford, Cal.

Gusfield, Joeseeph R. (1986) *Symbolic Crusade: status politics and the American temperance movement*. University of Illinois Press. Urbana, Ill.

Hirschi, Travis and Gottfriedson, Michael (1983) Age and the Explanation of Crime. *American Sociological Review*, 50, 553-582

Homel, Ross; Thompson, Steve; and Thommeny, Jennifer (1992) Public drinking and violence: not just an alcohol problem. *Journal of Drug Issues*, 22, 679-97

Hunter, Albert (1985) "Private, Parochial, and Public Social Orders: The Problem of Crime and Incivility in Urban Communities" (taken from Suttles, Gerald and Mayer, N. *Citizenship and Institutions: Building Modern Society* Ablex Publishing. New Jersey)

Jaccard, James; Turissi, Robert; and Wan, Choi (1990) *Interaction Effects in Multiple Regression*. Sage Publications. California

Kantor, Glenda and Straus, Murray (1987) The "drunken-bum" theory of wife-beating. *Social Problems*, 34, 213-30

Kerr, Austin (1985) *Organized for Prohibition: a new history of the Anti-Saloon league*. Yale University Press. New Haven

Kerr, John (1974) *Marketing; an environmental approach*. Prentice-Hall, New Jersey

Land, Kenneth and Deane, Glenn (1992) On the large-sample estimation of regression models with spatial or network effects terms: A two-stage least squares approach. *Social Methodology*

Land, Kenneth; Deane, Glenn; and Blau, Judith (1991) Religious pluralism and church membership: a spatial diffusion model. *American Sociological Review*, 56, 237-249

Lang, Alan and Siberl, Paulette (1989) Psychological Perspectives on Alcohol Consumption and Aggression: The Potential Role of Individual Differences in Alcohol-Related Criminal Violence. *Criminal Justice and Behavior*, 16, 299-324

McMurrand, Mary and Hollin, Clive (1989) Drinking and delinquency: another look at young offenders and alcohol. *The British Journal of Criminology*, 29, 386-94

Messner, Steven and Tardiff, Kenneth (1985) The social ecology of urban homicide: an application of the routine activities approach. *Criminology*, 23, 241-267

Miller, Brenda and Welte, J. (1987) Comparisons of Incarcerated Offenders According to Use of Alcohol and/or Drugs Prior to Offense. *Criminal Justice and Behavior*, 13, 366-392

Mitchell, Richard (1986) Alienation and Deviance: Strain Theory Reconsidered. *Social Inquiry*, 23, 330-41

Newcomb, Michael and Macgee, Linda (1989) Adolescent alcohol use and other delinquent behaviors: A one-year longitudinal analysis controlling for sensation seeking. *Criminal Justice and Behavior*, 16, 345-69

Osgood, Wayne; Wilson, Janet; O'Malley, Patrick; Bachman, L. and Johnson, L. (1996) Routine activities and individual deviant behavior. *American Sociological Review*, 61, 635-55

Park, Robert and Burgess (1925) *The City*. University of Chicago Press. Chicago.

Parker, Robert and Reburn, Carl (1996) *Alcohol and Homicide: a Deadly Combination of Two American Traditions*. University of New York Press. Albany, New York.

Pernanen, Kai (1991) *Alcohol in human violence*. Guilford Press. New York.

Reiss, Albert J. (1986) *Communities and Crime* (taken from Reiss and Tonry's *Communities and Crime*. University of Chicago Press)

Ritzer, George and Calhoun, R. (1985) *Social Problems: Values and Interests in Conflict*. Allyn and Bacon. Boston, Mass.

Roncek, Dennis and Pravatiner, Mitch (1989) Additional evidence that taverns increase nearby crime. *Sociology and Social Research*, 73, 185-8

Roncek, Dennis and Maier, Pamela (1991) Bars, blocks, and crime revisited: linking the theory of routine activities to the empiricism of "hot spots". *Criminology*, 29, 725-53

Sampson, Robert and Wilson, W.J. (1995) "Toward a Theory of Race, Crime, and Urban Inequality." (taken from Hagan and Patterson's *Crime and Inequality*. Allyn and Bacon. Boston, Mass.)

Scheurmann, Leo and Kobrin, Solomon (1986) *Community Careers in Crime*. (taken from Reiss and Tonry's *Communities and Crime*. University of Chicago Press)

Scribner, Richard; MacKinnon, David; and Dwyer, James (1995) The risk of assaultive violence and alcohol availability in Los Angeles County. *American Journal of Public Health*, 85, 335-40

Senna, Joeseeph and Siegel, Larry (1993) *Introduction to Criminal Justice*. West Publishing Company. St. Paul, Minn.

Shihadeh, Edward and Flynn, Nicole (1995) Segregation and crime: the effect of black social isolation on the rates of black urban violence. *Social Forces*, 74, 1325-52

Shihadeh, Edward and Shrum, Wesley (1996) Serious Crime in Urban Neighborhoods: is there a race effect?. (forthcoming in *Social Forces*)

Sherman, Lawrence; Gartin, Patrick; and Buerger, Michael (1989) Hot spots of predatory crime: routine activities and the criminology of place. *Criminology*, 27, 27-55

Skogan, Wesley (1990) *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods*. Free Press. New York

Stark, Rodney (1987) *Deviant Places: A Theory of the Ecology of Crime*. *Criminology*, 25, 893-909

Sifakas, Carl (1987) *The Mafia Encyclopedia*. Facts on File. New York

Spunt, Barry; Goldstien, Paul; and Brownstien, Henry (1994) Alcohol and Homicide: Interviews with prison inmates. *Journal of Drug Issues*, 24, 143-63

Tobler, Charles (1970) *Selected Computer Programs*. Ann Arbor Press. Ann Arbor, Michigan

U.S. Census Beaurau (1992) *1990 United States Decentennial Census (Summary Tape File 1A & 3A)*. Wessex Corporation, 1996

Walfish, Steven and Blount, William (1989) Alcohol and Crime: issues and directions for future research. *Criminal Justice and Behavior*, 16, 370-86

Wirth, Louis (1938) Urbanism as a way of Life. *American Journal of Sociology*, 44, 1-23

Wiscoreck, William; Mirand, Amy; and Callahan, Christopher (1994) Perception of the risk of arrest for drinking and driving. *Criminal Justice and Behavior*, 21, 312-24

Wiscoreck, William; Welte, J. and Abel, E. (1990) Alcohol, Drugs, and Murder: A Study of Convicted Homicide Offenders. *Journal of Criminal Justice*, 18, 217-227

Wolfgang, Marvin (1958) *Patterns of criminal homicide*. University of Pennsylvania Press. Penn.

Wolfgang, Marvin and Ferracuti, Franco (1967) *The subculture of violence: toward an integrated theory in Criminology*. Tavistock Publications. London.

Yochelson, Samuel and Samenow, Stanton (1976) *The Criminal Personality*. J. Aronson. New York.

VITA

Stephen Edgar Costanza was born in New Orleans, Louisiana, on December 3, 1967. He received a high school diploma from Holy Cross High School in New Orleans, Louisiana, in 1985. In December of 1989, he graduated with an Associate's Degree from Delgado Community College. He went on to receive both his bachelor of arts and master's degrees from the University of New Orleans, and in August 1994, he began the doctoral program in Sociology at Louisiana State University. He is now a visiting professor of Criminal Justice at Southeastern Louisiana University, and a Research Consultant at the Florida Parishes Social Sciences Center in Hammond, Louisiana. He will receive the degree of Doctor of Philosophy from Louisiana State University in December of 1998.

DOCTORAL EXAMINATION AND DISSERTATION REPORT

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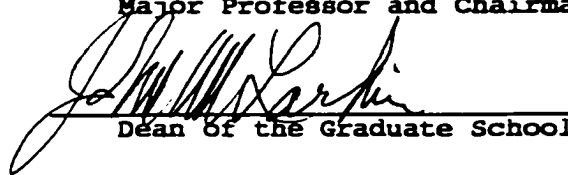
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Title of Dissertation: Alcohol, Assault and Area: An Examination of
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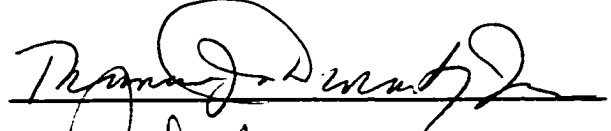


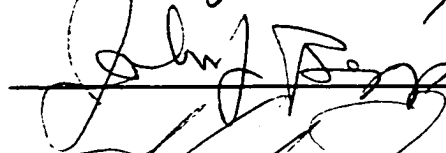
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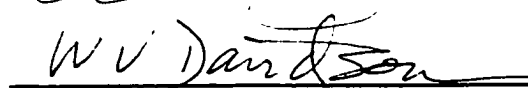
Dean of the Graduate School

EXAMINING COMMITTEE:





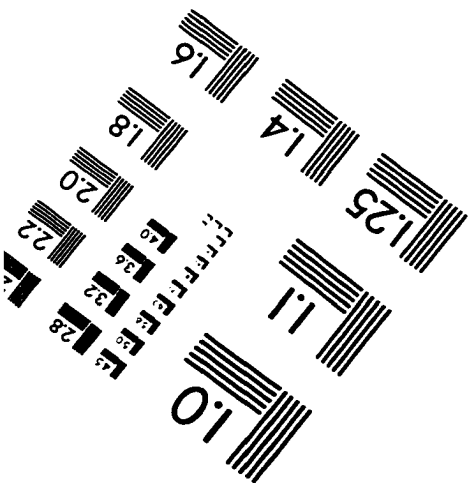
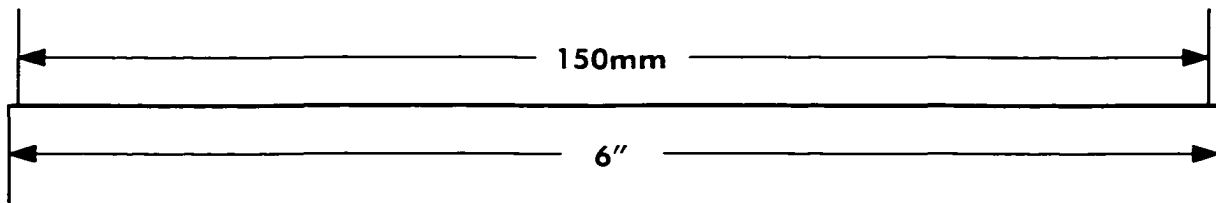
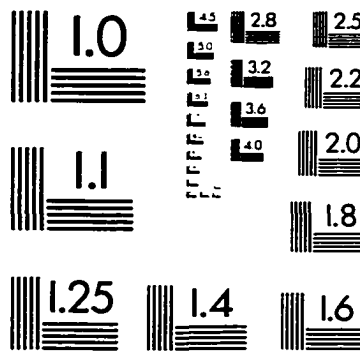
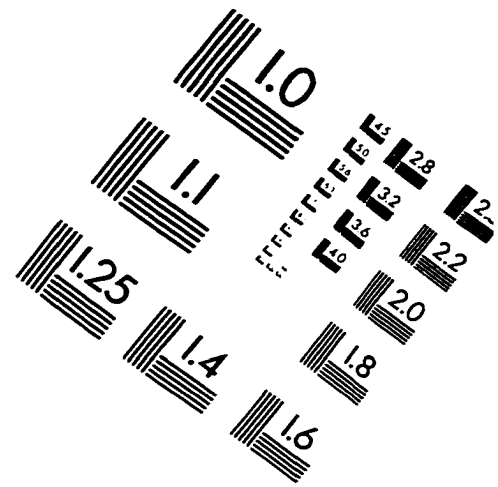
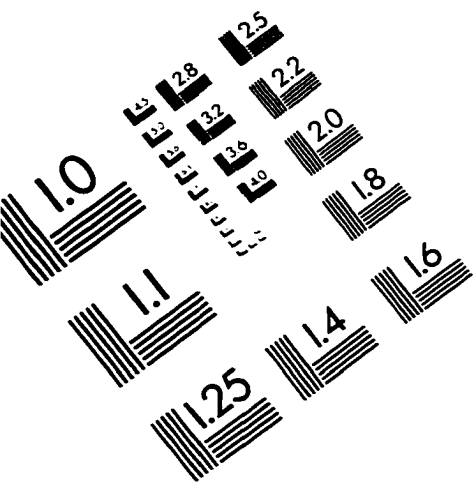




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