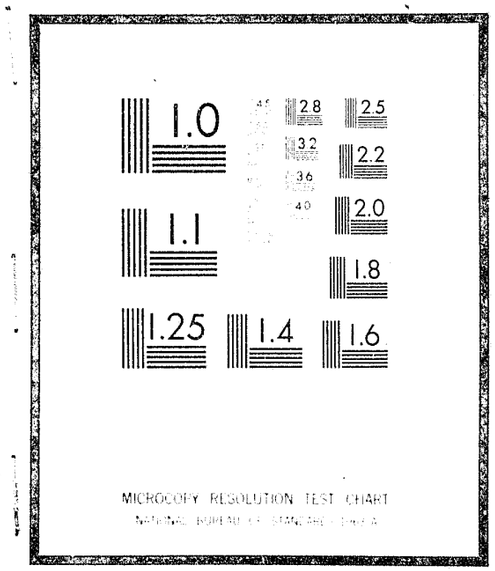
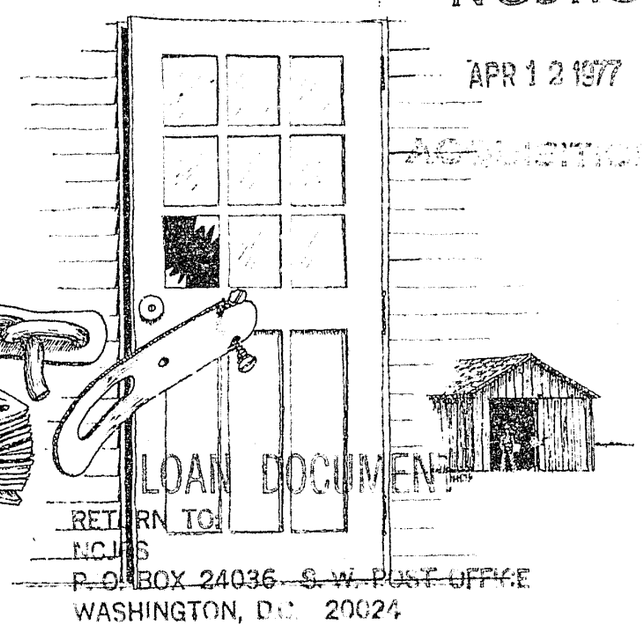


RESEARCH CIRCULAR 224 NOVEMBER 1976

Environmental Factors in Rural Crime

G. HOWARD PHILLIPS, GEORGE M. KREPS,
and CATHY WRIGHT MOODY



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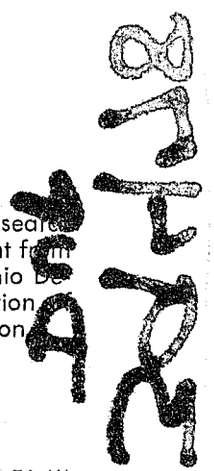

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Environmental Factors in Rural Crime

G. HOWARD PHILLIPS, GEORGE M. KREPS, and CATHY WRIGHT MOODY

SUMMARY OF FINDINGS

The overall purpose of this research was to examine selected environmental factors and their association with incidence of rural crime. Findings include:

— The number of persons living in a household is not associated with whether or not household members will be victims of burglary, theft, or vandalism (property crimes).

— Farmers are not burglarized, subjected to thievery, or vandalized any more or less than nonfarmers who live in rural areas.

— The primary occupations of rural residents are not associated with being victims of property crimes.

— The primary occupation of "housewife" is not associated with being a victim.

— Members of households where the head is 65 or older are not victims of burglary, theft, or vandalism any more or less than members of households where the head is younger.

— Burglary and theft are not associated with the total income of members of a household.

+ Higher income households experienced almost twice as much vandalism as those of middle and lower income.

— Church members do not differ from non-church members in the frequency of being victims of burglary or theft.

+ Church members are more often victims of vandalism than non-church members.

+ There are notable differences in the number of property crimes occurring to members of various church organizations or denominations.

— 80 percent of rural residents said they knew their neighbors moderately well or well. The degree of acquaintance was not related to being a victim of a property crime.

— The distance one lives from his neighbor is not related to whether or not he will be subjected to burglary, theft, or vandalism.

— Visibility of buildings to a neighbor is not related to being a victim of a property crime.

— The distance one lives from the nearest town is not associated with being a victim of a property crime.

— The size of a farm or a residential tract is not related to being a victim of a property crime.

+ Rural residents are less likely to be the victims of theft and vandalism when the dwelling house is the building closest to the public road.

— The location of the barn as the nearest building to the public road is not associated with being the victim of burglary, theft, or vandalism.

+ Rural residents with a non-residential building less than 100 feet from a public road are more likely to be victims of thievery than rural residents whose non-residential buildings are at a greater distance.

— The total number of buildings on a farm or a residential tract is not related to being a victim of burglary, theft, or vandalism.

— Fences utilized on farms and residential tracts do not deter burglaries, thefts, or vandalism.

+ Rural residents who reside on rolling land are more likely to be vandalized than those who live on flat or hilly land.

+ Rural residents who always lock their house when they leave are more likely to be burglarized than those who do not always lock their doors.

— The possession of a watchdog does not lessen the likelihood that one will be victimized by a burglar, thief, or vandal.

+ 76 percent of rural Ohioans feel there should be a gun in the house for protection of the household.

— Whether or not rural residents think they should have a gun for the protection of their households is not related to being a victim of a property crime.

— Most rural residents are not aware if there are regular police patrols by their property.

DISCUSSION AND IMPLICATIONS

A quote from Dinitz and Reckless (3) serves as an appropriate introduction to this discussion: "The most understandable mood into which many Americans have been plunged by crime is one of frustration and bewilderment. For 'crime' is not a single simple phenomenon that can be examined, analyzed and described in one piece."

This exploratory research project was concerned with persons living in the open country of rural Ohio and the environmental factors associated with whether or not they have been victims of a property crime. In general, the results suggest that the ecological factors studied

in this research have limited value in explaining or accounting for variations in property crime occurrences. However, in this type of exploratory research, this is enlightening.

It is also heartening to know that some things people cannot change, or do not wish to change, are not related to property crimes; *e.g.*, size of household, occupation, and age. The elderly in urban areas have been identified as a group who are more likely to be victimized than others in the population. This is not true in rural Ohio.

Another marked difference identified in this study is the degree of acquaintance with one's neighbors between urban and rural residents. Newman found in his New York City study that less than 25 percent of persons living in high-rise apartments felt they knew their neighbors in the four adjoining apartments well enough to ask a small favor (5). This percent increased in low-rise apartment buildings but did not approach the 80 percent in rural Ohio who said they know their neighbors moderately well or well. This may be one of the keys to the low crime rate in rural areas. Newman noted: "Residents feel they have little right to question the presence of strangers near their home. . ." (5).

Rural people in the past have known when a stranger penetrated their neighborhood. With improved transportation, this is increasingly more difficult. This may require rural people to make an extra effort to observe strangers and their behavior. This used to be a normal function but with the increased mobility of people, it is increasingly easier to overlook strangers in rural communities. In the past, when rural people were suspicious of strange happenings on a neighbor's property, they were often reluctant to raise the issue because they would be labeled as "nosey" or "nibby." This attitude may have to be changed if crime is to be reduced in rural neighborhoods.

Many of the physical and spatial aspects of the rural countryside were not related to property crime victimization. The size of the tract in acres, distance one lives from the nearest town, distance from one's neighbors, visibility of one's buildings to the neighbors, the number and condition of buildings, and fencing on one's property are not related to property crimes in rural Ohio. A tentative explanation of these suggests that most properties are accessible to potential property crime perpetrators. However, the only impediment it seems is when the house is located close to the road and other buildings are not easily accessible without the potential of being seen or heard by occupants of the house. In any event, these data seem to suggest that the risk factor to the potential offender is higher when the residence is the nearest building to the public road.

The degree of effectiveness of current protective behavior and devices cannot be evaluated in general terms. However, these data cast doubt on the worth of watchdogs, firearms for protection, and police patrols. None of these were associated with whether or not rural people were victimized by a burglar, thief, or a vandal. In the case of watchdogs, perhaps what people are calling watchdogs are not really dogs trained to guard property but perhaps are only dogs which frequently bark when someone comes near. Many property-oriented criminals are not frightened by barking dogs, especially if they are aware no one is home to hear them.

Much more research needs to be done to grasp the importance of the social and physical environmental factors associated with crime in rural areas. This exploratory study raises more questions than it answers. But it is a beginning. Caution should be exercised in the application of the preliminary findings until additional studies are made to determine their reliability.

INTRODUCTION

Crime known to police in rural Ohio increased by 305 percent from 1965 through 1974 (8). It has been established that less than half of the crimes occurring to rural people are known to law enforcement authorities (8). Thus, the problem of crime is even greater than official records reveal.

Crime in rural areas is not a new phenomenon. However, very little research has been conducted to examine the nature of crime among rural residents. Why is the rate consistently lower than in urban areas? (9). One possible explanation is the environmental differences of the two areas. This research circular is primarily concerned with addressing the question: What factors in the physical and social environment of rural residents are related to burglary, theft, or vandalism? Previous studies in urban communities have examined several variables around this issue. Reference will be made to several of these as they contribute to the purpose of this resarch.

Burglary, theft, and vandalism account for 56 percent of crimes occurring to rural people (8). All three of these crimes are property-related offenses. When reference is made to property crime in this publication, it refers to burglary, theft, and vandalism. All incidents reported in this study occurred on the farms or residential tracts of the respondents.

Studies by Shaw and McKay (11), Lander (4), Bordua (1), and Chilton (2), to name only a few, have attempted to identify ecological factors associated with differential crime rates in urban places. A recent study by Oscar Newman found much evidence to suggest how the physical environment is one of the influencing factors in crime rates (6). This study was influential in establishing hypotheses to be tested in this study. Various dimensions of Newman's work are cited in the text with regards to findings of this exploratory research.

METHODOLOGICAL PROCEDURES

Nine counties were selected on a stratified nonrandom basis to represent the state of Ohio. Three counties were selected in each of three sub-state areas designated as the Appalachia Region, Cornbelt Region, and Industrial Northeast Region. It was desired that the counties selected in each area be adjacent to each other so that patterns extending across county lines might be examined. It was felt that the three counties in each area were representative of the other counties in the region (9). Counties selected were: Appalachia Region: Athens, Hocking, and Perry; Cornbelt Region: Clark, Fayette, and Madison; Industrial Northeast Region: Ashland, Medina, and Wayne. A comparison of population profiles for the rural population of the nine sample counties with the U. S. Bureau of the Census data (1970) for the state revealed little difference. It was concluded that the nine selected counties are representative of the rural population of Ohio.

The sample population for each county was chosen in the following manner. First, ten townships were randomly drawn from all the townships in each of the nine counties previously selected. An intersection of two roads was arbitrarily picked from a map and this became the starting point for a continuous type sample. The interviewers were assigned the direction to proceed and the households to be selected for the interview. Ten families were selected by this method in each sample township. In addition, three additional townships were selected in Clark, two in Wayne, and one in Medina to pick up additional interviews. A total of 889 questionnaires were completed by a personal interview or a drop-off questionnaire. Mathematical adjustments were made in the samples to adjust for different population densities.

RESULTS

The purpose of this research was to examine selected environmental factors relative to their association with burglary, theft, and vandalism occurring in rural Ohio. In this examination, specific socio-economic characteristics were also probed in terms of their impact on more identifiable ecological factors.

Socio-Economic Characteristics of Victims and Non-victims

It was hypothesized that households with four or more members would be victimized less often than households with three or less mem-

TABLE 1.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Number of Persons in the Household, 1975.

Number of Persons in Household	N = 830 Burglary (Percent) Victims	Non-victims	Total	N = 822 Theft (Percent) Victims	Non-victims	Total	N = 823 Vandalism (Percent) Victims	Non-victims	Total
3 or Less	2.9	97.1	100.0	7.1	92.9	100.0	13.8	86.2	100.0
4 or More	4.8	95.2	100.0	7.8	92.2	100.0	15.3	84.7	100.0
Total	3.9	96.1	100.0	7.4	92.6	100.0	14.6	85.4	100.0
	$X^2 > .05$, C = N.S.			$X^2 > .05$, C = N.S.			$X^2 > .05$, C = N.S.		

bers. The rationale of this hypothesis was based upon the notion that households with more members would probably have someone at home for greater periods of time, and this situation would serve as a deterrent to those stealing or vandalizing property. Data presented in Table 1 do not support this hypothesis. Size of the household was not related at a statistically significant level to the number of burglaries, thefts, or vandalistic acts.

The offenses of burglary, theft, and vandalism were examined in terms of the primary occupation of the head of the household. These data were viewed from the perspective of farmers compared to nonfarm rural residents who work primarily off the farm. It was hypothesized that farm residents were more likely to be at home more often than rural nonfarm residents because of the proximity of their work to the residence. It also was believed that the confining nature of certain types of farming tends to keep farmers closer to home than nonfarmers. Information shown in Table 2 suggests farmers are not burglarized or subject to thievery or vandalism any less than nonfarmers who live in rural areas. However, there is a tendency for nonfarmers to be burglarized more often than their farmer neighbors, and to be vandalized less often. While these differences are not significant in this research, the tendency is strong enough to suggest these hypotheses should be further tested.

TABLE 2.—Percent of Rural Ohioans Victims of Burglary, Theft or Vandalism by Occupation of the Head of the Household, 1975.

Occupation	N = 779 Burglary (Percent) Victims	Non-victims	N = 771 Theft (Percent) Victims	Non-victims	N = 772 Vandalism (Percent) Victims	Non-victims
Farmer	1.4	98.6	7.1	92.9	18.1	81.9
Other	4.5	95.5	7.4	92.6	13.9	16.1
Total	4.0	96.0	7.4	92.6	14.6	85.4
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

TABLE 3.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Age Group, 1975.

Age Group	N = 858 Burglary (Percent) Victims	Non-victims	N = 849 Theft (Percent) Victims	Non-victims	N = 849 Vandalism (Percent) Victims	Non-victims
64 and Under	4.2	95.8	7.4	92 6	15.4	84.6
65 and Over	2.4	97.6	6.4	93.6	9.8	90.2
Total	4.0	96 0	7.3	92.7	14.6	85.4
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N S.		$X^2 > .05$, C = N.S.	

It was hypothesized that where the major occupation of the spouse was a housewife, crime rates would be lower because much of the time someone would be at home. These data revealed that whether the spouses identified their primary occupation as houswives or some other occupation, there were no significant differences in the incidence of burglary, theft, or vandalism.

The age of the head of the household was broken down into those 64 and under and those 65 and over. The rationale for viewing these data in this fashion was that most people more than 65 would be retired and thus likely to spend more time at home than those persons who are younger and employed at nonfarm jobs. As may be seen in Table 3, those 65 and over tended to be victimized slightly less than their younger neighbors but not at a statistically significant level. Although this finding was in the direction expected, perhaps travel, illness, visiting, and other diversions account for the elderly being away from home at frequent intervals.

Income as an ecological factor was viewed from the position that higher income people are likely to display their income differential through more costly houses, more expensive equipment, more decorative surroundings, and in numerous ways reveal their income advantage. Therefore, it was hypothesized that higher income people would be burglarized, victimized by thieves, and vandalized more often than medium and lower income people. Further, it was suggested that medium income people would be victimized more often than lower income people. Data are given in Table 4 concerning these hypothesized relationships.

There were no statistically significant differences among income groups relative to the incidence of burglary. However, there was a definite tendency for those with lower income to be burglarized less frequently than the higher income group. Thefts were not statistically related to income levels as shown in Table 4. The lower and upper income groups were exactly the same, with the middle group slightly lower. Vandalism, however, showed a significant difference. The higher income

TABLE 4.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Income, 1975.

Income	N = 693 Burglary (Percent) Victims	Non-victims	N = 687 Theft (Percent) Victims	Non-victims	N = 687 Vandalism (Percent) Victims	Non-victims
Less than $6,000	2.6	97.4	9.6	90.4	12.2	87.8
$6,000-12,000	3.6	96.4	6.3	93.7	12.7	87.3
More than $12,000	4.9	95.1	9.6	90.4	22.5	77.5
Total	3.8	96.2	8.0	92.0	15.4	84.6
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 < .05$, C = N.S.	

group had almost twice as much vandalism as the middle and lower income groups. This raises the question for further research: Are more expensive and better kept properties subject to greater amounts of malicious destruction?

Religious affiliation was examined in terms of behavior which has environmental impact. Religious behavior is usually patterned around the ritualism of a particular church organization. In this regard, it was hypothesized that church members as a group would differ from non-church members as victims of ecologically related crimes in that church members would follow a pattern which would make them more vulnerable to property related crimes. It was further suggested there would be significant differences among members of specific church groups. Findings related to the examination of these hypotheses are

TABLE 5.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Religious Affiliation, 1975.

Religious Affiliation	N = 806 Burglary (Percent) Victims	Non-victims	N = 798 Theft (Percent) Victims	Non-victims	N = 800 Vandalism (Percent) Victims	Non-victims
United Methodist	1.4	98.6	8.8	91.2	16.1	83.9
Catholic	4.8	95.2	1.6	98.4	19.4	80.6
Baptist	5.7	94.3	2.9	97.1	16.2	83.8
Lutheran	10.9	89.1	11.1	88.9	13.0	87.0
United Church of Christ	4.0	96.0	10.2	89.8	18.0	82.0
Presbyterian	8.5	91.5	6.8	93.2	12.1	87.9
Other	3.1	96.9	7.8	92.6	18.1	81.9
Not a Member*	4.0	96.0	8.0	92.0	9.3	90.7
Total	4.1	95.9	7.4	92.6	15.1	84.9

*Chi square is not significant between non-members and the combined church membership on burglary and theft, but is significantly different on vandalism at .05 level.

presented in Table 5. Non-members did not differ significantly from church members on burglary and theft. However, church members were more often victims of vandalism than non-church members.

It is beyond the scope of these data to explain why church members are vandalized more often than non-church members. One can only hypothesize for future research that it may be due to the fact that church members leave their properties unattended for longer periods of time or that the property of church members may attract acts of vandalism as an expression of vandals' frustrations with community norms.

There are also notable differences in the number of property crimes among members of various church organizations. However, these data should be viewed with a degree of caution as the numbers of members reporting for some church organizations were small (United Methodist 204, Catholic 59, Baptist 66, Lutheran 41, United Church of Christ 48, Presbyterian 54, and others 156). The patterns of specific church groups exhibiting an unusual number of incidents of property crimes should be further investigated to determine what accounts for these variations.

Newman found in his study of housing in an urban environment that how well one knew his neghbors was a factor in the rate of crime occurring in a particular housing project (6). Potential criminals are easier to detect in a neighborhood where most people know each other. More than 80 percent of rural residents interviewed said they knew their neighbors moderately well to well. Data in Table 6 reveal that the degree of acquaintance in rural areas does not result in those who know their neighbors less well being burglarized, stolen from, or their property marred or destroyed at a significantly different rate than those who do. This may be due to the fact that only 8 percent said they did not know their neighbors very well.

TABLE 6.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by the Degree of Acquaintance with Their Neighbors, 1975.

Degree of Acquaintance	N = 843 Burglary (Percent) Victims	Non-victims	N = 834 Theft (Percent) Victims	Non-victims	N = 835 Vandalism (Percent) Victims	Non-victims
Well or Moderately Well	3.6	96.4	7.2	92.8	15.0	85.0
Some or Not Very Well	5.2	94.8	7.1	92.9	14.3	85.7
Total	3.9	96.1	7.2	92.8	14.9	85.1
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

TABLE 7.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by the Distance They Lived from Their Nearest Neighbor, 1975.

Distance from Nearest Neighbor	N = 828 Burglary (Percent) Victims	Non-victims	N = 820 Theft (Percent) Victims	Non-victims	N = 821 Vandalism (Percent) Victims	Non-victims
Less than 500 ft.	3.9	96.1	7.2	92.8	14.0	86.0
500 ft.-¼ mi.	3.5	96.5	8.9	91.1	16.6	83.4
¼ mi. and more	4.2	95.8	4.8	95.2	14.6	85.4
Total	3.9	96.1	7.1	92.9	14.9	85.1
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

Spatial Characteristics of Victimization

An examination of previous research provides no insight as to how distance relates to the likelihood or probability that people living at various distances from their neighbors in rural areas will become victims of a property crime. Newman examined the use of space in his urban study and found it to be related to crime rates (5). However, the marked difference in New York City's densely populated housing projects provided little direction for hypothesizing relationships for rural Ohio. It did suggest, however, that spacing is an important consideration in the occurrence of crimes. Table 7 contains data which reveal the distance one lives from his neighbor is not related to whether or not he will be subjected to a property crime.

The problem of isolation and lack of public visibility for rural residences has been raised by those concerned with farm security. Are rural residences secluded from view more likely to be burglarized, a victim of thievery, or to be vandalized? The results of an examination of this issue are given in Table 8. A slightly higher percentage of rural respondents whose homes were not visible to their neighbors reported being the victim of a property crime. However, these differences were

TABLE 8.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Whether or Not Their Buildings Were Visible to a Neighbor, 1975.

Visibility of Buildings	N = 832 Burglary (Percent) Victims	Non-victims	N = 873 Theft (Percent) Victims	Non-victims	N = 824 Vandalism (Percent) Victims	Non-victims
Visible	3.7	96.3	6.4	93.6	14.2	85.8
Not Visible	5.3	94.7	9.8	90.2	18.1	81.0
Total	3.8	96.2	6.8	93.2	14.7	85.3
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$ C = N.S.	

TABLE 9.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Distance from Town, 1975.

Distance from Town (Miles)	N = 858 Burglary (Percent) Victims	Non-victims	N = 849 Theft (Percent) Victims	Non-victims	N = 849 Vandalism (Percent) Victims	Non-victims
4 or Less	4.5	95.5	8.1	91.9	15.0	85.0
5-9	2.9	97.1	6.3	93.7	14.7	85.3
10 and More	4.8	95.2	4.9	95.1	9.5	90.5
Total	4.0	96.0	7.3	92.7	14.6	85.4
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

not statistically significant. Visibility of buildings to a neighbor in this study is not related to whether or not a rural household is likely to be the victim of a property crime.

Another aspect of the distance factor is the distance one resides from the nearest town. The term "town" is used here to represent any incorporated place.

Previous research in rural Ohio found a majority of persons arrested in rural areas are non-residents of the community where the crime was committed. Sixty percent were from towns of 2,500 or more population (9). It was hypothesized that the nearer one lived to town, the greater the likelihood one would become the victim of a property crime. Data presented in Table 9 do not support this hypothesis. No particular patterns could be discerned for burglaries at varying distances from town. However, in the cases of theft and vandalism, it was interesting to note that there was a lineal decrease in the percentage victimized as one lived a greater distance from town. However, the difference was not significant.

The distance of the residential house from the road and whether or not this was related to property crimes was probed in the study. It

TABLE 10.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Whether or Not Their Residence Was the Building Closest to the Public Road, 1975.

House Closest to Road	N = 832 Burglary (Percent) Victims	Non-victims	N = 866 Theft (Percent) Victims	Non-victims	N = 824 Vandalism (Percent) Victims	Non-victims
Yes	3.8	96.2	5.8	94.2	3.5	86.5
No	3.9	96.1	12.5	86.5	20.6	79.4
Total	3.8	96.2	6.9	93.1	14.6	85.4
	$X^2 > .05$, C = N.S.		$X^2 < .05$, C = N.S.		$X^2 < .05$, C = N.S.	

was hypothesized that when the residential house was the closest building to the road, property crimes would be less prevalent than when other buildings were closer to the road than the residence. Data in Table 10 support this hypothesis for thefts and vandalism. That is, theft and vandalism are less likely to occur when the dwelling house is the building closest to the road. This is not true for the crime of burglary. There were no differences in the number of burglaries and house location.

The location of the barn in terms of whether or not it was the closest building to the public road was also examined. It was known from previous research that business or work-related property is often stolen or vandalized (8). It seems logical that unattended buildings such as barns near a public road would be more vulnerable than those less exposed. Data in Table 11 do not support this contention at a statistically significant level. However, in all three property crime areas studied, a higher percentage of crimes occurred where the barn was the closest building to the public road. The uniformity of the direction of this percentage difference strongly suggests this variable should be further examined in future research.

To further examine this issue of building location, information concerning the distance factor of non-residential buildings was sought. Table 12 contains the data collected relative to this point. It is apparent from these data that mixed patterns exist for these property crimes. Both vandalism and burglary do not differ significantly by distance of the nearest non-residential building to the public road. Thievery, however, differs statistically at varying distances. Rural residents with non-residential buildings 100 feet from a road have the highest percentage of thefts, while those with non-residential buildings between 100 and 499 feet have the lowest.

The total number of buildings on the farm or residential tract were considered from the perspective that more buildings suggested greater

TABLE 11.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Whether or Not Their Barn Was the Building Closest to the Road, 1975.

Location of Barn to Road	N = 562* Burglary (Percent) Victims	Non-victims	N = 555* Theft (Percent) Victims	Non-victims	N = 557* Vandalism (Percent) Victims	Non-victims
Barn Closest to Road	5.2	94.8	12.5	87.5	20.8	79.2
Barn Not Closest to Road	2.6	97.4	7.0	93.0	13.7	86.3
Total	3.0	97.0	7.9	92.1	14.9	85.1
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

TABLE 12.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Distance of Nearest Non-residential Building to a Public Road, 1975.

Distance from Road (Feet)	N = 732 Burglary (Percent) Victims	Non-victims	N = 724 Theft (Percent) Victims	Non-victims	N = 725 Vandalism (Percent) Victims	Non-victims
99 or Less	4.1	95.9	10.6	89.4	12.0	88.0
100-499	3.9	96.1	5.4	94.6	16.4	83.6
500 or More	2.8	97.2	9.4	90.6	16.0	84.0
Total	3.8	96.2	7.9	92.1	14.8	85.2
	$X^2 > .05$, C = N.S.		$X^2 < .05$, C = N.S.		$X^2 > .05$, C = N.S.	

prosperity, provided more places for the owner to keep under surveillance, and detection potentially would be easier to avoid for a perpetrator. This reasoning was generated as a result of Newman's work where he found building location, entrances, clustering of buildings, and the number of stories in the buildings to be related to crime rates (5). The findings are reported in Table 13. The total number of buildings on a farm or residential tract is not related to being a victim of burglary, thievery, or vandalism. Although some variation existed for thefts and acts of vandalism, these variations could have occurred by chance.

To further investigate the ecological factor of buildings as they relate to property crimes in rural areas, the overall condition of buildings was explored. It was reasoned that buildings in good or excellent condition would denote successful achievement by the occupants. Achievement would, in turn, suggest valuables worthy of theft. To test these contentions, rural residents were asked to rate their buildings by whether they were in excellent, good, fair, or poor condition. The outcome of this inquiry is reported in Table 14. It is concluded from this data that

TABLE 13.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by the Total Number of Buildings on Farm or Residential Tract, 1975.

Total Number of Buildings	N = 837 Burglary (Percent) Victims	Non-victims	N = 828 Theft (Percent) Victims	Non-victims	N = 829 Vandalism (Percent) Victims	Non-victims
1	4.0	96.0	5.3	94.7	14.0	86.0
2	4.0	96.0	6.9	93.1	12.0	88.0
3	4.3	95.7	10.1	89.9	12.2	87.8
4 or More	3.8	96.2	7.4	92.6	17.0	83.0
Total	3.9	96.1	7.4	92.6	14.6	85.4
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

TABLE 14.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by the Overall Condition of Buildings on the Farm or Residential Tract, 1975.

Condition of Buildings	N = 830 Burglary (Percent) Victims	Non-victims	N = 821 Theft (Percent) Victims	Non-victims	N = 822 Vandalism (Percent) Victims	Non-victims
Excellent	5.5	94.5	9.0	91.0	19.5	80.5
Good	3.0	97.0	5.2	94.8	13.9	86.1
Fair	2.8	97.2	8.0	92.0	12.7	87.3
Poor	9.3	90.7	14.6	85.4	14.3	85.7
Total	3.9	96.1	7.3	92.7	15.0	85.0
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

the likelihood of being a victim of a property crime is not related at a statistically significant level to the overall condition of buildings on the farm or residential tract. However, inspection of these data reveals that there is a tendency for owners of buildings in poor condition to be burglarized or to be the victims of thievery more often than those whose buildings are in fair, good, or excellent condition. In the case of vandalism, those respondents who classified their buildings as being in excellent condition tended to be vandalized more often than those respondents who classified the condition of their buildings otherwise. Although these differences are not significant, the strength of the differences is such that they warrant further research.

Newman observes: "A defensible space is a living residential environment which can be employed by inhabitants for the enhancement of their lives, while providing security for their families, neighbors, and friends." (6) He was referring to urban space where several hundred families live on 1 acre of land or less. How does the reverse situation differ where a half-dozen or fewer people live on several hundred acres? Are they less likely or more likely to be the victims of property crimes

TABLE 15.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Number of Acres in Farm or Residential Tract, 1975.

Number of Acres	N = 858 Burglary (Percent) Victims	Non-victims	N = 849 Theft (Percent) Victims	Non-victims	N = 849 Vandalism (Percent) Victims	Non-victims
10 or Less	4.4	95.6	8.1	91.9	14.2	85.8
11-80	4.1	95.9	8.3	91.7	12.1	87.9
More than 80	2.9	97.1	5.1	94.9	17.0	83.0
Total	4.0	96.0	7.3	92.7	14.6	85.4
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

when they reside on small or large tracts of land? As may be observed in Table 15, the size of a farm or a residential tract is not associated with whether or not one is likely to fall prey to a property-oriented crime. No notable pattern is apparent for the crimes of burglary, theft, or vandalism as they relate to the variable of size.

Oscar Newman, in his book Defensible Space, notes: "Defensible space is a model for residential environments which inhibits crime by creating the physical expression of a social fabric that defends itself. All the different elements which combine to make a defensible space have a common goal . . ." (6). Fences were viewed in this research as one of the mechanisms employed as a defense deterrent by rural residents. Fences are viewed from a number of vantage points. First, on dairy, beef, sheep, and swine farms, they serve the purpose of confining livestock. Second, they often confine pets and small children to a limited area or keep them off a nearby road. Third, they frequently have ornamental value. Finally, fences serve as a physical reminder of the boundaries of a territory which is controlled by the occupants. In the latter sense, they are a physical defense mechanism. Do they deter property crime? Data presented in Table 16 disclosed that ordinary fences utilized on farms and residential tracts do not deter burglaries, thefts, or vandalism. Sixty percent of the respondents reported having their property fenced.

Another dimension of the physical space where people live is the topography or the nature of the surface of the land. For the purpose of this study, the topography of the land was designated as flat, rolling, or hilly. Again, no previous research is known which describes the relationship between property and topographical features of the land. Data in Table 17 reveal that the malicious destruction of property is more likely to occur on rolling land and less likely on hilly land. No other relationship was statistically significant. Before this finding is widely accepted, these data should be examined in terms of regional

TABLE 16.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Whether or Not Their Farm or Residential Tract Is Fenced, 1975.

Property Fenced	N = 838 Burglary (Percent) Victims	Non-victims	N = 829 Theft (Percent) Victims	Non-victims	N = 830 Vandalism (Percent) Victims	Non-victims
Yes	3.2	96.8	8.0	92.0	15.6	84.4
No	5.1	94.9	6.4	93.6	13.3	86.7
Total	3.9	96.1	7.4	92.6	14.7	85.3
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

TABLE 17.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Topography of Land Where They Live, 1975.

Topography of Land	N = 803 Burglary (Percent) Victims	Non-victims	N = 849 Theft (Percent) Victims	Non-victims	N = 795 Vandalism (Percent) Victims	Non-victims
Flat	2.2	97.8	4.8	95.2	14.6	85.4
Rolling	4.7	95.3	7.8	92.2	18.4	81.6
Hilly	5.4	94.6	10.3	89.7	8.9	91.1
Total	3.7	96.3	6.9	.93.1	15.0	85.0
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 < .05$, C = N.S.	

variations. That is, lands classified as flat would be disproportionately less in the Appalachian Region than in the Cornbelt or Industrial Northeast Regions. Other land variations would need to be considered before total confidence could be expressed in these findings.

Precautionary Defense Actions

As noted earlier, Newman wrote: "Defensible space is a model for residential environments which inhibits crime by creating the physical expression of a social fabric that defends itself." (6) A part of the environment and social fabric are the practices and attitudes of the residents toward self-help activities to prevent or deter potential property offenders.

One way residents can prevent or deter property-related crime is to lock up their possessions. It is said that this usually will not prevent the professional thief but will often deter the amateur. Data in Table 18 show that whether or not one locks the residence doors when leaving is not related to being a victim of theft or vandalism. Since vandalism usually is committed on the outside of the residence, this finding is not surprising. Also, since a theft which involved breaking and entering a residence would be classified as burglary, this finding of no difference

TABLE 18.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Whether or Not They Lock Their Doors When Leaving, 1975.

Lock Doors When Leaving	N = 844 Burglary (Percent) Victims	Non-victims	N = 836 Theft (Percent) Victims	Non-victims	N = 837 Vandalism (Percent) Victims	Non-victims
Always	5.1	94.9	6.8	93.2	14.7	85.3
Sometimes, Hardly Ever, Never	2.0	97.9	8.0	92.0	14.9	85.1
Total	3.9	96.1	7.3	92.7	14.8	85.1
	$X^2 < .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

TABLE 19.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Whether They Had a Watchdog, Dog as Pet or No Dog, 1975.

Type of Dog	N = 846 Burglary (Percent) Victims	Non-victims	N = 838 Theft (Percent) Victims	Non-victims	N = 839 Vandalism (Percent) Victims	Non-victims
Watchdog	3.8	96.2	7.5	92.5	15.0	85.0
Pet Only	3.5	96.5	8.4	91.6	15.5	84.5
No Dog	4.5	95.5	5.7	94.3	13.6	86.4
Total	3.9	96.1	7.3	92.7	14.8	85.2
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

is not surprising. However, the finding suggesting that people who always lock their doors when leaving are more likely to be a victim of burglary is initially surprising. Sixty percent reported they always lock their doors. A precise explanation of this finding is not possible from these data. However, one might speculate that those who always lock their doors when leaving are in fact in a higher risk situation than those who still feel that it is not always necessary to lock up when leaving. Additional research is needed to clarify this finding.

Dogs have always been an integral part of the rural scene. Dogs have been utilized by rural residents for a number of purposes, including serving as a watchdog. Slightly more than 79 percent of rural residents reporting had a dog. Of those reporting a dog, 78 percent said they were watchdogs. It was hypothesized that residents with a watchdog would be less likely to be victims of property crimes than those with dogs for pets or no dogs. Data in Table 19 reveal that the possession of a watchdog does not lessen the likelihood that one will be victimized by a burglar, thief, or vandal.

A tradition of long standing in rural areas is the right to own a gun for the protection of one's household. In view of the wide accept-

TABLE 20.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Whether or Not They Thought They Should Have a Gun in the House for Protection, 1975.

Should Have Gun for Protection	N = 837 Burglary (Percent) Victims	Non-victims	N = 820 Theft (Percent) Victims	Non-victims	N = 830 Vandalism (Percent) Victims	Non-victims
Have Gun	3.2	96.8	6.4	93.6	14.2	85.8
Not Have Gun	5.9	94.1	9.4	90.6	16.3	83.7
Total	3.8	96.2	7.1	92.9	14.7	85.3
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

TABLE 21.—Percent of Rural Ohioans Who Were Victims of Burglary, Theft, or Vandalism by Their Perception of the Frequency of Police Patrols by Their Farm or Residential Tract, 1975.

Frequency of Patrols	N = 768 Burglary (Percent) Victims	Non-victims	N = 761 Theft (Percent) Victims	Non-victims	N = 761 Vandalism (Percent) Victims	Non-victims
Weekly or More Often	2.7	97.3	6.2	93.8	16.7	83.3
Never	2.8	97.2	6.3	93.7	11.5	88.5
Don't Know	5.7	94.3	7.3	92.7	14.8	85.2
Total	4.0	96.0	6.7	93.3	14.7	85.3
	$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.		$X^2 > .05$, C = N.S.	

ance of this position among rural Ohioans, it was hypothesized that a rural resident who believed in the right to own a firearm for his protection would be less likely to be a victim of a property crime. As may be seen in Table 20, whether or not one thinks he should have a gun for the protection of his household is not related to being a victim of burglary, theft, or vandalism. However, in each case, the direction was as hypothesized but not at a significant level. Seventy-six percent felt one should have a gun for protection.

A final aspect of the rural ecology as it relates to rural property crime is the residents' perceptions of police patrols through their communities. It was hypothesized that persons who felt their community was being patrolled on a regular basis probably lived in a community where the risk of a property crime was low. Data in Table 21 refute this contention. Whether or not rural residents are victims of a property crime is not related to their perception of the frequency of police patrols by their farm or rural residential tract. Most respondents did not know whether or not there were regular patrols by their residence (43.5 percent). Nearly a fourth (22.9 percent) felt the police never patrolled the area. Patrols on a weekly or more frequent schedule were perceived by 33.6 percent of the respondents.

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END