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Crime as a Routine Activity: an Investigation

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Crime as a social phenomenon has customarily been examined as sets of occurrences which happen outside the boundaries of the legitimate social structure. Research by Lawrence E. Cohen and Marcus Felson suggests that more fruitful explanatory models of crime may be developed from the routine activity approach, an approach which regards crime as a routine activity in the same sense that

everyday work may be regarded as routine activity. Such an approach is consonant with the precepts of human ecology. Human ecology as a theoretical model posits an interrelationship among the divergent parts of the social fabric. In such a scenario crime is regarded as another manifestation of a symbiotic social interrelation, one among many that flourish in the social whole. Crime, in this approach, is a routine activity, just as work is a routine activity.

Cohen and Felson argue that criminal acts are predicated upon the convergence of three factors in time and space: likely offenders, suitable targets, and the absence of capable guardians. Likely, or motivated, offenders are accepted as given. The presence of suitable targets is argued on the basis of material features of goods, as, for example, in the miniaturization of appliances, and other factors that facilitate theft. The empirical crux of the argument, however, centers on the notion of absence of capable guardians.

By lack of capable guardians Cohen and Felson intend to describe the circumstance whereby goods are left without "supervision" during the day due to the absence of (working) adult members of the family. To measure this possibility, Cohen and Felson have created a construct: the household activity ratio, a ratio intended to indicate the rate of activity in U.S. households in daytime hours.

This ratio is regressed against crime rates for the period 1947-1974 in an attempt to measure the extent to which the household activity ratio may be said to covary with selected crime rates, all of which were derived from FBI statistics.

This thesis is designed to test the strength of the linkage, suggested by Cohen and Felson's demonstrated covariation, over time. It was reasoned that if the trend of increase, both in household activity ratio and in crime rates, was based on something more significant than the tendency for both rates to grow independently over time, then the strength of the relationship between household activity ratio and crime rates should hold in a cross-sectional analysis in which the relationship was tested across a range of cases. Accordingly, the household activity ratio as defined by Cohen and Felson was calculated for each of the 36 Oregon counties in the year 1970 and this result was regressed against seven selected crime rates reported by county in an Oregon State Police report. The regression analysis was augmented by two variables: percent of the population age 15-24 and percent unemployed. These variables are widely touted in crime literature as covariants of crime.

In addition, two demographic variables addressing county characteristics were added to the final equations used in this thesis: density and percent urban. First,

if Cohen and Felson demonstrated a universal relationship, it should hold across all demographic conditions. Second, and equally important, substantiation for the importance of demographic variables in relation to crime rates may be drawn from previous research.

Results of this cross-sectional study were unable to substantiate the strong relationship between household activity ratio and crime rates found by Cohen and Felson in their trend analysis. Further, an overwhelming association was found to exist between the demographic variables appended to this study and the household activity ratio. While association cannot be construed as cause, strength of association can speak to the predictive utility of variables juxtaposed in regression equations. In the case of this study, demographic variables proved to be strong predictors of five of the seven crime rates examined in the study. In some instances, better than 90 percent of the variance in a particular crime rate was explained by the demographic variables in the equation. The household activity ratio attained statistical significance in four out of seven cases when regressed against crime rates, but the percent of the variance in crime rates that could be independently explained by the household activity ratio never exceeded 20 percent. The contribution of the household activity ratio to an

explanation of crime rates dropped as other variables were added to the equation. Therefore, this thesis was unable to provide substantiation for the theory of Cohen and Felson.

CRIME AS A ROUTINE ACTIVITY:

AN INVESTIGATION

by

DONNA SCOTT MUNROE

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TO THE OFFICE OF GRADUATE STUDIES AND RESEARCH:

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to say thank you. While I may be unable to offer an adequate thank you, I can add to this thesis an example of David's counsel:

> In pursuing sociological inquiry it may prosper one every now and again to pause and consider the nature of that inquiry. Fortunately, this pause seems a natural thing, one does not have to bother about creating a schedule of pauses. By saying that the pause is a natural thing I am simply recognizing that after a period of time immersed in research, there will come a point when the student's mind will rebel against his (her) consecutive attempts at establishing the order and meaning of his (her) particular area of inquiry. The thing then is to recognize this pause when it occurs, and to use it to one's advantage. This is a time of rest and cleansing, and it is also a time of re-evaluating goals and methods; but, most important of all, after a long period of stability, it is time for a change (Thies, 1974).

I owe a large debt to my family for helping me to complete this effort. My husband, Peter C. Munroe, has alternately praised and prodded, helping to shape this effort through both long discussions and editorial assistance. He has been a source of ideas, encouragement and unquestioning support. These are gifts beyond measure.

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CHAPTER I

INTRODUCTION

Sociologists and social psychologists have long speculated on the causes and covariants of crime. Theorists have posited an array of explanatory and predictive models; empirical methodologists and speculators alike are intrigued and tantalized by the ubiquity of crime.

Much of crime literature focuses on crime as a phenomenon "over there"--beyond the pale of the everyday. Criminals, by implicit definition, are those persons who commit acts outside normal social boundaries. Crime is, in some sense, the feared and destructive scissor in the carefully woven (adjudicated and regulated) warp and weft of society.

The purpose of this thesis is to replicate a study that entertains a basic assumption outside this usual vision of crime as external to the social fabric. Lawrence E. Cohen and Marcus Felson of the University of Illinois at Urbana published a study in 1979 that derives from the thinking of human ecologists. Crime, in this purview, is not an activity that occurs outside

boundaries. In the ecological framework, crime is an integral part of the total social fabric. Cohen and Felson posit a method by which crime can be examined as a part of the social whole and can be predicted by other empirically identifiable occurrences within the social whole. Specifically, they posit that the likelihood of crime may be predicted by the amount of activity that actually occurs during daytime hours in and around private living spaces. The theory is that crime is a routine activity much like going to work is a routine activity. Crime, like work, takes place within certain predictable frameworks, and Cohen and Felson argue that a likely environment for crime is the home which is basically unattended all day. The statistical implication for this argument is that household activity ratio, when regressed against crime rate, should demonstrate a strong statistical association.

The Cohen and Felson study took account of national data from 1947 to 1974, and they were able to demonstrate that the trend of increasing crime rates was matched by an increasing trend toward large periods of time when private living spaces are vacant. However, Cohen and Felson fail to address the criticism that, over time, all trends or rates tend to increase or inflate. A cross-sectional study tests the natural increase in rates by testing an

association over a number of cases at one point in time. Consequently, this thesis focuses on Oregon only, and seeks to turn the time series on its head into a cross-sectional analysis. While 1970 data are used, the thesis could be updated in a replication using 1980 data as those data become available. The main task of the thesis is to pose the question, "Does the Cohen and Felson predictive model work?" Data from the U.S. Bureau of the Census are necessary to calculate the main predictor, the household activity ratio. Data from law enforcement agencies are necessary for determining crime rates. Cohen and Felson used national FBI crime statistics for all but one of their rates, homicide, which they took from the U.S. Bureau of the Census. Law enforcement data for this thesis were drawn from a report of the Oregon State Police for 1970.

An additional thrust of this thesis is to pose the question as to whether the Cohen and Felson predictive model has utility across rural/urban types of social aggregations. Any association between variables which is universal should hold over all categories of social aggregation. To this end, two statistics, "percent urban" and "population density," were added to the analysis. These data were recorded by county as reported in the U.S. Bureau of the Census reports. County population was

originally included, but was dropped due to excessive multicolinearity in the analysis. These two factors were added as independent variables in the regression analysis; essentially, they compete with the household activity ratio of Cohen and Felson in a regression model that attempts to explain the variance in crime rates.

This thesis is conceived in both the Durkheimian tradition and in the tradition of human ecology. Durkheim argued that one characteristic of a social fact was that it must be "a way of acting which is general throughout the society" (Durkheim, 1966:13). This thesis examines the possibility that household activity is a reliable covariant of crime rates by testing the general applicability of this notion. In examining crime rates, one stays squarely within the Durkheimian mandate that a social fact must "exist independently of its individual manifestations" (Durkheim, 1966:13). It is not a Durkheimian requirement that the sociologist discover laws in the search for social facts. As George E. G. Catlin argues in his introduction to The Rules of the Sociological Method:

> These "social facts of Durkheim . . . are not absolute permanencies . . . They are merely very persistent historical phenomena . . . the instances of "social facts" cited by Durkheim are instances containing a large element of the contingent (Durkheim, 1938:viii).

Consequently, what can be tendered in a Durkheimian argument need not be immutable; such evidence must simply fulfill the prescription of being historically regular and observable in society. This thesis seeks to provide evidence as to whether the Cohen and Felson hypothesis, described above in more general terms, and in Chapter III in more detail, may be said to be within the Durkheimian constraints of "social fact."

The second sociological tradition informing this thesis is that of human ecology. As Amos Hawley, among the earliest comprehensive articulators of this paradigm in sociology, argues:

> In the ecological view, however, life is not an individual, but an aggregate phenomenon. Hence the underlying assumption of ecology is that adjustment to environment is a mutual, in fact a communal, function (Hawley, 1950:66).

As Hawley observes:

> Ecology is not concerned with how habits are acquired--that is a psychological problem; it is interested rather in the functions they serve and the relationships they involve (Hawley, 1950:69).

To link this focus to the problem herein being formulated, human ecology models do not pose questions about how criminals have become (or will become) criminals. Such speculation is properly assigned as the province of psychologists; in recent years, social psychologists such as labeling theorists have also entered this arena (e.g., Schur, 1971). What constituted legitimate inquiry within

the ecological framework is the nature of the relation between parts, and between parts and wholes.

In examining relations between parts, Cohen and Felson argue that criminal acts require the convergence of three factors: (1) the absence of capable guardians, (2) likely offenders, and (3) suitable targets. By capable guardians the authors mean persons present in locations that render them guardians against a contemplated criminal act. The term guardian should not be construed in this context as a watchdog over some group socially defined as being in need of watching, such as juveniles. "Guardian," with respect to crime occurring in or in relation to residences, refers to a capable presence located in the home as a seat of routine activities throughout the day.

Likely offenders are accepted as given by Cohen and Felson; no measure is offered in their study. As they explain, " . . . we do not examine why individuals or groups are inclined criminally, but rather, we take the criminal inclination as given . . ." (Cohen and Felson, 1979:589). They argue convincingly that suitable targets are becoming increasingly available and examine a range of consumer data sources in their research effort. The shape of their argument will be presented in Chapter II.

The empirically-testable essence of Cohen and Felson's argument rests on the notion of absence of capable guardians against crime. A methodology laid out

in Chapter III of this thesis correlates household activity with crime rates, linking capable guardians to the other parts of their argument (capable guardians and motivated offenders). Underlying the basic correlative logic presented by Cohen and Felson is the premise that crime, like any other activity, may be understood as a routine activity. As they assert in the introduction to their article, "Criminal violations are treated here as routine activities which share many attributes of, and are interdependent with, other routine activities" (Cohen and Felson, 1979:589). This thesis tests the Cohen and Felson argument, using cross-sectional, rather than time series, evidence. The intent is to lend either confirmation or disconfirmation to the Cohen and Felson hypothesis that a measure of a specific activity can be used as a predictor of crime.

This thesis is not engaged in causal analysis. The nature of the argument is not that X causes Y. Rather, the position is that if X is observed, Y has a significant likelihood of being observed. A predictor is not necessarily a cause; it may be an observation that systematically covaries with another observation. Prediction does not logically entail cause, only covariation. This thesis is concerned with the utility of a predictor; no attention is empirically directed toward the causes of crime.

In sum, this thesis is concerned with the covariation between two social observations. Chapter II examines crime literature in general as it pertains to this task. Chapter III discusses methodology. Chapter IV presents the findings of this study, and Chapter V is devoted to a discussion of the results and suggestions for future research.

CHAPTER II

REVIEW OF THE LITERATURE

Cohen and Felson base their theoretical model on the work of Amos Hawley, who held, in accordance with the precepts of human ecology, that the community was more than the territory within which it was located. Community, to Hawley, represented a complex of inter-relationships affected not only by space, but also by time. In particular, Cohen and Felson focus on Hawley's temporal notions of rhythm, tempo, and timing (Hawley, 1950:289). Given, argues Hawley, that time is experienced in two of its aspects, duration and recurrence (whereby the latter is the measure of the former), then to know time we must know its units of measure. The first of these, rhythm, refers to the "regular periodicity within which events occur" (Hawley, 1950:289). Tempo refers to events per unit of time. Timing, finally, refers to the coordination of the first two across a community as a whole.

The notion of a household activity ratio is derived directly from these concepts. In creating this construct, Cohen and Felson have posited that regular periodicity

(persons measurably away from homes) at a given tempo leads to a timing or coordination of activity between offender and victim such that a certain criminal tempo (violations per day) is achieved. This theoretical approach to the study of crime departs from most previous efforts. The unit of analysis is not the criminal, but rather, the geographic area of investigation and the complexity of interrelationships at play within a given area.

MOTIVATED OFFENDERS

Cohen and Felson fail to escape completely the problem of criminal motivation. They avoid the psychological quagmire that such a line of inquiry usually feeds into by simply positing as true the notion that motivated offenders exist and are present in sufficient numbers to feed into the symbiotic relationships Hawley posits. In the same sense that labeling theorists have been accused of an inability to explain the initiator of their model, the first offense, Cohen and Felson avoid the attempt to explain the initiator of their model, motivated offenders. While this thesis embodies the same assumption Cohen and Felson make about offenders, it is useful to speculate as to what might contribute to behavior that is regarded as a legal offense, because further research can

address what must be viewed as a shortcoming of the routine activity approach to crime: its failure to explain motivated offenders.

Early theories of offender motivation located guilt within the individual; the concept of criminality was not a sociological one but a psychological one, an analytic focus adopted even by sociologists of the time. For example, a sociologist in an early American sociology textbook asserts that "Crime is not solely a matter of moral perversity but is intimately linked up to the mental life of the individual . . ." (Wallis, 1927). Wallis continues to assert that mental life is affected by certain socially produced factors, such as the "condition of civilization" and "poverty." However, he conceives the mental life of the individual as being tied to other, more individual, situations, such as feeble-mindedness and insanity.

One limitation in the testing of the notion of motivated offender is that, while one can explain, after the fact, certain social or psychological characteristics that seem to inhere to persons identified as offenders, one cannot explain why others, given the same characteristics, do not move from the status of motivated to actual offenders. Such a shortcoming is especially true of Sutherland's arguments in the theory of

differential association. The theory states that societal conditions lead to the development of extensive criminalistic subcultures in which certain patterns of association lead to certain patterns of behavior. Sutherland does not explain why this is true of some, but not other, persons within the same opportunity structure. But then, many researchers have noted:

> As pointed out from a behavioral point of view "crime" is not a simple, precise, homogenous phenomenon which can be readily integrated into a sociological or psychological frame of reference. "Crime" represents many kinds of behavior occurring under many different situations (Schmid, 1960b:675).

The notion of motivated offender is a convenient notion to duck, given that no definitive answer arises to answer the question as to what causes an individual human being to exhibit behavior that may be counted in empirical studies as criminal behavior. Persons with certain characteristics may be labeled as having a high probability of exhibiting certain behaviors, but it remains to be explained adequately why crimes are committed by some persons and not others. The concept should not be dismissed, however. Individual behaviors contribute to statistical aggregations, and, as such, are the proper subject of speculation. Sociologically, it is not profitable to focus on such causes at the exclusion of larger rate-of-violation issues. At the same time, in larger studies such as those of the scope of Cohen and Felson, it

is still necessary to posit the potential offender as the criminal (motivated offender), even though the individual is not the unit of analysis. Further, much of the "folk" or lay literature about crime depends upon such individualistic concepts as ignorance, idleness (and unemployment/unemployability), hopelessness, etc., to explain the motivation of offenders. As Ramsey Clark argues:

> Every major city in America demonstrates the relationship between crime and poor education, unemployment, bad health, and inadequate housing (Clark, 1970:57).

Clark's position still does not offer an explanation as to why some of the persons in unenviable social positions are motivated to become offenders while some do not become offenders. (As yet, no theorist has argued that all persons of certain identifiable characteristics are offenders, but that some are hidden deviants because they have not been noticed by authorities.)

Labeling theorists posit that deviants are the product of an interaction between the deviant individual and society (Schur, 1971). Others hypothesize that both criminals and victims share characteristics in common. Oscar Newman, interpreting his study of the relationship between architectural style and crime, asserts:

> The root causes of inner city and ghetto crime lie deep in the social structure of our nation. Criminal and victim alike come from that strata of the population without power of choice. In

> the United States, the correlation of criminal and victim with poverty is unmistakeable. In both, access to institutions which lead out of their condition has been denied (Newman, 1973: 13).

Economic models of crime may come closest to being theoretically assumable in the routine activity theory of crime. Economic models propose an individual calculus based upon costs and benefits. Costs and benefits can be construed to include the considerations of poverty; the economic model is built on the notion of rational man weighing probable incomes against probable costs. In such a model the individual weighs the following:

- -Practical opportunities for legitimately earning an income.
- -Amount of income offered by these practical opportunities.
- -Amount of income offered by illegal methods.
- -Probability of arrest as associated with an illegal act.
- -Probability of punishment, if arrested.

Some models also include a factor similar to the notion of motivated offender: sociologically or psychologically-determined tests for crime (Swimmer, 1974). In such a schema, an amateur becomes that person who did not weight correctly the above factors (Sullivan, 1973). It should be noted that the economic model ignores any impact from weighing values, such as honesty, and other general

factors of social responsibility within which the individual weights his/her contribution to the social whole.

As long as persons and aggregates of persons are differentiated by socioeconomic status, economic models of crime will offer a possible explanation of the motivated offender. Economic models offer explanatory symmetry because they offer an important rationale as to why one person in a given set of circumstances offends (breaks a codified social rule) and another does not. A weighing of consequences versus potential persuades some persons to regard crime as useful and others regard crime as not productive or useful. Economic models have the potential to incorporate a range of other explanations for crime, such as anomie, because, theoretically, the individual weighs all of the possible effects in making decisions. One effect, of course, can be the mitigation of untenable economic and emotional circumstances through the generation of illegal income. Economic models can even be extrapolated to "crimes of passion," where the person committing such an act is obtaining a kind of relief from an untenable (in the individual's estimation) situation through a decision to mitigate criminally.

Economic theories lend themselves to Cohen and Felson's model of criminal activity because these models are compatible with the notion of symbiotic relations

between criminals and victims in the context of routine activities. Positing routine activities as keeping capable guardians away from suitable targets implies a rationality of criminality that is reflected in the economic explanation of motivated offenders. That economic models are more applicable to burglary, robbery, and property crimes than to physical crimes such as murder and rape, may, in general suggest that instead of looking for one explanation of the motivated offender, the sociologist ought to develop a typology of motivated offenders tied to typologies of crime. To assume that a general notion such as poverty (a social characteristic) or mental illness (a personal characteristic) can explain offender motivation may be overly simplistic. Even grouped characteristics may fall short unless the characteristics are themselves grouped into meaningful categories of motivation relative to the criminal behaviors being measured (crime rates).

TARGET SUITABILITY

The Cohen and Felson argument for increasing target suitability as a trend rests on logical extrapolation from certain empirical observations, from which they conclude that "expensive and movable durables . . . have the highest risk of illegal removal." They then document this argument by citing trends in consumer expenditures,

commercial shipping of goods, etc. The basic argument rests on the proposition that goods have value to the thief according to their movability and their intrinsic (socially determined) value. This thesis addresses the year 1970, a year that comes at the end of the duration of the Cohen and Felson trend analysis. For this reason (because 1970 is demonstrably a part of the analysis undertaken by Cohen and Felson) no supplemental review is undertaken in this thesis. A check of the Consumer Reports Buying Guide of 1976 bears out the observation that goods are becoming smaller and more compact (especially in electronics). This does, as Cohen and Felson argue, raise the value per pound of certain goods as opposed to others.

What the argument about suitable targets neglects is that value itself is a socially determined artifact in a market society. A saturated market will not absorb once-valued goods; further, coupling an economic model of motivated offender with a shifting market based on a socially-determined value points to the (rational) conclusion that as the values of suitable targets change, economic motivation will also change. Again, what is missing is the relation of target suitability to all types of crimes.

Certain other considerations are also absent from the Cohen and Felson construct of target suitability. How distant must the criminal (the person contributing to the

rate statistic) be from the geographic location of the suitable target? Pyle (1974) found that people will travel farther to commit burglary (property crime) than violent crimes. He further found that, in addition to the consideration of distance related to type of crime, an association exists between the economic use of the land (wholesale/manufacturing vs. residential) and burglary. Such a consideration may lend itself to analysis by neighborhood type. Do neighborhoods with material commercial interests suffer more crimes against property than residential neighborhoods? This question is ignored in the Cohen and Felson analysis.

If target suitability as a function of goods manufactured, shipped and purchased coupled with increased ease in movability is accepted as given, then the question becomes one of evaluating whether target suitability is related to these factors only. The Pyle study cited above indicates that other considerations may be at play. For example, rural/urban differences may affect both target suitability and the motivation of persons to become offenders. Urban areas may present more <u>anonymous</u> suitable targets (targets available in areas where one is personally unknown, a factor which may be weighed in the consideration of criminal options).

As early as 1942, Clinard examined the potential effect of rural/urban dimensions as juxtaposed with crime

rates. In a study of offenders at the Iowa Men's Reformatory, Clinard found that rural offenders are more anonymous in that they do not participate as frequently in community networks. He further found that networks of criminal relations varied directly with the amount of urbanization in the areas from which the offenders came. This early study indicated a basis from which to consider the possibility of rural/urban dichotomies in the study of crime. However, as Clinard noted:

> City living does not, or course, directly result in deviant behavior, but many of the conditions associated with city life are, to a preponderant degree, conducive to deviation (Clinard, 1963).

Presumably, urbanism combines two potentials as related to the economic model of motivation and the suitability of targets. First, an urban area provides a concentration of potential targets and the potential to convert those potential targets into personal gain. Secondly, and related to the first point, an urban area provides the possibility that such activities will be able to be carried out anonymously, a possibility that enhances the potential to escape the scene of the crime unnoticed and unrecognized, and a factor which also bears importantly on the possibility of converting (anonymously) the suitable target itself into a personal gain, the possible basis for motivated offenses being committed in the first place. Such effects are, of course, not limited to city boundaries, but apply to urban areas in general. The

requirement, then, for a suitable target, would be that it be anonymously convertible into gain and that it be available at some predictable (or estimable) rate of anonymity. Both of these concerns are avoided or excluded from the Cohen and Felson argument. Yet, crime literature indicates that these considerations may be important. For example, a factor analysis conducted by Boggs (1965) indicates that with property crimes, considerations of profitability are important. A theft cannot be profitable unless it has a socially determined index of inherent value, but it cannot be profitable at any level unless it can fit into an available and safe market (unless theft is occurring for direct personal gain, as in the theft of a television for personal use only).

Target suitability is in part determined by its socially determined value. Value is a process closely associated with social differentiation. If an artifact increases in value, it is generally scarce; that is, it decreases in availability. Therefore, one consideration of target suitability must be the accounting of what is socially valued and also rare within a society, rare at a rate that would make a target suitable for a risk venture to obtain its exchange value. This is true of criminal as well as non-criminal behavior and valuation. Humphries and Wallace (1980) found that a decrease in the size of the manufacturing labor force correlated with a rise in

personal property crime. (Their definition of personal property crimes included robbery, larceny, burglary, and auto theft.) Their study suggests the possibility that target suitability may not be a characteristic based on properties inhering to the product itself; target suitability may vary with the economic structure of the time within which the crime rate is being reported. Such a thesis could be tested by comparing previous times of economic affluence to current times of economic strain. On the one hand, as people are increasingly frustrated in their ideal of economic gain, are they likely to regard an increasing number of targets as suitable? Is the per-pound value of such targets of as much theoretical utility as the use to which such suitable targets may be put (such as personal use vs. sale for money)? A target can still be suitable in terms of its size (movability) and be usable personally as oppposed to usable for its convertibility into dollars. On the other hand, do times of economic strain lend themselves to a market of target suitability? Such suitability may be based upon the fact that, not only does the motivated offender have a hypothesized use for the products of a behavioral (criminal) effort, but, also, that a market of non-motivated offenders may be willing to purchase "hot" and desirable items. Such motivation is also economically based.

Economic arguments that combine motivated offenders with a changing economic definition of suitable targets may still ignore other considerations in the equation of criminality. Lumping, as Cohen and Felson do, all types of major crimes under one umbrella ignores other correlates of crime such as sex and race. One study recently conducted demonstrated a relationship between personal crimes (rape, robbery, assault, and personal larceny) and the percentage black males age 18-20 in the population. These results were mirrored for household crimes (Hindeling, 1981).

The review of the notion of suitable targets has been addressed, not to the review of the Cohen and Felson material, but to the consideration of factors that their review may have overlooked. One can demonstrate an increasing movability of goods based on miniaturization and considerations of weight. One can further combine these factors with evidence of increasing availability based on shipping rates and sales data. The issues raised herein attempt to suggest fruitful paths beyond these boundaries. For example, if more persons are unemployed, does this mean that there are fewer suitable targets, given that less money is exchanging in the society? Does it mean that older targets become more suitable because they have an increased market, which is to suggest that older items are more exchangeable in times of scarcity? Does economic

scarcity affect the valuation of goods? A final consideration of Cohen and Felson's argument, lack of capable guardians, may even be affected by high unemployment, in that unemployment itself may suggest that more persons are at home guarding their suitable targets. (Of course, this conjecture ignores the question as to whether targets of crime are located in areas that are unaffected by unemployment.) On one hand, the very rich may not require two-income budgets, and therefore may have a suitable guardian guarding the suitable targets. On the other hand certain suburban and other persons may not be able to maintain their suitable targets without leaving them to unsuitable guardianship routinely (as a consequent of the routine activity of out-of-home work). None of these considerations appears in the Cohen and Felson study and such considerations may render the study eligible for the criticism of being to simplistic. It should be noted that motivated offenders, assumed by the study, and suitable targets, treated as a consequent of logical inference, are focused differently by Cohen and Felson form their third factor in the covariation trilogy of crime, lack of capable guardians, a factor which is empirically tested directly by their statistical construct, the household activity ratio.

LACK OF CAPABLE GUARDIANS

Cohen and Felson construe the lack of capable guardians empirically. They measure this concept by examining the routine activity of households. Routine activity as a notion is dependent upon the human ecology work of Amos Hawley because it depends upon the idea that crime is a routine activity as is any other work for assessable gain. In this sense, crime as routine activity assumes its place in a set of symbiotic social networks where the criminal feeds upon the non-criminal in the community in a network relationship that is at least in part specifiable statistically as a system or network relationship. To measure the notion of lack of capable guardians, Cohen and Felson measure the relationship of all-adults-employed households (both husbands and wives working--they do not address non-husband-wife households) in a ratio with all households, where that resulting ratio is compared to crime rates. A more complete discussion of this consideration appears in the next chapter; a replication of this statistical construct is methodological (statistical, and therefore measurable) rather than theoretical. The next chapter, Chapter 3, contains a discussion of the measurement considerations in reconstructing lack of capable guardians as a covariant of crime rates.

CHAPTER III

METHODOLOGY

Interrelationships among three factors must be considered in a methodology designed to address the Cohen and Felson routine activity approach to crime: likely offenders, suitable targets, and the absence of capable guardians. Only the last factor, absence of capable guardians, is empirically tested in the study presented by Cohen and Felson. The first factor, the presence of likely offenders, is assumed for purposes of the study. As they note:

> Unlike many criminological inquiries, we do not examine why individuals or groups are inclined criminally, but rather we take criminal inclination as given and examine the manner in which the spatio-temporal organization of social activities helps people to translate their criminal inclinations into action. Criminal activities are treated here as routine activities which share many attributes of, and are interdependent with, other routine activities (Cohen and Felson, 1979:589).

TARGET SUITABILITY

Target suitability refers to the objects of criminal activity, whether those objects are people or things. However, the logical argument Cohen and Felson present in

favor of increasing target suitability addresses things. Targets are becoming more suitable, they argue, because actual items such as electronic radios and stereos are undergoing increasing miniaturization. Further, these smaller "things" exist increasingly in an environment that is routinely unguarded, enhancing the possibility that such items will become the objects of criminal activity.

In support of this argument, Cohen and Felson note that electronic appliances, along with the single large commodity of vehicles, are overrepresented in theft. They reached this conclusion by comparing the 1975 data on composition of stolen property as reported in the Uniform Crime Report of the FBI with national data on personal consumer expenditures and with estimates from the appliance industry on the value of goods shipped.

That electronic miniaturization as a factor in target suitability is substantiated in the Cohen and Felson argument by an examination of burglary data drawn from the District of Columbia in 1969. These data indicate that four home entertainment items were taken in burglaries for every one instance of taking clothing, food, drugs, liquor and tobacco combined. Home entertainment items were taken eight times as often as office supplies and equipment. (It should be noted, however, that petty white collar crime such as theft of supplies from the office is usually undetected, and hence unreported.)

While 69 percent of the national thefts that were classified in 1975 involve auto parts or their accessories, or bicycles, these items accounted for only .1 percent of the tonnage carted by truckload in 1973. Cohen and Felson conclude from this that durable, portable items are reported stolen out of proportion to their contribution to the overall value and weight of goods being transported in the United States.

Another premise offered in support of the overall argument of target suitability derives from an examination of the sales of consumer goods in 1960 as compared with 1970. Cohen and Felson note a 71 percent increase in automobile expenditures and a 105 percent increase in spending for other durables. While they do not peg these increases to the inflation rate, they offer other data on this point that are not directly attributable to inflation. They note that shipments of electronic appliances more than doubled. Appliance imports rose by 700 percent in this time period. Finally, while more goods were being shipped, the 1960-1970 decade witnessed a decline in the weight of goods shipped, a fact from which the authors infer that goods became smaller and more portable, and hence more attractive as theft targets.

Another dimension informs the general thesis about increasing target availability. In keeping with the routine activity approach, Cohen and Felson report

documentable changes in human activity patterns. They note that more females are college students, that married women increasingly participate in the labor force, and that census reports indicate an increasing number of persons living alone. Such data would seem to indicate that an increasing proportion of households is unattended during the daytime hours. Further, people increased the amount of time they spent away from their homes in out of town travel. Parks bureaus reported an increase in users; more workers became eligible for three week or more of vacation; more people travelled overseas.

MOTIVATED OFFENDERS

For purposes of this thesis, motivated offenders are assumed in the same sense that Cohen and Felson assume their presence. The arguments pertaining to target suitability, which are logically substantiated or inferred rather than empirically tested, are also accepted. The purpose of the thesis is to test the link between the likelihood of household activity during the day and the likelihood of crime as reported in rates. This link assumes the two-generational nuclear family; therefore, if all adult members of a family can be accounted for in work or school activities outside the home, then the home is assumed to be more likely to be unattended or unguarded. In ecological terms, such a condition provides potential for symbiotic fit between criminal and worker.

TIME SERIES VS. CROSS SECTION

The Cohen and Felson analysis is a time series analysis, and such analyses necessarily entail certain methodological hurdles that are difficult to overcome. Perhaps the most serious methodological defect of time series analyses is that they do not account in the analysis for the effects of history. Trends may be carefully substantiated over time, but other, unidentified, trends may also contribute to the variance in the dependent variable. In the Cohen and Felson study, two extraneous factors were analyzed: unemployment rates and the proportion of the population age 15-24. No mention is made about the structure of the economy and the changes in that arena witnessed between the years of the study, 1947 (post-war) to 1974 (energy crisis). Political differences between the conservative 1950's and the liberal 1960's are not mentioned.

Another methodological difficulty of time series analyses is that categories within which one wishes to perform analysis may be redefined as the years progress. Cohen and Felson did confront this problem; hence, the necessity to drop the category of larceny-theft, a category redefined by the FBI, from the analysis.

Other limitations of time series studies include their failure to pick up seasonal trends and the failure

of the analysis to identify alternative explanations that may be due to maturation of the population. In the case of failure to pick up seasonal trends, annual measures may not be sufficiently sensitive. For example, if crime rates vary within the year, do in-home activities also vary seasonally? This difficulty is not a serious limitation in this study, given that Cohen and Felson are striving for a macro-level trend view about the link between household activity and crime rate. In the case of maturation offering an alternative explanation, one could hypothesize that, just as more people are participating in everyday economic activity in the work arena, more people are also participating in everyday activity in the crime arena. Perhaps both of these are part of a multifaceted phenomenon that speaks to an increasing overall trend of material consumption in the society.

Because time series analyses present some distinct hurdles methodologically, this thesis tests the empirically drawn linkage in the Cohen and Felson study from a cross-sectional perspective to ascertain whether that linkage can be statistically demonstrated in a one-time environment. The single time in this case is 1970, a choice which has the effect of placing this study within the time frame addressed by Cohen and Felson. Therefore, this study escapes the possible criticism that some new historical items should properly enter the

explanatory model, a criticism that could be leveled if 1980 data were used. The Cohen and Felson study's upper limit is 1974. Therefore, historical events occurring since the Cohen and Felson study are excluded from this study by virtue of employing 1970 data. The cases in the cross-section are the 36 Oregon counties. The central question to which the thesis is addressed may be posed as follows: assuming the validity of the arguments concerning the presence of both motivated offenders and suitable targets, will the Cohen and Felson household activity ratio, which is a measure of overall daytime activity within households (measured within Oregon counties), covary significantly with crime rates, taking Oregon counties as the test cases?

HOUSEHOLD ACTIVITY RATIO

The household activity ratio is the measure that Cohen and Felson use to detect the presence of "capable guardians" in the home during daytime hours, the inference being that their (capable) presence effectively guards against criminal activity. They calculate the household activity ratio annually from 1947-1974, using data gathered from the Current Population Survey.

Three elements contribute to the calculation of the household activity ratio: the number of married, husband-present female labor force participants; the

number of non-husband wife households; and the total number of households in the United States. The first two elements are summed, yielding a total presumed to be an estimator of unattended households during working hours. This sum is divided by the third element, the total number of households, a transformation that yields a ratio between the "guarded" households and the total number of households.

In this thesis, different data sources were necessitated by the fact that census data by county are not available in the same format as census data for the entire country. The first element, the number of married, husband-present female labor force participants, is taken from Table 121 of the U.S. Bureau of the Census Social Characteristics for Oregon. The third element, the total number of households, is taken from the U.S. Bureau of the Census General Characteristics, Oregon, Table 16. Both of these elements are directly comparable to the Cohen and Felson elements for the nation as a whole.

The element that was unavailable for Oregon counties that had to be estimated is the number of non-husband wife households.

In Table I below, the comparison estimator derives non-husband wife households by subtracting the number of household heads with spouses present from the number of households. The thesis estimator substitutes the number

TABLE I

A CHECK ON ESTIMATOR RELIABILITY: NUMBER OF NON-HUSBAND-WIFE HOUSEHOLDS

	Comparison Estimator	Thesis Estimator
Total N of Households	63,637,721*	63,637,721*
N Married, Spouse Present Heads of Households	44,010,521*	
N Married Women, Husband Present		44,411,778**
Difference	19,627,200	19,225,943

Ratio of the Differences: .9796

* Source: USBC, General Characteristics, Table 204.
** Source: USBC, General Characteristics, Table 216

of married women with husbands present, for the number of married, spouse-present heads of household. The thesis estimator yielded a value amounting to 98 percent of the comparison estimator (ratio: .9796). From this check, it is assumed that the estimator of non-husband wife households is both valid (estimating what it purports to estimate) and reliable (could be recalculated across a different data set with the same results).

Household activity ratios were calculated for each of the 36 Oregon counties for calendar year 1970. The rates and the figures used in their calculation are presented in table form in Appendix A.

CRIME STATISTICS

Cohen and Felson use the FBI Uniform Crime Reports as the source of four of the five crime rates reported in the study: forcible rape, robbery, aggravated assault, and burglary. They report the homicide rate from the U.S. Bureau of the Census statistics. The FBI Uniform Crime Reports are monthly tabulations of data gathered from law enforcement agencies in each state. Like the U.S. Bureau of the Census statistics on homicide rate, these data are not reported by county within each state.

This thesis derived crime rate data from the Oregon Crime Report Statistics, 1970, compiled by the Oregon State Police. The table below presents summaries of the definitions from the various sources for comparison. The definitions for the identified categories are so similar as to be assumed comparable for purposes of this thesis. As noted above, it was concluded that any minor differences in wording of the definitions of crime rates do not compromise the comparability of these categories as they are employed in the Cohen and Felson study and in this thesis.

Regression techniques were used to determine whether the household activity ratio varies with crime rates across the 36 Oregon counties. First, a simple linear regression was run with household activity ratio as the

TABLE II

A COMPARISON OF CATEGORY DEFINITIONS

Category	Cohen and Felson Definition (FBI and USBC)	State of Oregon Definition
Non-negligent Homicide		All willful and felonious homicides, as distinguished from deaths caused by negligence
Forcible Rape	Rape by force, assault to rape, attempted rape	Forcible rape, assault to rape, attempted rape
Aggravated Assault	Assault with intent to kill or for the purpose of inflicting severe bodily injury, by shooting, cutting, maiming, poisoning, scalding or by the use of acids, explosives, or other means. Includes attempts.	Assault with intent to kill; assault by shooting, cutting, stabbing, maiming, poisoning, scalding or by the use of acid.
Robbery	Stealing or taking anything of value from the care, custody, or control of a person by force or by violence or by putting in fear	Stealing or taking anything of value from a person by force or violence or through fear.
Burglary	Any breaking or unlawful entry of a structure with intent to commit a felony or a theft. Includes attempts.	Any unlawful entry to commit a felony or theft. Breaking and entering. Such entry may not have had to include force to gain entry. Includes attempts.
Auto-theft Rate	**	All cases where a motor vehicle is stolen or driven away and abandoned, and "joy riding" thefts.
Larceny	***	Theft, except auto theft, over $75.00 value. Does not include games, embezzlement, fraud, etc.

Note: The Cohen and Felson definitions are condensed from the FBI Uniform Crime Reports, 1970, definitions with the exception of the definition for nonnegligent homicide, which is condensed from the USBC definition (since that is the source they report for that rate).

**The definition for this rate is dropped from the Cohen and Felson due to excessive multicolinearity. As this was not a problem relative to this rate in the cross-sectional methodology herein employed, this rate is included in this thesis; hence, its definition is reported.

***The category of larceny changed definitions in the course of the Cohen and Felson time study, and was dropped from the analysis. Since that did not present a methodological difficulty in the cross-sections approach employed in this thesis, the Oregon definition is reported and the rate is used in the analysis.

independent variable and each of the seven crime rates employed in this study as the dependent variable. Second, a multiple regression technique was used, in which five predictors were regressed on crime rates. Two of the predictors, percent unemployed and percent age 15-24, are used in the study to replicate the Cohen and Felson study. Both of these predictors have historically received some substantiation in crime literature, and the relevant question for the study centers on whether age and unemployement can serve to enhance the model being developed. Two other predictors, density of county population and percent urban, were added to the analysis to see whether the household activity ratio was a better or worse predictor of crime rates than specified demographic considerations. If household activity ratio is a universal covariant of crime rates, it should not vary across any demographic dimensions. The fifth predictor in the equation was, of course, the household activity ratio itself. The results yielded by these techniques are reported in Chapter IV. While five predictors may be construed as an excessive number of predictors given an N of 36 cases, all five have been, nonetheless, retained, because the purpose of the study is not to be either statistically or theoretically definitive. Rather, the aim is to probe the strength of a linkage; this may include an analysis of certain variables which may have a

utility in predicting crime rates and which were excluded from the Cohen and Felson study, namely the demographic variables. The unemployment and age predictors were retained in the attempt to reproduce more faithfully the Cohen and Felson study, as these are predictors they consider in their analysis.

Cohen and Felson use the technique of difference equation analysis, which can be employed to model cumulative social change. While this technique is amenable to time series analysis, cross-sectional analyses such as the one presented in this thesis are not concerned with trends or with cumulation. Therefore, this technique is not employed in this thesis.

CHAPTER IV

FINDINGS

Cohen and Felson use the household activity ratio as a predictor of crime in the sense that they argue that a rise in the calculated activity ratio is associated with a rise in crime rates. The testing of this link is the purpose of this thesis; consequently a simple regression of household activity ratio against each of the seven Oregon crime rates is reported in Table III below.

In Table III, the relationship presented between household activity ratio and crime rates is significant at the .05 level in two cases, assault rate and auto theft rate. In two other cases, robbery rate and burglary rate, the relationship with household activity ratio is significant at the .01 level. Therefore, in four out of the seven tested cases, the demonstrated relationship is greater than would be expected to occur by chance alone at levels usually accepted as significant. However, less than 20 percent of the variance in <u>any</u> crime rate is accounted for by the household activity ratio alone.

TABLE III

VARIANCE IN CRIME RATES EXPLAINED BY HOUSEHOLD ACTIVITY RATIO

Crime	R^2	F
Murder Rate	.001	.02
Rape Rate	.006	.22
Robbery Rate	.201	8.57xx
Assault Rate	.117	4.49x
Burglary Rate	.183	7.61xx
Larceny Rate	.096	3.62
Auto Theft Rate	.135	5.32x

df 1,34
Critical F .05 = 4.13 x, p = < .05
F .01 = 7.44 xx, p = < .01

In the Cohen and Felson study, age (percent 15-24), unemployment rate, and household activity ratio, used together as predictors of crime rates, demonstrated that unemployment and age enhanced prediction very little. The evidence of this study tends to confirm that finding. This evidence is presented in Table IV below.

Comparing the R^2 reported in Tables III and IV demonstrates that in some cases the prediction

capability (as reflected in the R^2) is not improved using age and unemployment. This drop occurs because all three variables were entered in the regression equation without specification as to which variable would be considered first. Thus, household activity ratio, considered in conjunction with these explanatory variables, explains less of the total variance in crime rates. This comparison is presented in Table V.

TABLE IV

HOUSEHOLD ACTIVITY RATIO, AGE AND UNEMPLOYMENT AS PREDICTORS

Crime Rate	Standardized Regression Coefficients			R^2	F
	Household Activity Ratio	Age 15-24	Unemployment		
Murder	.086	-.147	.107	.034	.38
Rape	-.113	.097	.028	.015	.158
Robbery	.473	-.080	-.064	.209	2.83
Assault	.382	-.098	.055	.129	1.58
Burglary	.433	-.053	.192	.219	3.00*
Larceny	.322	-.068	-.181	.130	1.59
Auto Theft	.407	-.153	-.226	.198	2.64

df = 3,32
F .05 = 2.9 * p = < .05
F .01 = 4.46** p = < .01

TABLE V

COMPARISON OF R^2
(TABLES III AND IV)

Crime	R^2 Using Household Activity Ratio (Table III)	R^2 Using Household Activity Ratio, Age and Unemployment (Table IV)
Murder	.001	.034
Rape	.006	.015
Robbery	.201**	.209
Assault	.117*	.129
Burglary	.183**	.219*
Larceny	.096	.130
Auto Theft	.135*	.198

* $p = < .05$
** $p = < .01$

In addition to the predictors used by Cohen and Felson, this study appended an urban dimension, reflected in two demographic variables; population per square mile (density) and percent of the population within the county classified as urban (percent urban). Using these two variables in conjunction with household activity ratio yields a more significant R^2. These data are presented in Table VI below.

TABLE VI

HOUSEHOLD ACTIVITY RATIO, PERCENT URBAN, AND DENSITY AS PREDICTORS

Rate	Standardized Regression Coefficients			R^2	F
	Activity Ratio	Percent Urban	Density		
Murder	-.056	.159	.004	.020	.218
Rape	-.319	.047	.476	.199	2.65
Robbery	-.018	.072	.950	.956	230.24**
Assault	-.076	.334	.562	.547	12.86**
Burglary	.005	.289	.619	.641	19.05**
Larceny	-.042	.193	.566	.434	8.18**
Auto Theft	-.130	.256	.821	.825	50.36**

df = 3,32
F .05 = 2.9
F .01 = 4.46**

As shown above, using the two demographic indicators enhances the R^2 considerably in five of the seven cases. Further, household activity ratio adds nothing to these regression equations.

Table VII below summarizes the R^2 for the three combinations of household activity ratio presented in this thesis.

TABLE VII

ALL COMBINATIONS OF HOUSEHOLD ACTIVITY RATIO AS PREDICTORS (TABLES III, IV AND VI)

Crime Rate	Household Activity Ratio Alone (Table III)	Household Activity Ratio, Age and Unemployment (Table IV)	Household Activity Ratio, Density, and Percent Urban (Table VI)
Murder	.001	.034	.020
Rape	.006	.015	.199
Robbery	.201**	.209	.956**
Assault	.117*	.129	.547**
Burglary	.183**	.219*	.641**
Larceny	.096	.130	.434**
Auto Theft	.135*	.198	.825**

* $p = < .05$
** $p = < .01$

Demographic indicators dramatically enhance the R^2 in the cases of robbery, burglary and auto theft. The implications of this and other findings will be discussed in Chapter V.

CHAPTER V

CONCLUSIONS

SUMMARY OF THE FOCUS OF THE STUDY

This thesis focused on a particular statistical model that has emerged from crime literature in recent years. Crime has typically proven to be a ubiquitous phenomenon for which a range of explanatory/predictive models has been generated. What distinguished the statistical model addressed in this thesis from the rest of the "explanations of crime" was its unique contextual argument. In the ecological theory from which Cohen and Felson's routine activity approach to crime springs, society is viewed as a set of symbiotic interrelationships. The implication of this basic "Weltanschuung" is that crime, like any other social behavior, is viewed as fitting into the network of symbiotic relations comprising the whole. Crime, in such a view, is not a phenomenon analytically separate from other social phenomena. Crime is, rather, a part of the social fabric.

Viewing crime as a part of the social whole has methodological implications. Crime must be studied

sociologically in terms of its position within the social matrix. Cohen and Felson did just that. They examined the phenomenon of crime, as expressed in federal rates, against a routine activity, household activity. In their schema, crime is like household activity in that both share the characteristic of being a routine activity. If crime is a routine activity, it fits within the matrix of other routine activities. Cohen and Felson sought to illuminate one relationship among the network of interrelations that exist among routine activities: the relation between crime and household activity.

In their argument, Cohen and Felson present the premise that crime as an activity can occur upon the convergence of three factors: motivated offenders, suitable targets, and lack of capable guardians. In sidestepping the issue of motivated offenders, Cohen and Felson place psychological speculation outside the boundaries of sociological inquiry. To raise the question of what motivates individual offenders to commit acts socially defined as deviant is to request an answer that can be rendered only in terms of a singular unit of analysis: the individual. The probability that certain identifiable classes of motivators (e.g., poverty) have a high statistical association with reported crimes has been a frequent avenue of investigation on the sociological side of the question of motivated offenders. Such

investigations never adequately explain why, given similar circumstances, some people become "motivated" while others do not. In sum, investigating the notion of motivated offenders has been an inquiry of mixed result. Assuming, as Cohen and Felson do, the ubiquitous presence of motivated offenders commits no logical travesty; what is being asserted is that persons who wish to commit acts defined as criminal are present within society. Indeed, crimes <u>are</u> committed. People do commit them. Sidestepping the issue of why people engage in criminal activity is not to fail to acknowledge that a question can be legitimately raised. It is to fail to raise the question, a research choice based upon a defensible decision to focus the study on a different question, the sociological question of where criminal behavior fits in the social fabric of the whole.

By the same logic, the presence of suitable targets is basically assumed by Cohen and Felson. They analyze certain data pertinent to commodities and conclude that small "things" are proliferating in society. Something small is easily portable and difficult, in many cases, to identify later if recovered. Targets may be in the process of becoming both smaller and more generally available, but, basically, it is not arguable that targets don't exist. They do. The objects of crime range from people to things, and people and things are available.

Again, however, as in the case of motivated offenders, the questions to be raised in the consideration of suitable targets fall outside the focus of the Cohen and Felson study.

The locus of concern, then, is the question of how crime-as-activity may be conceived in the matrix of social activities. Crime-as-routine, as opposed to crime-as-extraordinary, is the background against which crime is investigated in relation to household activity. This thesis sought to lend credibility or discredibility to the premise that crime and household activity are demonstrably related at a statistically significant level.

DISCUSSION OF THE FINDINGS

Chapter III of this thesis details the methodology used to implement the inquiry described in the summary above. Tables in Chapter IV summarize the findings. The implications of the statistical findings will be discussed in this section.

Household activity ratio proved to be a disappointing predictor of crime rates. Table III presented the R^2 for the simple linear regression calculated between crime rate and activity ratio. In four cases the F ratio indicated a confidence level of .05 or better, but an examination of the R^2 statistic shows that even in the best case, activity ratio x

robbery, the activity ratio explained only 18 percent of the variance in the robbery rate. While such a result may be interpreted with some confidence as not emerging by the play of chance, the result is still usefully inadequate in illuminating a direct, theoretically significant, interrelation.

Table IV added age and unemployement to the regression equations and the amount of the variance in the crime rate explained by the predictor variables actually decreased with the addition of the two new variables. The results from Tables III and IV are compared in Table V, from which the conclusion may be drawn that not only does household activity ratio make a disappointing showing when regressed against the crime rates included in the study; age and unemployment cause that far from satisfying situation to decay. The findings on age and unemployment are consonant with the findings of Cohen and Felson. They chose to include these variables because they have enjoyed a certain popularity in crime literature. Age has been shown to be associated with criminal acts (e.g., Hindeling: 1981), and unemployment has been theorized as a situation that can provide motivation to offenders. The failure of these variables to add to the explanatory capacity of the model developed by Cohen and Felson is not unexpected. Unemployment is not regularly reported as directly linked to crime in the literature:

> . . . attempts to link criminality to the business cycle or to unemployment figures have not produced any clear conclusion except that the relationship between material "need" and criminal behavior is not direct (Nettler, 1974).

This observation tends to debunk the folk knowledge that blames unemployment directly for crime (e.g., Clark, 1970). Crime is a complex phenomenon encompassing a broad range of acts. As Schmid observed:

> . . . "crime" is not a simple, precise homogeneous phenomenon which can be readily integrated into a sociological or psychological frame of reference (Schmid, 1960b, 675).

Crime may have a range of associations, some direct and some indirect, each contributing only a modicum of explanation. This suggestion may have some bearing upon the failure of the household activity ratio as an explanatory variable in this thesis. Examining crime in terms of inferred home activity may be attempting to place too simple a face on the variable requiring explanation, crime rate.

This thesis introduced two demographic variables, density and percent urban, and the explanatory capacity of the regression equation was dramatically enhanced. In the case of robbery, 95 percent of the variance could be explained by the new equation, even using the more conservative estimator of the R^2. The most significant regression coefficient in the robbery equation was the coefficient associated with density, and this was

generally true in all seven equations. The one exception was the case of murder where the largest regression coefficient was percent urban. The murder equation, however, actually yielded a negative R^2 and was one of two (the other was rape) not significant with the demographic variables included in the equation. Table VII summarizes the results across all three sets of regression equations presented herein. Clearly, the greatest explanatory value adheres to the demographic predictors.

URBAN VARIABLES AND CRIME

The association between "urban" variables and crime has not passed unremarked (Clinard, 1963; Clinard, 1942; Newman, 1973; Schmid, 1960a and 1960b; Sutherland, 1947; Humphries and Wallace, 1980).

In 1942, Clinard, in a study of adult male offenders conducted at the Iowa Men's Reformatory, noted that rural offenders had a greater contact with the outside community than did rural non-offenders interviewed as a control group. Contact entailed number of residences in which one had lived and the length of time one lived in them. Further, rural offenders did not participate as frequently in community organizations. Clinard concluded that the more heterogeneous urban areas tended to produce a "criminal social type," a category he argued was not present in rural areas. These observations would seem to

tap into sociology's historical roots (Durkheim, 1964--mechanical/organic solidarity; and Tonnies, 1957--Gemeinschaft and Geselleschaft.)

Sutherland (1947) remarked on the similarity of today's ecological theories to the geographic or cartographic studies in crime during the middle of the 19th century. Sutherland comments that in their geographic plots of crime, these cartographic researchers focused on crime as a "necesary expression of social conditions." In other words, crime, conceptualized as a routine social construct, was being plotted geographically 150 years ago.

Human ecologists are not the only theorists interested in examining urban variables in relation to crime. Marxist sociology also makes use of demographic considerations in explaining crime. For example, Humphries and Wallace (1980:179) argue:

> In areas affected by the withdrawal of capital, the out-migration of highly paid workers and the marginalization of the remainder, accompanied by the absorption into the labor-force of low paid workers, women and youth, intensify central city distress and interpersonal conflict over the distribution of shrinking resources. High rates of interpersonal conflict, registered as "violent crime," characterize these metropolitan settings.

Demonstrably, then, demographic variables have earned their spurs in more than one theoretical schema. As Clinard observed (1963:67):

> City living does not, of course, directly result in deviant behavior, but many of the conditions associated with city life are, to a preponderant degree, conducive to deviation.

HOUSEHOLD ACTIVITY RATIO AND OTHER COVARIANTS OF CRIME

The household activity ratio, inferred as a measure of daytime household presence (as an indicator of the dimension of presence/absence of capable guardians), falls far short of the demographic variables in this study in explaining the variance in any of the crime rates herein examined. For rape and murder, one would expect the explanatory value of the household activity ratio to be limited. Both of these are crimes against persons and persons only. Since the Cohen and Felson theory is predicated on the premise of capable guardians in relation to the objects of crime, the activity ratio would, because of its formulation, be unable to assume capable guardianship in the case of rape or murder. Being home may be an invitation to either of these crimes because home activities are, in daytime hours, conducted in solitude or in the presence of small children. Neither of these conditions could be construed as capable guardianship; the reverse may be true. A person engaged in routine work activities outside the home may be safer in an office complex where they enjoy the presence of a host of capable guardians. In the case of rape and murder, then, one may expect that other explanations, including demographic ones, would enjoy greater significance.

Another limitation of the activity ratio is that it only addresses, by the nature of its construction, daytime hours. Thus it is limited to the time scope of criminal behavior it addresses. No evidence is presented by Cohen and Felson to indicate that a preponderance of property (or any other) crime occurs during the day.

Given that the household activity is arguably both rate-specific (limited to the types of crime rates it can logically address) and time-specific (limited to the hours of the day it addresses), it may have only the most limited explanatory capacity. Trite as it sounds, the household activity ratio may be a case of trying to illuminate the obvious, that a motivated person may steal small available objects during daytime hours when it can be predicted that there is a low probability of being seen since the house is empty. Cohen and Felson fail to note whether business crime would be amenable to analysis through the vehicle of a business activity ratio. Many businesses are typically vacant at night and would presumably have suitable targets existing in the absence of capable guardians for specifiable periods of time.

The prediction that a criminal act will not be interfered with--an inference from the notion of capable guardians that unprotected property is somehow a safer target--feeds into economic theories of crime and the positing of "rational man." Such theories hold, in common

with ecological theories, that crime is a routine social activity. Economic theories entail the rational weighing of alternatives by rational actors as an explanation for criminal and other social behavior.

Sullivan (1973) enumerates five variables weighed by the (rational) criminal contemplating a criminal act. He argues that criminals weigh gains against possible losses (such as the probability of arrest and punishment) when contemplating a criminal act. Swimmer (1974:294) adds another factor: Sociologically or psychologically-determined tastes for crime. Basically the economic model is a weighing of the costs and benefits presented in the opportunity for criminally-defined activity. These costs and benefits need not be property-specific. Conceivably a person could weigh the imputed benefit of murder or rape as against the losses that might be incurred were the act carried to fruition.

Economic models do not, at first blush, contain much in common with demographic considerations. The most obvious link can be made in assertions about the differences between rural and urban opportunity structures relative to crime. However, economic and demographic answers are basically answers to different questions. Economic models address the issue of why a person would

become an offender. Demographics addresses issues of location, frequency, density, etc., as well as the issues of how much and where. Therefore demographic and economic models are not, nor need they be, mutually exclusive. They address the same questions, crime, in different contexts. This conclusion might also be drawn regarding the household activity ratio in a more limited sense--it addresses property crimes at certain times, ignoring issues of location and density in favor of frequency.

ANOTHER AVENUE: THE CASE OF SWITZERLAND

While the results of this study point to the potential utility of demographic variables in any explantion of the phenomenon of crime, Clinard's (1978) recent comparison of Sweden and Switzerland calls even demographic variables into question, suggesting that even the high rates of association may be masking another, more pertinent associative variable. It was Clinard's (1942) study of the Iowa Men's Reformatory that raised issues suggesting the dimensions, long revered in sociology, of Gemeinschaft/Geselleschaft--mechanical/organic solidarity. His more recent work with Sweden and Switzerland echoes the utility of these dimensions (Clinard, 1978).

Sweden, which had about 25 percent more population than Switzerland in 1971, was about Switzerland's equal in terms of percent urban, a dimension used in this

thesis. Based on 1971 data 51.3 percent of the Swiss lived in urban places (defined as having a population of 10,000 or more) as compared with a figure in Sweden of 56.5 percent. However, the two countries differed radically in density, the other (and most successful) explanatory variable added to this study. Switzerland, in 1971, had 365 inhabitants per square mile as compared with 44 inhabitants per square mile in Sweden. Based on the results presented in this thesis, it would be expected that the Swiss, with their higher density, would report higher crime rates. Yet, quite the opposite is actually the case. The Swiss enjoy a dramatically lower crime rate than the Swedes. This juxtaposition of expectation and reality is all the more astonishing in light of the fact that in Switzerland in 1971, 17 percent of the population consisted of aliens, as compared with 5 percent in Sweden. The presence of a large number of "outsiders" has long been considered a potential threat to social cohesion. Further, rates for murder, non-negligent manslaughter, and robbery are low, in spite of the ready availability of firearms.

Not only were crime rates lower in Switzerland than in Sweden, in 1971, the rates were either declining or holding constant.

> On a nationwide basis, and for the nineteen predominantly German-speaking cantons, criminal convictions, convictions for crimes against "life

> and body" and offenses against morality remained either fairly constant or declined in the period from 1960 to 1971, depending on the statistical measures used. These trends in convictions contrast sharply with other European countries such as England and Wales, with the exception of crimes against morality (Clinard, 1978:52).

Clinard identifies several differences that may help in understanding the low Swiss crime rates. He notes that the process of urbanization has been a slow one in Switzerland, characterized by decentralized industry and a restricted internal migration (self-imposed, and presumably attributable to linguistic and cultural differences). Thus, the Swiss never experienced a migration to urban centers of any magnitude. This observation can lead to the presumption that rates of urbanization over time can be used as an explanatory variable in relation to crime rates.

Secondly, Clinard observed that no typical slums flourished in Swiss cities. The implication, he argues, is that norms favorable to crime have no adequate soil in which to root. He attributes the scarcity of slum conditions to a high level of citizen responsibility, which creases a corollary development of socially positive norms.

Third, in Switzerland, 60 percent of the population lives in the canton in which they were born. People tend to know their neighbors. The young enjoy stability and

continuity of schooling. The payoff is a perpetuation of the notion of personal responsibility, which serves to strengthen social ties.

Fourth, government in Switzerland is largely decentralized. Each canton contains communes organized to handle the collective needs of its residents. Political, school, religious, and citizen communes focus on the particular needs of the population. Citizens participate in their government with democratic, rather than representative, levels of responsibility, a condition which fosters a faith in mutual help and in the solidarity of the social group. Such a condition may suggest that participation in rendering and maintaining the social rules of one's existence, one's governance, may create a condition of personal involvement that serves to deny (or fail to create) the impulse to crime.

> The Swiss citizen's sense of responsibility and his active participation in community affairs affect his own behavior and that of others, including compliance not only with generally accepted social norms but also with the law (Clinard, 1978:112).

The Swiss sense of responsibility developed in a tradition of direct democratic self-rule may be, in effect, a kind of proactive capable guardian as compared with the reactive kind of capable guardianship posited in the Cohen and Felson model of crime. Capable guardianship in Switzerland is seemingly found in the matrix of social

attitudes engendered in a condition of distributive power. Embedded in this matrix is another consideration:

> The desire to avoid public censure is probably more conducive to conformity than is the fear of police reprimand (Clinard, 1978:112).

Switzerland is a case where, by national policy, political power is distributed widely. This condition is mirrored in the economic realm. Switzerland, while it does have a lower class, enjoys, relatively speaking, a fairly even income distribution. Commenting on the Swiss attitude toward wealth, Clinard comments:

> Generally one is not struck with obvious wealth, and most Swiss seem to believe that the wealthy purposely try to avoid much display of their wealth. Most of them believe that theirs is both a political and economic democracy, one in which pretensions of social class and ostentation play an insignificant role . . . (Clinard, 1978:112).

Switzerland, then, is characterized by many unique, observable social conditions. The population is stable, power is distributed widely, age groups are integrated rather than segregated, and crime rates are low. A key variable may be distributed power. Sweden, characterized by high crime rates, inhibits citizen responsibility for social conditions with a high level of involvement by the federal government in the lives of its inhabitants. Demographic variables strongly associated with crime may be multicolinear in relation to variables summarizing a number of issues raised in the Switzerland/Sweden

comparison: distribution of power, rate of migration over time, rate of urbanization over time, etc.

SIZE OF PLACE

One demographic variable not yet mentioned in this study but possibly pertinent to any explanatory model of crime may be size of place. Social planners may wonder about the pragmatic policy implications that could potentially be teased from strong associations between crime rates and such variables as density or percent urban. How dense is too dense? What percent urban is too great? Size of place may help to delimit the answers to such questions. Does density as associated with varying sizes of places become an even more refined explanatory variable of crime? Could the same questions profitably be raised with regard to percent urban, size of place, and crime rates?

Preliminary to the spate of more recent literature advocating serious consideration of size as a variable, Leopold Kohr (1978) argued that:

> . . . whether we are individuals or groups, once the critical point is reached, we become brutes almost in spite of ourselves (Kohr, 1978:27).

Kohr believed that increasing numbers

> . . . exert an intensifying effect (which, accompanied by) the possession of the critical quantity of power . . . has a detonating effect . . . if critical power is the immediate

> cause of social evil, . . . critical social size, being the breeding ground of critical power, is its ultimate or primary cause (Kohr, 1978:33).

Kohr concludes

> In evaluating the critical size of a society, it is however not sufficient to think only in terms of the size of its population. Its density (correlating population with geographic area), and its velocity (reflecting the extent of its administrative integration and technological progress) may be likewise taken into account (Kohr, 1978:33).

Kohr's work became a principal basis for a later, and more popularly read, treatise on the effects of size (Schumacher, 1973).

Another theorist of size emphasizes the intricate interplay between the structure of society (within which one necessarily views reality) and the ability to assess reality and determine consequents (Greeley, 1977). This sociologist emphasizes the importance of certain natural groupings such as the neighborhood in the quest for balance between interdependence and individuality/ anonymity. Such an emphasis does not stray far from the suggestion of Clinard's study of Sweden/Switzerland discussed above. Greeley's search for the size within which interdependence functions is mirrored in the canton-answer of Switzerland. Distributed power, a concept suggested by the Swiss format of government, may foster both a reality-assessment and an actual life hooked into interrelation and interdependence.

Perhaps the most incisive work about size in recent years is authored by Sale (1980). Among the socially dysfunctional activities he observes in recent years is included the following statistic:

> The number of murders in the U.S. has increased steadily over the last twenty years, up by nearly 60 percent since 1970, with some 20,000 people a year now driven to this ultimate cruelty, giving the U.S. a greater murder rate than any nation on earth, perhaps greater than any nation known to history (Sale, 1980:23).

In his examination of the historical issues addressing optimal size, Sale observes:

> Small cities have as a rule a far higher rate of participation in cultural matters, far greater contributions from all age, race, education, and economic sectors (Sale, 1980: 198).

Quoting Robert Dahl, Sale asserts:

> The larger the place, the less likely the citizen to be involved as an active participant in local political life. The smaller the unit, the greater the opportunity for citizens to participate in the decisions of their government (Sale, 1980:203).

Linking this observation to the Clinard comparison of Switzerland/Sweden, a connection may be firmly hypothesized addressing the relationship between size of place (and the consequent of citizen involvement) and crime rates.

Sale concludes:

> . . . for every harmonious, self-governing human unit there is a size beyond which it ought not to grow (Sale, 1980:482).

He advocates a kind of "harmony through diversion," an idea buttressed by the example of Switzerland, where:

> . . . the guiding principle has always been to provide minority territory rather than go through the endless struggles of minority rights (Sale, 1980:483).

Juxtaposed against this rule by the smaller group is the observation that:

> . . . the state has <u>not</u> controlled or prevented crimes in any society (where . . . the state) has become powerful, particularly nations where it has become most powerful of all. The United States, easily the mightiest in the Western world, has easily the highest crime rate and the greatest prison population (Sale, 1980:483).

What the particular works addressing size cited above suggest is that a profitable area of investigation for further research related to crime rates is the notion of size of population with an eye to identifying optimal size. An ancillary consideration of such an investigation may be that the unit of analysis in such research might not be delineated by the geographic boundaries of the city; instead, the boundaries of a neighborhood may be suitable as a delimiter if certain characteristics of community, such as level of interrelatedness, are assessed. The question may not be completely focused when answered in terms of optimal size; waiting to be assessed is the boundary within which size is to be studied.

Size alone, however, would not become the wonder-variable. Other social characteristics such as the

political and economic distribution of power may need to be addressed. While recent literature suggests the importance of size in the assessment of social matrices, the case of Switzerland/Sweden suggests a more subtle complexity of explanatory and/or associative variables. A fruitful avenue of investigation employing the household activity ratio might be to calculate that statistic in areas of both Sweden and Switzerland, and ascertain whether household activity is a part of a social matrix indicative of (statistically associated with) crime.

CONCLUSION

This study was unable to replicate the promising results from the Cohen and Felson avenue of inquiry--the juxtaposition of daytime household activity and crime rates. A number of explanations could be generated to account for the variation in the two studies.

First, the cross section was limited to counties located within the state of Oregon. On surface, this may seem to limit the study. However, if Cohen and Felson assert an abstract premise across a whole (the United States) without disclaimers, then what holds for the whole, if it is a universal association, ought to hold for the parts.

Cohen and Felson conducted a trend analysis, and this study looked at a cross section of cases within one

year. Trend analysis examines a variable crossed with another variable or variables over time. Cross sectional analysis substitutes a range of places for the time series range of years. This thesis examined 36 cases, the cases being Oregon counties. To establish their trend, Cohen and Felson examined 28 cases in effect, taking each year over the study range (1947-1974) as a case in point.

While certain shortcomings may be ascribed to methodological/statistical limitations, theoretical difficulties may also be present. While crime as a routine activity may be a novel conceptualization in relation to crime literature in general, the household activity ratio may not be an adequate estimator. Not only is the activity ratio limited as to the type of crime it may meaningfully address, it is limited in time scope. Perhaps a household activity ratio calculated for night hours could correlate with crime rates. A nighttime household activity ratio might be more successful in addressing crimes of murder and rape, arenas of dismal performance for the current activity ratio.

Beyond questions of methodology and of the reliability of the estimator, however, lies the issue of crime complexity. A phenomenon such as crime may require an intricate model to explain even half of the variance in

its rates. Certain possibilities as paths for future research have been suggested. Such paths may include rate of urbanization, size of place, distribution of power, and participation in local networks, to name a few.

In summary, this study was unable to replicate the results of the Cohen and Felson research. Further research may be able to shed clarity on the rather shaky results obtained herein and posit other variables such that the variance in crime rates can be more adequately explained.

Such an effort derives importance not just from the pure investigative effort itself; of more pragmatic significance is the arena of policy. The explanatory model of any phenomenon shapes the reaction to that phenomenon. To the extent that a model can explain correctly and with some completeness, appropriate reactions may be formulated. Further research within the ecological framework with broader estimators may prove fruitful in this endeavor.

BIBLIOGRAPHY

Abrahamson, Mark, 1980. Urban Sociology, pp. 187-225, Englewood Cliffs, New Jersey: Prentice Hall, Inc.

Boggs, Sara L., 1965. "Urban Crime Patterns," in American Sociological Review, 30:899-908.

Butler, Edgar W., 1977. The Urban Crisis, Santa Monica, Calif.: Goodyear Publishing Co.

Carr-Hill, R. A. and N. H. Stern, 1979. Crime, the Police, and Criminal Statistics, London: The Academic Press.

Clark, Ramsey, 1970. Crime in America, New York: Simon and Schuster.

Clinard, Marshall B., 1942. "The Process of Urbanization and Criminal Behavior," in American Journal of Sociology, 48:202-213.

_____, 1963. Sociology of Deviant Behavior, New York: Holt, Rinehart and Winston, Inc.

_____, 1978. Cities with Little Crime: The Case of Switzerland, Cambridge: The Cambridge University Press.

Cohen, Albert, 1962. "The Bottom of the Heap: Problems of the Working Class Boy," in Josephson, E. and Josephson, M. (eds.), Man Alone, New York: Dell Publishing Co., pp. 373-387.

Cohen, Lawrence E. and Marcus Felson, 1979. "Social Change and Crime Rate Trends: A Routine Activity Approach," in American Sociological Review, 44: 588-608.

Consumer Reports Buying Guide, 1976. Mt. Vernon, New York: Consumers Union of the United States, Inc.

Cressey, Donald R., 1979. "Fifty Years of Criminology: From Sociological to Political Control," in Pacific Sociological Review, 22, 4:457-480.

Durkheim, Emile, 1964. The Division of Labor in Society, Glencoe, Ill.: The Free Press.

_____, 1966. The Rules of the Sociological Methods, New York: The Free Press.

Federal Bureau of Investigation, 1971. "Uniform Crime Reports," U.S. Department of Justice.

Ferdinand, Theodore N., 1970. "Demographic Shifts and Criminality," in British Journal of Criminology, 10:169-175.

Gordon, Robert A., 1967. "Issues in the Ecological Study of Delinquency," in American Sociological Review, 32:927-944.

Greeley, Andrew M., 1977. No Bigger than Necessary, New York: The New American Library.

Hawley, Amos H., 1950. Human Ecology, New York: The Ronald Press Co.

Hawkins, Richard O., 1973. "Who Called the Cops?: Decisions to Report Criminal Victimization," in Law and Society Review, 7, 3:427-444.

Hindeling, Michael J., 1981. "Variations in Sex-Age-Race Specific Incidence Rates of Offending," in American Sociological Review, 46:461-474.

Hodge, Robert W. and Ricardo Klorman, 1979. "Dynamic Social Indicator Models: Some Problems of Analysis and Interpretation," in Sociology and Social Research, 63:613-648.

Humphries, Drew and Don Wallace, 1980. "Capitalist Accumulation and Urban Crime 1950-1971," in Social Problems, 28:179-193.

Kerlinger, Fred N. and Elazar J. Padhazur, 1973. Multiple Regression in Behavioral Research, New York: Holt, Rinehart and Winston, Inc.

Kohr, Leopold, 1978. The Breakdown of Nations, New York: E. P. Dutton.

Kvalseth, Tarald, 1977. "A Note on the Effects of Population Density and Unemployment in Urban Crime," in Criminology, 15:105-110.

Lyman, Stanford, M., 1978. The Seven Deadly Sins: Society and Evil, New York: St. Martins Press.

Mitford, Jessica, 1971. Kind and Usual Punishment, New York: Random House.

Nettler, Gwynn, 1974. Explaining Crime, New York: McGraw-Hill.

Newman, Oscar, 1973. Defensible Space, New York: Collier Books.

Oregon State Police, 1970. Oregon Crime Report Statistics: 1970, Oregon State Police.

Pyle, Gerald F., 1974. The Spatial Dynamics of Crime, The University of Chicago, Department of Geography, Research Paper #59.

Sale, Kirkpatrick, 1980. Human Scale, New York: Coward, McCann, and Geoghegan.

Schmid, Calvin F., 1960a. "Urban Crime Areas--Part I," in American Sociological Review, 25:527-542.

_____, 1960b. "Urban Crime Areas--Part II," in American Sociological Review, 25:655-678.

Schmid, Calvin F. and Stanton E. Schmid, 1972. Crime in the State of Washington, Olympia, Wash.: Washington State Planning and Community Affairs Agency.

Schumacher, E. F., 1973. Small Is Beautiful, New York: Harper and Row.

Schur, Edwin F., 1971. Labeling Deviant Behavior, New York: Harper and Row.

Smith, M. Dwayne and Robert Nash Parker, 1980. "Types of Homicide and Variation in Regional Rates," in Social Forces, 59:136-147.

Stafford, Mark C., 1980. "Crime Rates in an Ecological Context: Extension of a Proposition," in Social Science Quarterly, 61:653-665.

Sullivan, Richard F., 1973. "The Economics of Crime: An Introduction to the Literature," in Crime and Delinquency, 19:138-149.

Sutherland, Edwin H., 1947. Criminology, Philadelphia: J. B. Lippincott Co.

Sutherland, Edwin H. and Donald R. Cressey, 1974. Criminology, Phiiladelphia: J. B. Lippincott Co.

Swimmer, Gene, 1974. "The Relationship of Police and Crime: Some Methodological and Empirical Results," in Criminology, 12:292-314.

Taylor, Dan, Paul Walton and Jock Young, 1973. The New Criminology: For a Theory of Social Deviance, New York: Harper and Row.

Thies, David, 1974. "Some Thoughts on Alternatives to Scientific Sociology," unpublished paper, Portland State University.

Thio, Alex, 1973. "Class Bias in the Sociology of Deviance," in The American Sociologist, 81:1-12.

Tonnies, Ferdinand, 1957. Community and Society, New York: Harper and Row.

U.S. Bureau of the Census, 1973a. Census of Population: 1970, Characteristics of the Population, Part 39, Oregon, Washington, D.C.: U.S. Government Printing Office.

_____, 1973b. Census of Population: 1970, Characteristics of the Population, Part 1, United States Summary--Section 2, Washington, D.C.: U.S. Government Printing Office.

Wallis, Wilson D., 1927. An Introduction to Sociology, New York: Alfred A. Knopf.

APPENDIX A

CALCULATION OF HOUSEHOLD ACTIVITY RATIO

Household Activity By County	N of single adult households + N households where all adults working / Total N of households	Ratio/	Total N of Households Gen. Char. Table 16	N. Married Women, Husband Present Soc. Char. Table 121	N of Households Not Wife With Husband Present (Col. 1 - 2)*	N Married Women Husband Present in Labor Force Soc. Char. Table 121**	Sum of Columns 4 & 5	Calculated Household Activity Ratio (Col. 5 ÷ 1)
Baker	14,919	2	5,093	3,501	1,592	1,128	2,720	.5341
Benton	53,776	4	15,898	11,204	4,694	4,905	9,599	.6037
Clackamas	166,088	4	51,677	39,735	11,942	15,722	27,664	.5353
Clatsop	28,473	3	10,205	6,724	3,481	2,859	6,340	.6212
Columbia	28,790	3	9,134	7,026	2,108	2,257	4,365	.4779
Coos	56,515	4	18,325	13,871	4,454	4,827	9,281	.5065
Crook	9,985	1	3,366	2,516	850	1,034	1,884	.5597
Curry	13,006	2	4,384	3,266	1,118	1,137	2,255	.5144
Deschutes	30,442	3	10,101	7,517	2,584	3,215	5,799	.5741
Douglas	71,743	4	22,560	17,239	5,321	5,959	11,280	.5000
Gilliam	2,342	1	741	586	155	208	363	.4899
Grant	6,996	1	2,344	1,754	590	595	1,185	.5055
Harney	7,215	1	2,313	1,699	614	747	1,361	.5884
Hood River	13,187	2	4,442	3,249	1,193	1,311	2,504	.5637
Jackson	94,533	4	31,384	22,684	8,700	8,146	16,846	.5368
Jefferson	8,548	1	2,560	2,049	511	956	1,467	.5730
Josephine	35,746	3	12,327	9,172	3,155	2,759	5,914	.4798
Klamath	50,021	3	16,307	11,978	4,329	4,443	8,772	.5379
Lake	6,343	1	2,053	1,531	522	570	1,092	.5319
Lane	213,358	4	68,257	49,735	18,522	19,011	37,533	.5499
Lincoln	25,755	3	9,365	6,701	2,664	2,314	4,978	.5316
Linn	71,914	4	22,657	17,286	5,371	5,742	11,113	.4905
Malheur	23,169	3	6,964	5,285	1,679	1,871	3,550	.5089
Marion	151,309	4	47,963	33,554	14,409	13,502	27,911	.5819
Morrow	4,465	1	1,487	1,063	424	395	819	.5508
Multnomah	556,667	4	199,591	122,769	76,822	50,502	127,324	.6379
Polk	35,349	3	11,212	8,262	2,950	3,199	6,149	.5484
Sherman	2,139	1	751	558	193	150	343	.4567
Tillamook	17,930	2	6,137	4,433	1,704	1,635	3,339	.5441
Umatilla	44,923	3	14,593	10,444	4,149	4,290	8,439	.5783
Union	19,377	2	6,427	4,625	1,802	1,468	3,270	.5088
Wallowa	6,247	1	2,117	1,587	530	619	1,149	.5428
Wasco	20,133	2	6,425	4,677	1,748	1,777	3,525	.5486
Washington	157,920	4	49,173	37,997	11,176	16,416	27,592	.5611
Wheeler	1,849	1	650	472	178	157	335	.5154
Yamhill	40,213	3	12,598	9,367	3,231	3,942	7,173	.5694

*Estimator of non husband/wife households.
**Husband present fem. labor force part.

APPENDIX B

CRIME RATES IN OREGON COUNTIES
1970

Crimes Reported by all Groups
(Seven Offense Group)*

Crime Rates by County	Crimes Reported (Rate - Per 100,000)						
	Murder	Rape	Robbery	Assault	Burglary	Larceny Over $75	Auto Theft
Baker	13.5	13.5	6.7	129.0	536.4	427.7	122.2
Benton		3.7	7.4	16.8	261.8	196.3	65.4
Clackamas	2.4	16.8	21.0	61.8	1020.0	613.2	193.8
Clatsop		3.5	7.1	32.2	379.4	268.5	107.4
Columbia	3.5	10.5	7.0	10.5	154.0	56.0	101.5
Coos		3.6	16.2	50.4	433.8	295.2	79.2
Crook		10.1	10.1	20.3	294.6	101.6	50.8
Curry	15.7	15.7		7.8	102.0	196.2	117.7
Deschutes	10.1		13.5	10.1	290.6	263.6	138.5
Douglas	7.0	23.9	19.7	40.8	568.2	524.5	53.5
Gilliam		45.2		45.2	543.1	407.3	181.0
Grant		28.9		14.4	202.4	332.5	
Harney			14.1	28.3	141.7	255.0	85.0
Hood River		7.7	15.4	69.4	270.2	254.7	69.4
Jackson	2.1	14.9	25.6	63.1	727.6	495.4	158.3
Jefferson	11.6		11.6		650.1	568.8	69.6
Josephine		2.8	14.0	14.0	64.4	75.6	156.8
Klamath	8.2	10.3	32.9	131.8	721.0	506.7	140.0
Lake				16.0	16.0	128.0	176.0
Lane	5.1	22.5	40.8	76.1	1038.7	712.0	168.7
Lincoln	8.0	20.0	20.0	84.2	894.2	693.7	132.3
Linn	1.4	4.3	12.9	28.8	244.8	195.8	138.2
Malheur	8.6	8.6	4.3	17.3	95.4	82.4	73.7
Marion	2.0	15.4	42.8	101.1	994.9	480.3	205.0
Morrow					187.8	211.3	46.9
Multnomah	5.9	31.6	301.8	220.5	2104.4	1145.1	633.7
Polk		16.4	9.8	42.7	384.9	246.7	46.0
Sherman					292.3	487.3	97.4
Tillamook		5.8	5.8	11.6	174.9	180.7	99.1
Umatilla	9.0	6.8	13.6	24.9	463.0	381.3	152.0
Union	5.1	5.1	15.4	25.8	232.2	319.9	67.0
Wallowa				49.5	115.6	33.0	
Wasco		5.1	15.4	30.9	200.8	180.2	149.3
Washington		6.4	21.7	43.5	942.7	511.3	177.2
Wheeler				56.7	56.7	113.5	56.7
Yamhill		5.0	2.5	10.0	383.0	335.1	95.7

*Oregon State Police (1970): Table 4