A RESEARCH STUDY OF HOW PHYSICAL DESIGN

AND SOCIAL FACTORS AFFECT THE

INCIDENCE OF VANDALISM

A Thesis

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by

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To My Mother . . .

      With all my love.

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Three individuals have made very special contributions to my life and to this thesis. I would like to take this opportunity to acknowledge them with love and gratitude.

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Last, but not least, to God, the "Fourth Man" who strengthens me all my life.

less appealability
no leverage

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CHAPTER I

INTRODUCTION

Research has shown that vandalism is related to several design
and social factors. Oscar Newman related vandalism to a set of five to
six physical factors that reinforce criminal behavior. These factors
are as follows:

The projects are usually very large, accommodating
over a thousand families, and consisting of highrise
apartment towers over seven stories in height. The
sites are usually an assembly of what was previously
four to six separate city blocks, amalgamated into
one giant superblock, closed to traffic. The build-
ings are positioned on the site in a free compositional
fashion. The grounds are designed as one continuous
space, moving freely among the buildings and open sur-
rounding streets. In the detailed site design, there
is seldom any attempt at differentiating the grounds
so as to make portions related to a particular build-
ing or cluster of buildings. The buildings themselves
are commonly slab or cruciform towers housing 150 to
500 families and they are generally designed with a
single lobby facing the interior grounds. Finally,
the location of the fire escapes. Sometimes two sets
of stairs are grouped behind the elevators in what is
called a scissors-stair configuration; at other times
they are located at the end of the corridors.[1]

A HUD study that was done contributed vandalism to a set of six

social factors. The factors are as follows:

(1) The lack of social organization, social cohesion,
and informal social control, (2) a lack of proprietary
interest and territoriality among residents, (3) a lack
of adequately trained, culturally sensitive security per-
sonnel, (4) a lack of social services and crisis inter-
vention programs to address social programs of residents,

(5) a lack of supervision and organized activity for youths, and (6) a lack of employment opportunities for residents.[2]

The specific objective of this study is to show that it is not the presence of one or the other set of variables that facilitates vandalism, but it is the presence of both the physical design and social factors.

This objective will be accomplished by administering a questionnaire to a sample of residents from three housing complexes. The purpose of this is to obtain from the tenants their views and perceptions of vandalism, how they perceive their environment on the basis of four of the physical design characteristics and six of the social characteristics discussed above.

The results of this study will attempt to show that it is the presence of both physical design factors and the social factors that facilitate vandalism.

Objective and Subjective Causes of Vandalism

According to social psychologist W. I. Thomas:

Human behavior occurs only under conditions called situations and it is the task of social science to study human situations in terms of both their "objective" and "subjective" aspects. Objective aspects of situations are factors in the situation "common to both the observer and the actor, such as physical environment, relevant social norms, and the behavior of others." Subjective factors are "factors that exist only for the actors, i.e., how they perceive the situation, what it means to them, what their 'definition' of the situation is."[3]

In studying the causes of vandalism it is important to look at the "objective" and "subjective" conditions. The objective conditions allow

study of the physical environment in which vandalism occurs. It permits

the study of relevant social norms, and how vandalism is viewed by peers

and others in the environment. Finally, the study of objective con-

ditions permits the view of the behavior of both the vandal and the

people viewing the vandal, either as victim or bystander. The sub-

jective condition permits the viewing of vandalism from the perspective

of the vandal, i.e., what the act of vandalization means to the perpe-

trator. This study is also concerned with what situations facilitate

vandalism.

Definition

     The noun "vandalism" was reputedly coined in 1794 by
an apologist for the French Revolution who attempted to
cast blame for the destruction of works of art during the
Revolution upon its enemies, likened such destruction to
the behavior of the Vandals and East Germanie tribe, who
sacked Rome in the Fifth Century.[4]

     In a recent effort to define more precisely the content
of such behavior it was suggested that vandalism meant "the
deliberate defacement, mutilation or destruction of private
or public property by a juvenile or group of juveniles not
having immediate or direct ownership in the property so
abused."[5]

Vandalism can be characterized by three defining elements: "1) it is

damage to things that are owned by someone (whether or not they are

perceived to belong to someone), 2) it is damage to other people's

property, 3) it is damage that has to be amended by someone."[6]

     In a study done by John Martin, "vandalism was defined as the

offense 'malicious mischief' specifically the willful destruction,

damage or defacement of property. This usage is in keeping with the

definition of vandalism as a general property destruction offered in

the Corpus Juris Secudum."[7]

In recent years vandalism has become a prevalent occurrence and many court cases are arising because of it. Because of this fact the courts need a definition of vandalism based on the law. Insurance companies also need a definition for their records because they were paying off many claims that were directly related to vandalism.

According to the definition given in Section I (I) of the Criminal Damage Act of 1971:

> A person who without lawful excuse destroys or damages any property belonging to another intending to destroy or damage any such property or being reckless as to whether such property would be destroyed or damaged shall be guilty of an offense.[8]

The definition by John Martin is also:

> . . . in accord with the conclusion of insurance under- writers who, finding vandalism _per se_, unknown as a dis- tinct offense in the law, suggested that property loss from vandalism is covered by policies protecting against "malicious mischief," which is defined generally as the willful or wanton and malicious destruction, damage, or defacement of property.[9]

Trends

Since World War II, vandalism has been on the increase. "Post- war increases in vandalism is to some extent due to the considerable increase in the amounts of public property."[10] According to an article published in _Federal Probation_, "Vandalism, as a type of delinquency, occurs as frequently in everyday life as do other types of misbe- havior."[11] Vandalism occurs all over the world. "The statistics on vandalism are depressing: the number of cases of criminal damage has risen dramatically over the years, reaching over 300,000 in England and Wales in 1978."[12] Vandalism is also on the rise in the United States.

"It has been estimated that vandalism costs in the U.S. in the mid-1970s were over 1 billion dollars."[13] According to the Uniform Crime Report of the Columbus Metropolitan Housing Authority, from January-December of 1980 there were 104 incidences of vandalism in the eighteen Public Housing Projects of Columbus, Ohio.[14]

"Vandalism tends to occur just at the times of day when and in the places where the chances of its perpetrators being caught are minimal."[15] This is also the case for the incidences of vandalism that occur at night. "Vandalism has been shown to peak in accord with the seasonal variations, the greatest incidence was recorded in early Spring and late Fall."[16] Most vandalism is conducted by boys; this point and other sexual characteristics will be discussed later. When the decrease in vandalism is discussed it is usually in relation to the age of the boys.

> The crime rate for boys in the late teens in general is
> beginning to fall off, and vandalism is no exception. By
> now, most boys are becoming distinctly interested in girls,
> some marry; and there are the demands of jobs. In other
> words, they find more areas of responsibility, and there
> is more to lose by departing from conventional standards
> of conduct and having to suffer any official consequences.[17]

Most cases of vandalism go unreported. According to Robin Griffith:

> It is, however, right to acknowledge at the outset
> that a great deal of such activity may not even be
> reported to the police, let alone recorded, so that
> official statistics of criminal damage fall far short
> of a full representation of the loss sustained by the
> community as a whole.[18]

It is not without significance that vandalism is one of the safest and most anonymous of offenses. Rarely is there a personal complaint (since public property is such a ready target) and the offender does not have to carry away or dispose of property.[19]

Summary

In Chapter I the physical and social factors that contribute to vandalism have been discussed, along with the objectives and causes of vandalism. The definition of vandalism, over the years, has been discussed in various ways. Finally, the trends of vandalism have been discussed from where the crime is perpetrated to who perpetrates the crime.

CHAPTER II

REVIEW OF THE LITERATURE

Typology

There are many types of vandalism that have been discussed in
literature. It is important to discuss the different types of vandalism
because it holds the key as to why individuals vandalize their own
environment--their own environment being their housing. Stanley Cohen
has formed six categories of vandalism which form a typology based on
the personal significance of the act to the individual who commits it:

1. Acquisitive Vandalism. The damage is done in the course of
    or in order to acquire money or property

2. Tactical Vandalism. The damage is a conscious tactic used
    to advance some end other than acquiring money or property

3. Vindictive Vandalism. The use of property destruction as a
    form of revenge is an extremely important sub-type of van-
    dalism. . . . It is, of course, true that most vindictive
    vandalism is rational and utilitarian only in the sense of
    providing for the actor the satisfaction of knowing that he
    obtained revenge and his victim has been discomforted. It
    is non-rational and non-utilitarian in the sense that only
    in rare cases will the victim be moved to change his posi-
    tion because of vandalism

4. Play Vandalism. Property is destroyed in the course of play

5. Malicious Vandalism. Damage [is] done to property as a part
    of an expression of frustration or rage

6. Ideological Vandalism. Involves a clear ideological component
    if only in the sense that it allows itself moral justifications
    and appeals to an explicit and articulated set of beliefs[20]

There are several other types of vandalism that the literature

has mentioned that further illustrate the wide range of vandalism that

exists. In <u>Wanton Vandalism</u>:

> Property destruction of this type occurs for diverse
> reasons in a wide range of situations. In no case, however,
> does it appear to be oriented chiefly toward obtaining "scarce
> goods" as in Predatory Vandalism (Acquisitive Vandalism), nor
> does it seem to be essentially "vindictive" destruction dir-
> ected against the property of special persons or groups.
> Instead, the identity of the individuals or groups owning or
> controlling the property destroyed seems entirely irrelevant.
> Almost any kind of property can be destroyed or damaged in
> the course of Wanton Vandalism. At one extreme, destruction
> of this type may occur simply as part of the play activity of
> children, particularly relatively young children. At the
> other it appears to be spontaneous and wild destruction by
> individuals who are "mad at the world" or by the groups of
> marauding youths who are in open conflict with the community.[21]

This sort of vandalism appears to be the kind that plagues housing

complexes, especially from the aspect of open conflict with the com-

munity. In the case of vandalism in public housing, it is open con-

flict with the physical and social environment.

> In contrast with the "playful" destruction of property,
> some wanton vandalism appears to be a kind of violent pro-
> test against the world by angry and perhaps frustrated
> individuals or by groups of marauding adolescents and youths
> who, seemingly committed to an ethnic of "toughness," are
> waging "war" on the community at large.[22]

There is another type of vandalism that may be a key factor as

to the cause of vandalism in public housing. This type of vandalism

is called Erosive Vandalism. Erosive vandalism consists of "tiny acts

of destruction that in themselves are not very damaging or costly or

shocking, but when combined are in effect wearing away this nation's

natural and man-made resources."[23] When we think of why individuals

would destroy their own environment, our first impression is to feel

that they have a "no-care" attitude about their surroundings. But the
question is, Why do individuals have this attitude? "On an abstract
level, the depersonalization of our environment is held to blame."[24]
Architects design and we build highrise or townhouse housing complexes
with surroundings that look like the grounds of prisons. The environ-
ment lacks trees, shrubs, a human quality that makes man feel that he
has control of his environment. Arnold Kazmier, in a September 1969
article in The Village Voice, noted that "the land and the people are
now permanently separated."[25] So, it has been found that:

> If the land and the people are truly separated then
> it is no wonder that young people and adults alike feel
> no reticence about disfiguring or destroying the land.
> It is not their land. Its beauty means nothing to them
> other than a passing view.[26]

When people feel that an environment does not belong to them, if they
feel that they have no say in their environment, they will destroy it.

Characteristics

There are several characteristics that are distinctive of van-
dals. As a result of a study conducted by John Martin, it was found
that "while other delinquents were predominantly boys, the vandals were
almost exclusively boys."[27]

> Other studies also indicate that vandalism as a sub-type
> in delinquency is almost entirely the behavior of boys.
> Herman Mannheim, for example, found that of 6,125 delinquents
> under twenty-one years of age dealt with by the magistrate
> courts in Great Britain in 1952 for malicious damage to pro-
> perty, 96.3 per cent were boys. Similar results were obtained
> in Denver, Colorado. Of a sample of 122 vandals, ten to
> sixteen years of age, drawn from the records of the Juvenile
> Bureau of the Denver Police Department for the period 1944 to
> early 1954, 93.4 per cent were boys.[18]

In the same study conducted by Martin, it was found that the "mean age for the 287 vandals that he studied was 12.94 years. The mean age for the 6,776 other delinquents that he studied was 14.46 years, or 1.52 years more than the mean age of the vandals."[29] "Thus, (in Martin's study) while the majority of both the vandals and the other delinquents were adolescents, substantially more of the vandals were preadolescents, while substantially fewer of them were fifteen or more years of age."[30]

When one thinks of vandalism and vandals, it is sometimes common to stereotype vandals as being from urban slums, but research that has been done is to the contrary. John Martin, in his study, found that:

> Although the ethnic distribution of the vandals paral-
> leled the ethnic distribution of the other delinquents at
> the .05 level of significance, a higher proportion of the
> vandals were white (67.8 per cent to 62.3 per cent); a
> lower proportion were non-white (16.8 per cent to 23.7 per
> cent); while a slightly higher proportion were Puerto
> Rican (15.4 per cent to 14.0 per cent).[31]

These results would be very different depending on the sample. If the sample was a predominantly black housing complex, as in the likelihood of this study, then there would be no other ethnic groups with which to compare them.

Family Factors

When we study vandalism, it is important to view the families from which these children emerge. Martin's study suggested that, "the families of vandals may be characterized by more parent-child conflict and hostility than the families of other delinquents."[32] The comparison of the children Martin studied and the delinquents studied by Sheldon and Eleanor Glueck in Unraveling Juvenile Delinquency, indicated

that, "the families of vandals may be much less mobile than the families of other delinquents."[33] These findings suggest that vandalism may be a result of the child, or in some cases of adults, feeling entrapment in his or her environment. The act of vandalism may be a means of rebelling or fighting back at the environment (wanton vandalism).

When doing research on vandalism in housing complexes and housing for the low and moderate income individuals, it is necessary to know who commits these acts and their motivation. There are several reasons as to why children, and eventually adults, vandalize. The research stresses children and vandalism. The research conducted for the purposes of this study was on children and adults who vandalize. To understand the adult vandal it is necessary to understand the child vandal because both live in the same environment. "The overwhelming majority of acts of vandalism are committed by the young and many of these by the very young."[34]

Causes of Vandalism

A possible reason as to why children vandalize is because "children as a group generally have less property and fewer responsibilities than adults, and possibly for this reason are more prone to be vandals."[35] Then the question arises, Why do adults vandalize? A possible answer to this question, especially when the adults are poor and live in a poor environment, is the very reason why children vandalize.

The adults may lack property because they cannot afford it. They may have fewer responsibilities either because of unemployment

or they feel they are of little consequence to their family, environ-

ment, etc. It has been found that:

> Non-achievers at school, children from very poor back-
> grounds, from broken homes, or from environments with little
> provision of play space and leisure activities--the groups
> that criminological literature commonly associates with
> high delinquency rates--are more likely to be deprived of
> any feeling of being of consequence or of having the welfare
> of an object or project dependent on them. They are less
> likely to develop an attitude of care for things because
> they have not experienced feelings of cherishing something
> of their own.[36]

Zimbardo's sociopsychological research on vandalism motivation has

suggested that:

> Stimuli in particular environments may combine with
> feelings of anonymity to produce destructive behavioral
> outcomes. Vandals, in some sense, can be viewed as
> social "outsiders" who perceive themselves as marginal
> within their social community or within certain insti-
> tutional contexts. It is the destructive act which
> speaks for their existence.[37]

The roots of vandalism derive from the simple act of play.

"Vandalism as play often takes the form of a game of skill. As such,

either the quantity or quality of the destruction is stressed."[38]

Vandalism then develops in the situation that the child or adult is in.

In the case of vandalism in housing complexes, vandalism becomes a

result or a reaction to the physical design and the social environment.

It is interesting to note that there are some instances in which

vandalism will not take place. This has an important effect on why some

housing complexes are not vandalized. "People tend to respect an envi-

ronment which is attractive and well maintained."[39] "It is also

noticeable that decorative items that provide a focus and talking point

for a community are rarely vandalized."[40] Because of this realization,

many cities started decorating fire hydrants and painting large murals

on the sides of buildings in urban areas. It has been discovered,

through investigation, that a house can stay vacant in a neighborhood

for years but as soon as one window is broken--within a matter of

days--the whole house is vandalized. This process has also been noticed

in housing complexes. Elevators are notorious places for vandalism in

highrise housing complexes. It was noticed that when an elevator in the

complex studied was not damaged, it was not vandalized. As soon as

maintenance men came in to do repairs and put cardboard on the walls

to work, the elevator began to be vandalized. When individuals feel

that people do not care about their environment, they also lose respect

for their environment.

Design Factors in Housing

A major cause of vandalism in housing complexes is the design of

the buildings and the open space that surrounds them. According to

Oscar Newman, there are six physical characteristics that reinforce

criminal behavior:

1. Projects are usually very large

2. Sites are an assembly of what was four to six separate city
   blocks, amalgamated into one superblock, closed to traffic

3. Buildings are positioned on the site in a free compositional
   fashion. The grounds are designed as one continuous space,
   moving freely amoung the buildings and open to the surrounding
   streets

4. In detailed site design, there is seldom any attempt at differ-
   entiating the grounds so as to make portions relate to a par-
   ticular building or cluster of buildings

5. Buildings are commonly slab or cruciform towers, housing
    150 to 500 families and they are designed with a single
    lobby facing the interior grounds

6. Two to four sets of fire escapes are furnished to provide
    sufficient exits[41]

It is obvious that the larger the complex the more crime there

would be, and the increase in the incidence of vandalism is no excep-

tion. As cities across the nation increase in size and population, the

crime rate also increases. "When a two way analysis of variance was

formed on project size and building type, the projects that were 1,000

units in size showed significantly lower crime rates than buildings

over 1,000 units."[42] In the same study it was found that the taller

the building the higher the incidence of crime. In this study, done

by Oscar Newman, "Projects were divided into two groups, those with

buildings six stories or less and those seven stories or greater. In

addition, these projects were also divided by size, those under 1,000

units and those greater than 1,000 units."[43] It was found that:

> Projects greater than 1,000 units and with buildings of
> seven or more stories have the highest rate, indicating that
> it is not only large size but large size in combination with
> higher buildings, which contributes to a more criminally
> active situation. It seems that one can still maintain high
> density (size) and not encounter higher crime rates as long
> as building height remains low.[44]

Eventually architects, designers, and planners realized that it was not

wise to place families with children in these highrise apartments, as

in the case of Sawyer Tower in Columbus, Ohio. It used to house fam-

ilies with children until it was converted to housing for senior

citizens. The incidence of vandalism is still high in the tower, eight

incidences from January to December of 1980, but this could be due to

social factors that influence vandalism, which will be discussed later.

Oscar Newman is most noted for his views on design of physical structures and the impacts that they have on the people who live there. He defines a term called defensible space as:

> 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--an environment in which latest territoriality and sense of community in the inhabitants can be translated into responsibility for ensuring a safe, productive and well-maintained living space.[45]

According to Oscar Newman, an area achieves defensible space when "residents can easily perceive and control all activity taking place within the environment."[46] Newman did a study using two complexes, Brownsville and Van Dyke, which were different in physical design but similar in population size and social characteristics. Newman wanted to see the result of physical design on the crime rate in the two complexes. The Van Dyke house looked like other large complexes. "The most dominant buildings are the thirteen fourteen-story slab buildings. In less evidence are the nine three-story structures."[47] "In contrast, Brownsville houses present the appearance of being a smaller project due to the disposition of units in smaller and more diverse clusters of buildings."[48]

> Crime and vandalism are major problems at both Van Dyke and Brownsville houses. The problem has become serious over the past ten years, with the decline of the old Brooklyn community and the failure to create renewal opportunities.[49]

One of the conclusions that Oscar Newman found in his study was that, probably due to physical design, Van Dyke had 50 percent more

total crimes than Brownsville. The incidence of vandalism, which Newman refers to as malicious mischief, in Van Dyke was fifty-two compared to Brownsville, which only had twenty-eight cases. "In summary, according to Newman, it seems unmistakable that physical design plays a very significant role in crime rate."[50]

Finally, a study conducted by Clinard and Wade concluded that:

On the basis of Children's Bureau statistics and studies in various localities, that far more boys than girls are also involved in vandalism. However, they found that the present evidence is in disagreement as to whether pre-adolescents or adolescents are more typically involved in such destruction. They also found that evidence regarding the social class affiliation of vandals is conflicting and fragmentary. Furthermore, they suggested that although some vandalism may be related to racial, ethnic or religious prejudice, it is unlikely that the offense is more typical of a certain racial or ethnic group than others.[51]

Design plays a very important part in whether or not vandalism will occur. If the design of a housing complex is made to look sterile with concrete townhouse apartments and highrise towers, a lack of trees and any influence of landscape architecture, no play areas for children and the tenants are made to feel that they have no say in their environment and that they do not have a common area which is their own, there will be vandalism. "However sociologists, architects, and planners are recognizing that the built environment is merely one of the factors which influence the way in which people use or abuse their surroundings. It cannot be considered in isolation."[52] There are social factors that influence whether vandalism will or will not take place in housing complexes.

Social Factors

There are six main social factors that facilitate crime in housing complexes. There may be others, but the six social factors that were considered in this research are as follows:

1. Lack of social organization, social cohesion, and informal social control

2. Lack of proprietary interest and territoriality among residents

3. Lack of adequately trained, culturally sensitive security personnel

4. Lack of social services and crisis intervention programs to address social problems of residents

5. Lack of supervision and organized activity for youth

6. Lack of employment opportunities for residents[53]

The social factor most often cited as contributing to the crime problem in and around public housing is the lack of social organization, social cohesion, and informal social controls on the part of the residents. We operationally define social organization by the amount of group activity in which public housing residents participate, the exist- ence of recognized leaders among the residents, the amount of informal interaction and the existence of alienation, distrust and anomic. Social cohesion can be operationally defined as the number and intensity of friendships among residents, the real and perceived levels of actual and potential helping behavior, and the level of social isolation felt by residents. Informal social controls are behavior inducing roles, norms and enforcement mechanisms that are developed and carried out on an ad hoc basis among residents.[54]

Much of the research and literature that has been conducted and written has found that many public housing complexes have very little social organization, social cohesion, and informal social controls. Brill (1974-1978) conducted studies in eleven public housing complexes and found:

Social relations in such a project are marked by
distrust. Few people dare to rely on one another.
The social posture of the residents is basically defen-
sive and insular. There is a good chance that many
residents feel alienated from the larger society as
well as from each other. This same feeling often
extends to the housing authority, the local public
agency that is responsible for managing the project.
In many cases, housing authorities have not been able
to involve tenants sufficiently in the management
process and discontentment is likely to exist among
residents over this issue, as well as over the general
quality of management services being delivered by the
authority. Residents frequently feel, and with good
reason, that housing services, for example, maintenance,
are inadequate; and they see their deficiencies as one
more sign of their social isolation and neglect.[55]

The point that Brill made about housing authorities not

involving the tenants in the decision-making process is important.

When tenants feel that they are not a part of what is going on in

their environment, they begin to lose interest in the care of their

environment altogether.

At present, attitudes of care and pride on the part of
tenants are often expected to flourish in the barren wastes
of public decks and pathways, the cleaning, repair and use
of which are quite beyond the control of any one resident.
Such attitudes are also expected in response to well-
meaning improvements made by housing departments who think
they are doing things for tenants, when what tenants
actually see are things being done to them.[56]

A good example of this point is the result of a study conducted

by Oscar Newman. Newman found that tenants who were consulted and

involved in their environment took better care of it while the tenants

in another project, who had maintenance work and other things done for

them, proceeded to destroy what had been done.

The second social factor that contributes to crime in public

housing is a lack of feeling of proprietary interest or "territoriality"

among individual residents.

Proprietary interest can be best defined as the attitude
held by individual residents that each has a "stake" in the
environment, identifies with it, and is willing to make a
personal investment in order to improve the quality of his/her
life there. Territoriality is an attitude whereby residents
desire a sense of control over their environment. Residents
that have territorial attitudes are willing to contribute to
the establishment of community norms and standards and
exercise control over non-residents and those who are involved
in anti-social behavior.[57]

The strategies suggested to promote proprietary interest
and territoriality among individual residents included both
socially oriented strategies and physical design changes.
Physical strategies include, for example, the clustering of
dwelling units to reduce the number of persons sharing a
common entranceway--access control. These socially oriented
strategies suggested to enhance attitudes, such as territori-
ality and proprietary interest, include all of those suggested
above to improve social organizations, social cohesion, and
informal social control. In addition, they include employment
and the provision of organized activities for youth. Rosenthal
(1974) suggests "a community promenade," where residents of an
area get to know each other simply by knocking on doors and
introducing themselves.[58]

Some of these socially oriented strategies and physical design

concepts have been included in a housing complex that was privately

funded in Columbus, Ohio, called the Mt. Vernon Plaza. Using the physi-

cal strategies, the designers made cul-de-sacs so that all the dwelling

units on a particular street shared a common area and common open space.

In the socially oriented strategies the plaza has developed youth pro-

grams, such as football. They also have a common area called the

"focal point" where the residents can meet for cultural events, con-

certs, and sporting events. "These social strategies that promote a

sense of territoriality, therefore, can be expected to reduce the fear

of crime significantly."[59] The social as well as physical strategies

can also reduce vandalism in that the youth and adults feel that their

environment belongs to them and, because of the programs that are devel-

oped, they feel that someone cares about their needs. This makes an

individual care about himself.

The third social factor that contributes to crime and vandalism

in public housing complexes is a lack of adequately trained, culturally

sensitive security personnel.

> Many of the papers presented at the NAHRO/HUD Anti-Crime
> Conference stated that the local public housing authority had
> an insufficient number of security personnel to patrol high
> crime residential complexes on a 24-hour basis.[60]

When areas, especially those of high crime, go unpatrolled, it is

inevitable that a high amount of crime, especially vandalism, will take

place. Since vandalism takes place where people are not around or when

the vandal(s) cannot get caught, vandalism will of course be high.

> An additional issue that has been raised in literature
> is the need for security personnel to be culturally sensitive
> to the needs of the population they are attempting to serve
> (President's Commission on Law Enforcement and the Admintra-
> tion of Justice, 1967; Rosenthal, 1974-1978; Wilson, 1975).
> The literature and the papers presented at the NAHRO/HUD
> Anti-Crime Conference suggest that security personnel who
> are neither capable nor willing to communicate with resi-
> dents on a helpful social basis, as well as in the tradi-
> tional law enforcement officer role, will not be trusted
> by residents nor will they be successful in dealing with
> the problems of crime and the fear of crime among public
> housing residents. There is some discussion (though little
> empirical evidence) in the literature and in the NAHRO/HUD
> papers of the hypothesis that the effectiveness of security
> personnel in part depends on the helping behavior and
> cultural sensitivity displayed in the course of duty.[61]

The fourth social factor that contributes to crime and vandalism

in public housing is the lack of social service programs to address

social service problems of residents. In dealing with this deficit

Brill suggests that:

> Reorienting and expanding social services in public
> housing and training local residents to provide needed
> social services, including crisis intervention programs,
> would: (1) improve the social structure of the residents,
> (2) aid them in alleviating social needs, (3) reduce their
> vulnerability to crime, and (4) over a period of time
> reduce crime itself. Providing additional and more indi-
> vidualized social services as a means of addressing resident
> social problems has been shown by Brill to be a serious
> concern of public housing residents.[62]

"Teitz (1975) has shown that low levels of vandalism in multi-family

housing are associated with high availability of services for teen-

agers."[63]

The fifth social factor that contributes to crime and vandalism

in public housing is the lack of supervision and organized activity for

youths. "The literature and the participants at the AIR Conference on

Crime and Public Housing stated that the combination of one-parent fam-

ilies and large numbers of children contributes significantly to youth-

related crime problems."[64] These youth-related crime problems include

vandalism. "Gold, 1963; Nye, 1958; and several other authors feel that

the lack of supervision and organized activity for youth in public

housing has been a contributing social factor to the youth crime

problem."[65]

The sixth social factor contributing to crime and vandalism in

public housing is a lack of employment opportunities for residents.

National aggregate data are not available to show the percentage of

residents that have unsubsidized jobs. "Statistics collected from the

papers prepared for the NAHRO/HUD Conference show that in three public

housing complexes in Los Angeles County, only 9 percent, 23 percent,

and 25 percent of the residents had full-time unsubsidized employment."[66] There is evidence which verifies that there is a relationship between unemployment and the level of crime that exists. "Brenner (1976) has shown a positive correlation between property crime, delinquency, homicide and the unemployment rate."[67] When people are unemployed they begin to feel helpless and angry at the circumstances and environment that have placed them in this predicament. The vandalism that usually takes place is wanton vandalism.

When we look at vandalism--its causes, who participates, the different types of vandalism that occur--we cannot only look at the physical design of a housing complex that might facilitate the act of vandalism, but we must also look at the six social factors which were previously discussed. It is only when we look at the two phenomena, the physical factors and the social factors, that we will be able to prevent vandalism.

Additional Research Findings

Besides the literature viewed in this study in relation to the different aspects of vandalism and the typology, other research studies have been conducted.

"Zimbardo, along with Stanley Cohen, believes that most acts of vandalism make good sense to the perpetrator of the vandalistic act."[68] If acts of vandalism are viewed from the perspective of the person committing the act, "then a much more sensible picture might emerge, even though the person committing the act may not be consciously aware of why

he is doing a particular act of vandalism. Indeed, the actor may not even see his or her act as one of vandalism in the first place."[69]

Another factor Zimbardo has reported on is the anonymity of the offender in vandalism. In one study, Zimbardo studied the attacks on parked cars. One experiment was conducted in New York and the other was conducted in Palo Alto, California. The cars were observed for twenty-four hours. The New York area was highly urbanized, while the Palo Alto site was suburbanized. Zimbardo found that the abandoned car in New York was completely stripped and vandalized, while the car in Palo Alto went untouched. Zimbardo contributes these findings to the anonymity that flourishes in New York. "When this anonymity is coupled with 'releaser cues,' such as no license tag and an open hood, the probability of a vandalistic act taking place is apparently increased."[70]

Zimbardo's study has interesting repercussions to vandalism in public housing. If anonymity exists in public housing and there are "releaser cues" such as broken windows and the beginnings of decay in the complex, vandalism is the inevitable result.

Shenna Wilson, in a study, examined fifty-two housing estates in two London boroughs. She suggested that:

> The design of buildings does not affect overall levels
> of vandalism. Tower blocks, in particular, are no more
> susceptible to vandalism than other types of buildings.
> However, her survey does suggest that different types of
> buildings encourage different types of vandalism. In
> large buildings where access routes were very public and
> people could come and go unchallenged, communal areas
> were heavily vandalised. In tower blocks damage was con-
> centrated around entranceways which, again, were public
> enough to act as through routes for all and sundry. One
> design solution is to make entrances less inviting to
> outsiders and thereby build a sense of privacy for
> insiders.[71]

Summary

Chapter II has provided a comprehensive review of some of the existing literature regarding vandalism. Emphasis in this chapter was placed on the typology of vandalism, the characteristics of the vandal, the family factors of the vandal, and the potential causes of vandalism. The design factors that exist in housing complexes, and their influence on crime and vandalism, were also explored. The social factors that influence crime and vandalism were discussed. Finally, additional research findings that address the problem of vandalism were dealt with.

CHAPTER III

METHODOLOGY

The present study tested the presence of vandalism in three
housing complexes with incidences of low, moderate, and high rates of
vandalism in Columbus, Ohio, with two sets of variables. These two sets
of variables are the presence of four physical design characteristics
that facilitate vandalism, and the presence of six social factors that
are discussed in the HUD study. (See page 17.)

The term "low and moderate income housing complex" is defined
here as any housing structure of public or private ownership that spe-
cifically makes provisions to rent to low and moderate income individ-
uals and which is subsidized by the federal government or whose tenants
are subsidized by the federal government. In Columbus there are several
agencies and private developers that provide for low and moderate income
individuals to obtain housing in these complexes.

The three housing complexes studied were: Sullivant Gardens,
Bonnie Ridge, and Mt. Vernon Plaza. Sullivant Gardens has the highest
rate of vandalism, Bonnie Ridge has a moderate rate of vandalism, and
Mt. Vernon Plaza has the lowest rate of vandalism. The vandalism rates
for each of these complexes are presented in Appendix A. Sullivant
Gardens and Bonnie Ridge are both part of the Columbus Metropolitan
Housing Authority. Mt. Vernon Plaza was built by, and is a part of,

the Neighborhood Development Corporation, a private developer. These
rates of low, moderate, and high vandalism were chosen by reviewing the
incidence of vandalism for all of the housing complexes run by the
Columbus Metropolitan Housing Authority, and obtaining the highest rate
and the median rate. The complexes in Appendix A, Bonnie Ridge and
Sullivant Gardens, represent the average rate for moderate and high
vandalism found throughout the housing authority. The two sets of var-
iables studied were four physical design characteristics of the housing
complexes and the presence of six social factors.

The physical design factors investigated in this study were:
(1) the height of the building, (2) the size of the building, which
included the number of units there were, (3) the size, and (4) the
actual physical characteristics of each of the three housing complexes.
It has been documented that the height of a building has a direct
effect on the incidence of vandalism. (See page 14.) The size and
number of units also have an effect on vandalism in public housing.
Units with less than a thousand units have a lower rate of vandalism
than those complexes with a thousand units or more. (See page 14.)
The physical design characteristics were measured by an on-site check-
list of the physical characteristics. (See Appendix D.)

The HUD report (as indicated on page 17) stated that there are
six social factors that exist in public housing that contribute to van-
dalism. These are as follows:

1. Lack of social organization, social cohesion, and
   informal social control

2. Lack of proprietary interest and territoriality
   among residents

3. Lack of adequately trained, culturally sensitive security personnel

4. Lack of social services and crisis intervention programs to address social problems of residents

5. Lack of supervision and organized activity for youth

6. Lack of employment opportunities for residents[72]

The social questions were tested by an on-site questionnaire of tenants. (See Appendix C.) The questions were based on the six social factors.

Survey Instrument Questions

In examining the survey instrument (see Appendix C), there were certain answers expected to relate directly to vandalism. Most of the questions that are not demographic in nature are based on the six social factors. Depending on the incidence of vandalism in the housing complex, the tenants answered the questions in a particular way.

This chapter will include a description of what the answers to most of the questions are expected to be, given an incidence of low, moderate, or high rates of vandalism.

Questions 1 through 3 are strictly demographic in nature. Question 4, dealing with race, is also demographic. Research, which was discussed earlier, states that the ethnic distribution of vandals is quite similar to that of other delinquents at the .05 level of significance. The researcher also stated that a larger proportion of vandals were white (see page 10). This factor could be based strictly on the fact that the sample population was either entirely white or predominantly white. Only after gathering and analyzing the data could a

judgment be made as to whether race plays an important part in the incidence of vandalism.

Question 5 is a demographic question that deals with the family breakdown of the households.

Question 6 deals with the number of children in the household under the age of twenty-one. In the study conducted by Martin, which was discussed earlier, the mean age for vandals was 12.94 years. It is the contention of this study that the age of individuals in the household will not negate the fact that vandalism cannot occur. Anyone-- despite their age--can vandalize an environment where the six social factors of HUD are found to be present and where certain physical characteristics are found to exist.

Question 7, a demographic question, deals with the sex of the head of the household.

Question 8 deals with the length of time that the tenant has lived in a unit. This is also a demographic question, up to a point. It could be contended that tenants who have lived in their unit for only a short period of time may not perceive vandalism as a problem because they have not witnessed it. This may occur even if the tenant lives in a complex where there is a high incidence of vandalism. The only way to control this factor is to choose only those tenants who have lived in a complex for a specified length of time. Since a broader range of perceptions on the incidence of vandalism was desired, this was not done.

Question 9 deals with the location of the apartment in the housing complex. The information sought from this question is the location of the unit within the building. This is important because it

has been found that people who live in center apartment units have a different perception of friendship and closeness than those who live at the extreme ends. The people who live in the end apartment units have less interaction with their neighbors because they do not have to pass other units to reach their own. The people who live in the middle units interact with their neighbors more often. Thus they may have more friends, and these friends may be scattered throughout the building complex. The people who live at the extreme ends of the apartments may experience greater anonymity and isolation. Accordingly these feelings, coupled with alienation and distrust, could lead to vandalism in housing complexes.

Question 10 deals with the number of friends that the tenant has in the complex or social cohesion. Social cohesion is the number and intensity of friendships among residents, the real and perceived levels of actual and potential helping behavior, and the level of social isolation felt by residents. The hypothesis is that tenants who live in a complex with a low rate of vandalism may have more friends than those tenants who live in complexes with either moderate or high rates of vandalism. The tenants who live in a complex with a high rate of vandalism should have very few friends who live in their complex, while those tenants who live in a complex with moderate vandalism should have a median number of friends in their complex.

Question 11 shows physically where the tenant's friends live in the complex.

Questions 12 and 13 deal with the number of social organizations that the tenant belongs to and which, if any, of these organizations are

directly affiliated with the housing complex. According to Social Factor Number 1, social organization is defined as the amount of group activity that residents take part in and the amount of informal interaction. According to the hypothesis, tenants who live in a complex with a low rate of vandalism should generally belong to many social organizations and some, if not most, of these organizations should be affiliated with the housing complex in which they live. We hypothesize that tenants who live in complexes with a high rate of vandalism should belong to very few, if any, social organizations and these organizations may not be affiliated with their housing complex. Tenants who live in moderately vandalized complexes should belong to a few social organizations and a few of these may be affiliated with the housing complex.

Question 14 deals with how often neighbors get together. The purpose of this question is to find out if tenants feel alienated from their neighbors. We hypothesize that tenants who reside in complexes with a low rate of vandalism should interact with their neighbors--to talk, to have coffee, to party--quite often. Tenants residing in high vandalism complexes should not interact with their neighbors along these lines very often. Tenants who live in moderately vandalized complexes should interact with their friends occasionally.

Questions 9 through 14 deal with Social Factor 1 and the hypothesis that the lack of social organizations and the involvement in them by tenants, the lack of social cohesion, and the lack of social control could possibly contribute to the incidence of vandalism in housing complexes.

Question 15 deals with how well the maintenance work is done in the tenant's complex. It is hypothesized that tenants who live in a complex with a low rate of vandalism should perceive that the maintenance work is done well. Tenants who live in complexes with a high rate of vandalism will probably not perceive the maintenance work as being done well. Tenants who live in a moderately vandalized complex may be mixed in their perception of whether the maintenance work is done well.

Question 16 deals with how often tenants do their own maintenance work. It is hypothesized that tenants who live in a complex with a low rate of vandalism may do their own maintenance work all or most all of the time. Tenants who live in a complex with a high rate of vandalism may not do their own maintenance work very much, if at all. Tenants in moderately vandalized complexes may do their own maintenance work sometimes.

Question 17 deals with the type of items that a tenant would purchase for their unit. It is hypothesized that tenants in low vandalism complexes may have bought most, if not all, of the items on the list and some items that are not listed for their apartment. Tenants in high vandalism complexes may furnish curtains for their apartment, but that may be the extent of their personal investment. Tenants who live in moderate vandalism complexes may have purchased only a part of the items on the list or a few that are not listed.

Questions 15 through 17 deal with Social Factor 2 and the hypothesis that the lack of proprietary interest and territoriality among residents may lead to increased vandalism in housing complexes.

Question 18 is a basic question that tries to find out if tenants are aware of anyone breaking the rules.

Question 19 deals with tenant perception of vandalism in the complex. It is hypothesized that tenants who live in the low vandalism complexes may not view vandalism as a problem or they may feel that it is not much of a problem. Tenants who live in complexes with a high incidence of vandalism may view vandalism as a big problem. Those tenants who live in complexes where there is a moderate incidence of vandalism may either view vandalism as a moderate problem or they may not even be aware that there is a problem.

This is a very important question. This question is used as one of the two dependent variables on which to test the incidence of vandalism with the other questions/variables. Hypothetically, tenants who live in low vandalism complexes should not view vandalism as a problem because vandalism should not occur in their complex. Likewise, tenants who live in high vandalism complexes should perceive vandalism as a big problem because vandalism should occur all of the time in their complex. Finally, those tenants who live in complexes with a moderate incidence of vandalism should perceive vandalism as a moderate problem because it should only occur half of the time in their complex.

Question 20 asks the tenants how often they witness acts of vandalism in their complexes.

This is also an important question and it is used as the second dependent variable on which to test the incidence of vandalism with the other questions/variables. It is hypothesized that complexes that have a high rate of vandalism may have tenants who view vandalism in that

complex all of the time. Likewise, complexes with a low rate of van-
dalism may have tenants who never witness vandalism. Finally, those com-
plexes with a moderate rate of vandalism may have tenants who witness
vandalism half of the time.

Question 21 is asked to obtain tenant perceptions on security
personnel.

Question 22 asks if there are enough Black security personnel.
It is hypothesized that tenants in a complex with a low rate of vandal-
ism should feel that there are enough Black security personnel. Ten-
ants in a complex with a high rate of vandalism should feel that there
are not enough Black security personnel. Those tenants who live in a
complex with a moderate rate of vandalism may have mixed feelings as to
whether there are enough Black security personnel.

These two questions deal with Social Factor 3 and the hypothesis
that the lack of adequately trained, culturally sensitive security per-
sonnel will increase the incidence of vandalism in housing complexes.
Those complexes with a high incidence of vandalism should lack adequate
security that is also culturally sensitive to the needs of the majority
of the tenants. The complexes with a low incidence of vandalism should
have an adequate amount of security personnel who are culturally sensi-
tive. Complexes with a moderate rate of vandalism should have a moder-
ate number of personnel who are culturally sensitive to the needs of
the tenants.

Question 23 asks the tenants which social service agencies are
available to them and how often they use them. It is hypothesized that
tenants who live in a complex with a low incidence of vandalism may be

aware of or use most of the services on the list. Tenants who live in a complex with a high rate of vandalism may use very few of the services on the list or they may not even be aware that the services are near them. Tenants who live in a complex with a moderate rate of vandalism may use a few of the services on the list.

This question deals with Social Factor 4 and the hypothesis that the lack of social services and crisis intervention programs that address the social problems of tenants may increase the incidence of vandalism in housing complexes.

Question 24 deals with organized youth activities in the complex. It is hypothesized that tenants who live in a complex with a low rate of vandalism may say that their complex organizes youth activities. Tenants who live in a complex with a high rate of vandalism may say that their complex does not organize youth activities. Tenants residing in a complex with a moderate rate of vandalism may be mixed in their views, but the majority may say that there are no organized youth activities.

Question 25 asks how regularly throughout the year do the youth activities occur. It is hypothesized that tenants living in a complex with low vandalism may say that the activities are held regularly throughout the year. Tenants living in a complex with high vandalism may say that the activities are not held throughout the year. Tenants living in moderate vandalism complexes may say youth activities, if at all, are held periodically.

Question 26 asks if the complex has summer youth activities. It is hypothesized that low incident vandalism tenants may say that there are summer youth activities and that they are held often. High incident

vandalism tenants may say that there are no summer youth activities. Moderate incident tenants may say that, if at all, there may be a few summer activities.

Questions 24 through 26 deal with Social Factor 5 and the hypothesis that lack of supervised and organized youth activities may contribute to the increased incidence of vandalism in housing complexes.

Question 27 is demographic in relation to the income of the tenants.

In studying the checklist of physical data (see Appendix D), there were certain physical characteristics that should be related to vandalism in each of the complexes.

Question 28 deals with the size, in acres, of the complex. It is hypothesized that the larger the complex the higher the incidence of vandalism may be and the more it may be seen as a problem.

Question 29 deals with the total population of the complex. It is hypothesized that the larger the population the higher the incidence of vandalism may be and its possible perception as a big problem.

Question 30 deals with the total number of dwelling units in the complex. It is hypothesized that the larger the number of dwelling units the higher the incidence of vandalism may be and its possible perception as a big problem.

Question 31 deals with the height of the buildings. This rate is basically held constant because most of the buildings in the complex are all the same height.

Question 32 deals with the total number of buildings in the complex. Thus, it is hypothesized that the larger the number of

buildings the higher the incidence of vandalism may be and its possible perception as a big problem.

Question 33 deals with the total amount of open space, in acres, in a complex. It is hypothesized that the smaller the amount of open space available the higher the likelihood that vandalism may occur.

Questions 34, 35, and 36 are demographic in context. Question 34 asks the original purpose of the housing units; Question 35 asks how the complex was acquisitioned; Question 36 asks the age of the complex.

Question 37 deals with whether or not the apartment faces a street. It is hypothesized that if the apartment does not face the street there may be a higher incidence of vandalism.

Question 38 deals with whether or not an apartment faces open space. Thus, it is hypothesized that if the apartment does not face open space there may be a higher incidence of vandalism.

Question 39 asks what type of street, if any, does the apartment face. It is hypothesized that if an apartment does not face a street at all, the higher the likelihood that vandalism may occur and its possible perception as a big problem.

Question 40 deals with where the apartment unit is located within the building. It is hypothesized that if the apartment is on the end, there may be a higher likelihood that vandalism will occur and its possible perception as a big problem.

Questions 41, 42, 43, and 44 deal with the distance, in feet, to different facilities such as: the laundry, offsite facilities, closest complex recreational lot, and the office. The hypothesis is that the farther these facilities are from the apartment the higher the incidence

of vandalism may be. The possible reason for this is that the tenants
may feel alienated and isolated from needed facilities and conveniences
such as these. The farther they live from them, and the farther they
have to travel to them, the more likely they may be to vandalize on the
way.

Finally, Question 45 deals with the local density of housing
units, in feet. The hypothesis is that the higher the density of
housing units the higher the incidence of vandalism there may be and its
possible perception as a big problem.

Housing Survey on Vandalism Questionnaire

After the sample of twenty tenants from each of the three
housing complexes was drawn, they were administered a questionnaire to
obtain their various views and perceptions of vandalism in their com-
plexes. The questionnaire (see Appendix C) consisted of "close-ended"
questions (respondents are offered a set of answers and they choose the
one that most represents their views on the topic), factual questions,
and opinion questions. The factual questions obtained demographic data
on the tenants, such as race, age, length of time residing in the com-
plex, etc. The purpose of these questions was to obtain general infor-
mation about the tenants. The opinion questions obtained tenant atti-
tudes on vandalism and the six social factors. Opinion questions usu-
ally consist of questions that are scaled. One type of scaled question
used to measure the attitudes of tenants to their environment was the
Semantic Differential Scale. An example of this type of question is the
following: "How often do you do your own maintenance work?" The

responses were: (1) all the time, (2) most of the time, (3) sometimes, (4) not much, and (5) not at all.

A "checklist" (see Appendix D) was used by the surveyor to obtain physical data on each of the households in the three complexes. These data, along with the questionnaire data, made up the list of independent variables that was analyzed.

Table 1 lists the frequencies of the survey and the physical data checklist results. These numbers represent the combined results of all three complexes. The mean age of the tenants is 37.267. The majority of the tenants surveyed were Black. The majority of the households were single parent female headed, with one to two children. The mean years that the tenants lived in the complexes was 4.567 years. Half the tenants in the complexes had friends and the other half did not. Of those that had friends in the complex, half stated that they lived nearby, while the others stated that they were scattered across the complex.

The majority of the tenants surveyed did not belong to any organizations. There was only one organization associated with one of the complexes (Mt. Vernon Townhouses) and this was a tenants' organization. Only three tenants in Mt. Vernon Townhouses said that they belonged to the organization. Most of the tenants only associated with their neighbors sometimes, which was on the average of once a week to once a month.

Roughly half of the tenants said that their maintenance work was done well. Most of the tenants do their own maintenance work most of the time or sometimes. Almost half of the tenants stated that they would buy paint, plants, and flowers to fix up their apartment and

TABLE 1

FREQUENCIES OF SURVEY RESULTS AND PHYSICAL DATA
CHECKLIST RESULTS FOR THE 60 TENANTS SURVEYED

Question	Response	Frequency
V03. Age?	Range was from 20-85	Mean age was 37.267
V04. Race?	0. Afro-American	44
	1. Caucasian	16
	2. Other	0
V05. What does your family consist of?	0. Single person	5
	1. Husband and wife	4
	2. Husband, wife, children	12
	3. Single parent, 1 or more children	38
	4. Other	1
V06. Number of children in household?	0. None	10
	1. 1	17
	2. 2	15
	3. 3	10
	4. 4	6
	5. 5 or more	2
V07. Head of household?	0. Male	19
	1. Female	41
V08. How long have you lived in your apartment, in years?	1	6
	2	10
	3	12
	4	11
	5	7
	6	3
	7	1
	8	2
	9	3
	10	3
	12	1
	23	1
V10. Do you have many friends who live in the complex?	0. Yes	31
	1. No	29

Question	Response	Frequency
V11. Where do your friends live in the complex?	0. No friends	18
	1. Clustered around the apartment	22
	2. Scattered around the complex	20
V12. Which of the following organizations do you belong to?		
(a) Masons	0. Yes	0
	1. No	60
(b) Tents	0. Yes	0
	1. No	60
(c) Church groups	0. Yes	17
	1. No	43
(d) Tenants groups	0. Yes	6
	1. No	54
(e) Elks	0. Yes	0
	1. No	60
(f) Other	0. Yes	11
	1. No	49
(g) None	0. Yes	35
	1. No	25
V13. Which, if any, of these organizations is associated with your complex?	0. Some	0
	1. None	56
	3. Tenants groups	4
V14. How often do you get together with your neighbors to have coffee, party, talk, etc.?	0. All the time	15
	1. Sometimes	27
	2. Never	18
V15. Do you feel that the maintenance work is done well in your complex?	0. Yes	31
	1. No	28
	2. Does not apply	1

Question	Response		Frequency
V16. How often do you do your own main-tenance work?	1. All the time		7
	2. Most of the time		15
	3. Sometimes		15
	4. Not much		12
	5. Not at all		11
V17. Which of the fol-lowing items have you or would you purchase for your apartment and/or surrounding yard?	Paint	0. Yes	25
		1. No	35
	Plants	0. Yes	26
		1. No	34
	Curtains	0. Yes	40
		1. No	20
	Flowers	0. Yes	27
		1. No	33
	Other	0. Yes	10
		1. No	50
	All	0. Yes	13
		1. No	47
V18. Does anyone in your complex break the rules? What kinds do they break? How often?	0. Yes		32
	1. No		16
	2. Don't know		12
V19. How do you perceive vandalism in your complex?	1. Big problem		31
	2. Moderate problem		13
	3. Don't know		8
	4. Not much of a problem		6
	5. Not a problem		2
V20. How often do you witness acts of van-dalism in your complex?	0. All the time		12
	1. Sometimes		26
	2. Never		22
V21. Do you feel that secur-ity is adequate in your complex?	0. Yes		11
	1. No		46
	2. Don't know		3
V22. Do you feel that there are enough Black sec-urity personnel?	0. Yes		23
	1. No		21
	2. Don't know		16

Question	Response		Frequency
V23. Which of these services are available to and/or close to your complex?	Day Care	Yes No	13 47
	Head Start	Yes No	25 35
	Crisis Intervention Program	Yes No	6 54
	Job Placement Office	Yes No	15 45
	Welfare Office	Yes No	33 27
	CMACAO Service Center	Yes No	26 34
	Transportation Service	Yes No	29 31
	Mental Health Agency	Yes No	14 46
	Medical Services	Yes No	29 31
	Other	Yes No	5 55
	None of the Above	Yes No	6 54
V24. Does your complex organize youth activities?	0. Yes 1. No 2. Don't know		32 17 11
V25. Do they have them regularly throughout the year?	0. Yes 1. No 2. Don't know		19 23 18
V26. Does your complex provide summer activities for the youth?	0. Yes 1. No 2. Don't know		28 14 18
V27. What is your source of income?	Employed	Yes No	12 48
	Unemployed	Yes No	2 58

Question	Response		Frequency
V27. (continued)	Welfare/ADC	Yes	36
		No	24
	Retirement Income	Yes	0
		No	60
	Social Security	Yes	10
		No	50

PHYSICAL DATA FREQUENCY

V28. Total size of complex in acres	0. 1-5 acres	20
	1. 5-10 acres	0
	2. 10-15 acres	0
	3. 15-20 acres	20
	4. 20+ acres	20
V29. Total population in complex	416	20
	443	20
	1350	20
V30 Total number of dwelling units in complex	0. 1-150 units	20
	1. 150-300 units	20
	2. 300+ units	20
V31. Building height	0. Flats	0
	1. Townhouses	20
	2. Mix	40
V32. Total number of buildings in the complex	0. 1-25	20
	1. 25-45	20
	2. 45-85	20
V33. Total amount of open space in complex in acres	0. 0-1.5	20
	1. 1-2.5	20
	2. 2.5+	20
V34. Original purpose of units	0. Subsidized housing	40
	1. Other	20
V35. Acquisition	0. Private developer	20
	1. Turnkey	20
	2. Bought from government	20

Question	Response	Frequency
V36. Age of complex	1. 5-10 years	20
	2. 10-15 years	20
	3. 15+ years	20
V37. Does apartment face street?	0. Yes	40
	1. No	20
V38. Does apartment face open space?	0. Yes	25
	1. No	35
V39. Whether the apartment faces a	0. Major street	7
	1. Interior collector	21
	2. Residential street	13
	3. No street	19
V40. Whether the apartment is on the	0. End	23
	1. No end unit	37
V41. Distance to the laundry, in feet	Range was from 0-648 feet	Mean distance is 182.100 feet
V42. Distance to offsite facilities, in feet	Range was from 10-3,000+ feet	Mean distance is 4020.467 feet
V43. Distance to closest complex recreational lot, in feet	Range was from 10-2,081 feet	Mean distance is 405.433 feet
V44. Distance to office, in feet	Range was from 23-2,043 feet	Mean distance is 502.783 feet
V45. Local density per unit, in feet	Range was from 440-1,645 feet	Mean density is 886.850 feet

surrounding yard. The rest stated that they have not, or would not, buy any of the items for their apartments.

Over half of the tenants stated that people break the rules in their complex. Over half of the tenants felt that vandalism is a big problem in their housing complex. Most of the tenants said that they witnessed vandalism sometimes, sometimes being once every two weeks to once a month.

The majority of the tenants felt that the security is inadequate in their complex. The majority of the tenants felt that either there is not enough Black security personnel or they do not know. One of the major reasons for the "don't know" answer is that these residents have never seen security personnel in their complex.

In discussing the services that are available to the tenants, the majority were not aware of any day care services near the complexes. Over half of the tenants were not aware of Head Start. The majority of the tenants were not aware of any crisis intervention programs in the area. Over half were not aware of any job placement offices. More than half of the tenants were aware of where welfare offices are located. Over half of the tenants were not aware of where the CMACAO service center is in their area. About half of the tenants were aware of transportation services in the area. The majority of the tenants were not aware of any mental health agencies close to them. Half of the tenants were aware of medical services in their area. The majority of the tenants were not aware of any other services available to them other than what was listed.

Most of the tenants were aware that their complex organized youth activities. The majority of the tenants stated that either these activities are not held throughout the year, or that they were not aware of whether they are or not. Most of the tenants stated that youth activities are held in the summer.

The source of income for the majority of the residents surveyed was Welfare/ADC.

The physical data was obtained by taking a physical inventory of the three complexes. A checklist (see Appendix D) of physical characteristics was administered for the complexes. The following is a discussion of the checklist results.

The total size, in acres, of Mt. Vernon Plaza falls within the range of 1 to 5 acres, at exactly 4 to 5 acres. The total population is 416 people. The total number of dwelling units falls within the 1 to 150 units, at exactly 150 units. The building height of the units is a mixture of townhouses and flats, with the majority being townhouses. The total number of buildings falls within the range of 1 to 25, at exactly 18 buildings. The total amount of open space that the complex has falls within the range of 1 to 2.5 acres, at exactly 2 acres. The original purpose that the complex was built for was subsidized housing. The acquisition was by a private developer. The age of the complex is within the range of 5 to 10 years; it was completed in 1978. These exact figures are also listed in Table 2 and Table 3.

The total size of Bonnie Ridge, in acres, falls within the range of 15 to 20 acres, at exactly 19 acres. The total population is 443 people. The total number of dwelling units falls within the range of

TABLE 2

PHYSICAL DESIGN AND POPULATION DENSITY MEASURES

Characteristics	Mt. Vernon Plaza	Bonnie Ridge	Sullivant Gardens
1. Total Size	4-5 acres	19 acres	34 acres
2. Number of Units	150	232	330
3. Building Height	Townhouse and Flat	Townhouse	Flats and Townhouses
4. Number of Buildings	18	40	72
5. Amount of Open Space	2 acres	.5 acres	5 acres
6. Original Purpose of Units	Subsidized housing	Subsidized housing CMHA lease	WW II housing built by the government
7. Acquisition	Private developer	Turnkey	Bought from gov't
8. Year Completed	1978	1968	Phase 1, 1941 Phase 2, 1961

TABLE 3

TENANT STATISTICS 1982

Characteristics	Mt. Vernon Plaza	Bonnie Ridge	Sullivant Gardens
1. Total Population	416	443	1,350
2. Black Population	407	260	1,175
3. White Population	9	182	150
4. Average Gross Income	7,769.57 (working/Soc.Sec.) 2,902.72 (welfare)	4,000 (welfare	7,000-8,000
5. Number Families on Welfare	66	100	253
6. Total Number of Families	139	137	362
7. Total Black Families	135	83	326
8. Total White Families	4	54	36

NOTE: These population figures are as of July 1982 and they fluctuate with "move in-move out" rate.

150 to 300 units, at exactly 232 units. The building height consists of townhouses. The total number of buildings falls within the range of 25 to 45, at exactly 40 buildings. The total amount of open space, in acres, for the complex falls within the range of 0 to 1.5, at exactly .5 acres. The original purpose of Bonnie Ridge was subsidized housing. The acquisition was by turnkey. The age of the complex falls within the range of 10 to 15 years; Bonnie Ridge was completed in 1968. These exact figures are also listed in Table 2 and Table 3.

The total size of Sullivant Gardens, in acres, falls within the range of 20+, at exactly 34 acres. The total population is 1,350 people. The total number of dwelling units in the complex falls within the range of 300+, at exactly 330 units. The building height is a mixture of flats and townhouses. The total number of buildings in the complex falls within the range of 45 to 85, at exactly 72 buildings. The total amount of open space, in acres, in the complex falls within the range of 2.5+, at exactly 5 acres. The original purpose of the complex was to house military workers and their families during World War II. It was acquisitioned from the Federal Government. The age of the complex falls within the range of 15+ years; the first phase was completed in 1941 and the second phase was completed in 1961. These exact figures are also listed in Table 2 and Table 3.

The majority of the tenants' apartments face a street. Most of the apartments do not face open space. Most of the apartments face interior collector streets. Finally, most of the apartments are not located on the ends.

The mean distance to the laundry from the apartments is 182.1 feet. The mean distance to offsite facilities from the apartments is 4,020.5 feet. The mean distance to the closest complex recreational lot from the apartments is 502.8 feet. The mean distance to the complex offices from the apartments is 502.8 feet. Finally, the mean local density for an apartment and its surrounding area is 886.9 feet.

Summary

Chapter III has provided a discussion of how the research was conducted. This chapter also discussed each of the survey instrument questions and the checklist of physical data in detail. Finally, the actual responses to the research questions were illustrated and discussed.

CHAPTER IV

ANALYSIS OF THE DATA

The data generated from the questionnaire and the checklist were
analyzed by correlation coefficient relations, t-test, analysis of vari-
ance, multiple regression, and chi-square. Each of these techniques was
used to test the relationship between the independent variables, vari-
ables 01 through 18 and 21 through 45, and the dependent variable, van-
dalism, variables 19 and 20. The following is a discussion of the
results generated from each of these tests.

Correlation Coefficient Relations

Table 5 illustrates the relationship between vandalism vari-
ables, 19 and 20, and several other variables. The major purpose behind
correlation is to know the form or nature of the relationship between
X and Y so that one can predict one from the other and also to know the
degree or strength of the relationship. What was desired here was to
see whether the presence or absence of any of these variables could pre-
dict the incidence of vandalism in the three housing complexes. The
significance level indicates the strength of this relation, in this case
at the .05 level. The asterisk beside each of the significance levels
indicates that these variables are significant to either variable 19 or
20 at the .05 level.

TABLE 4

VARIABLES TESTED AGAINST VANDALISM
VARIABLES 19 AND 20

Variable Number	Type of Relation
V23A	Day care service availability
V23B	Head Start availability
V23C	Crisis intervention program availability
V23E	Welfare Office availability
V23F	CMACAO Service Center availability
V23G	Transportation service availability
V27A	Source of income--employed
V27B	Source of income--unemployment
V27C	Source of income--welfare/ADC
V27E	Source of income--Social Security
V31	Building height
V33	Amount of open space per acre for the complex
V37	Whether the apartment faces a street
V38	Whether the apartment faces open space
V39	What type of street the apartment faces
V40	Whether the apartment is on the end or not
V19	How do you perceive vandalism in the complex
V20	How often do you witness vandalism

NOTE: The type of responses to these variable questions are
listed in the Questionnaire (Appendix C) and the Physical Data
Checklist (Appendix D).

TABLE 5

RELATIONSHIPS BETWEEN THE TWO VANDALISM VARIABLES
19 AND 20 AND OTHER VARIABLES, CORRELATION
COEFFICIENTS, AND THEIR SIGNIFICANCE LEVEL

Vari-able	V19		V20	
	Kendall's Tau Correlation Coefficient	Significance Level	Kendall's Tau Correlation Coefficient	Significance Level
V20	.3201	.003*	--	--
V23A	.2364	.025*	.2101	.044*
V23B	.0924	.222	.3033	.007*
V23C	.2100	.041*	.3476	.002*
V23E	.2542	.018*	.0573	.321
V23F	.2112	.040*	.2164	.040*
V23G	.0485	.344	.3288	.004*
V23K	-.2811	.010*	-.2164	.040*
V31	-.2837	.009*	-.0522	.336
V37	-.0421	.364	-.2567	.019*
V38	.2280	.030*	.0459	.355
V39	-.0955	.196	-.2662	.010*
V40	-.4684	.001*	-.0890	.236

*Significant at the .05 level.

NOTE: The names of the variables are shown in Table 4.

Table 5 shows that there is a strong relationship between variable 19, "How do you perceive vandalism in your complex?" and variable 20, "How often do you witness vandalism in your complex?" This relationship might signify that as the sample population viewed vandalism as a problem, they also witnessed vandalism in their complex.

In viewing the significance level, (*), social services, variables 23 A-K, and their relationship to variable 19, it could be deduced that as the sample population perceives vandalism as a problem, they also are aware of the social services available to them. This finding is contrary to the original hypothesis that suggested that as people were not aware of social services available in their neighborhood, they would perceive vandalism as a big problem in their complex.

As indicated in Table 5, variable 31, building height, has a significant relationship to variable 19. The relation could possibly signify that those individuals who live in flat one floor plan apartments do not perceive vandalism as a problem in their complex.

The relationship between variable 38, whether the apartment faces open space, and variable 19, could suggest that as people's apartments face open space, they will perceive vandalism as a problem in their complex. This, also, was opposite to the result that was suggested in the original hypothesis. It was hypothesized that as people's apartments face open space they would not perceive vandalism as a problem in their complex.

Finally, the relationship between variable 40, whether the apartment is located on the end or not, and variable 19, could suggest that

as people's apartments are on the end, vandalism is not seen as a problem in their housing complex. Again, this is opposite of the original hypothesis. It was presupposed that as people lived in end units they would feel isolated from other tenants and lonely, and thus they would perceive vandalism as a big problem.

In studying the relationship between variable 20, "How often do you witness vandalism?" and the other variables in Table 3, some assumptions can be made.

In view of the relationship between variable 20 and the significant, (*), social services, variables 23 A-K, it could be deduced that as the population is aware of social services they also witness vandalism in their complex. This finding is contrary to the original hypothesis that assumed that those individuals who were not aware of social services would witness vandalism all of the time.

In viewing variable 37, whether the apartment faces a street or not, and variable 39, the type of street that the apartment faces, it is possible that as the apartment faces a major street the tenants will never witness vandalism in their complex. This assumption coincides with the hypothesis. Since vandalism is an anonymous crime, it is not likely to take place in the open where there is a lot of traffic and activity.

In conclusion, some of the research that was conducted could support some of the hypotheses that were made initially and some may not. It seems possible that the presence of social services does not guarantee that vandalism will not take place. Neither does the possible provision of open space.

T-Test Results

Table 6 illustrates the relationship in which a simple dichoto-
mized variable can be related to a second variable. This is accomplished
by the difference-of-means test, or the t-test, as it is also called. In
this test a comparison can be made between the means of two samples. The
significance level used in this test was at the .05 level.

In Table 6, Section 1, it can be deduced that the individuals
sampled who were aware of day care services in their area perceived van-
dalism as a major problem in their complex.

A deduction can be made from Section 2 that the sampled indi-
viduals who were aware of crisis intervention programs in their area
perceived vandalism as a major problem in their complex.

From Section 3 it can be deduced that individuals sampled who
were aware of CMACAO service centers in their area perceived vandalism
as a major problem in their complex.

Finally, also in Table 6, Section 4, it could be deduced that
the individuals who did not live in end units perceived vandalism as a
major problem in their complex.

Sections 1 through 3 deal with the social services available to
the tenants of the three housing complexes. It was originally hypo-
thesized that if these services were not available to the tenants, van-
dalism would be viewed as a major problem throughout the complex. But,
as indicated by the research, this is not the case. Even with the
available services, vandalism is seen as a major problem.

Section 4 deals with the location of apartment units and tenants'
perceptions of vandalism. It was originally hypothesized that the

TABLE 6

T-TEST RESULTS

Section	Label	n of Cases	Mean	t-Value	Degrees of Freedom	2-Tailed Probability
				Pooled Variance Estimate		
1.	Group 1 = Those individuals who were aware of the day care service and their perception of vandalism	13	1.3077	-2.19	58	.001*
	Group 2 = Those individuals who were not aware of the day care service and their perception of vandalism	47	2.0851			
2.	Group 1 = Those individuals who were aware of crisis intervention programs and their perception of vandalism	6	1.1667	-1.68	58	.023*
	Group 2 = Those individuals who were not aware of crisis intervention pro- grams and their perception of vandalism	54	2.0000			

Section	Label	n of Cases	Mean	Pooled Variance Estimate		
				t-Value	Degrees of Freedom	2-Tailed Probability
3.	Group 1 = Those individuals who were aware of CMACAO Service Centers and their perception of vandalism	26	1.5769	-2.02	58	.030*
	Group 2 = Those individuals who were not aware of CMACAO Service Centers and their perception of vandalism	34	2.1765			
4.	Group 1 = Those individuals who lived in end apartment units and their perception of vandalism	23	2.6522	-4.40	58	.010*
	Group 2 = Those individuals who did not live in end apartment units and their perception of vandalism	37	1.4595			

*Significant at the .05 level.

tenants who did not live in end units would not view vandalism as a problem in their complex. Again, as indicated by the research, this is not the case.

Analysis of Variance

Analysis of variance can be used to test for differences among the means of two or more samples. Thus, analysis of variance delineates an extension of the difference-of-means test, or t-test. Table 7 illustrates which of the single factors had an effect on the two dependent variables, 19 and 20. The (*) in this table represents the variables that are significant at the .05 level.

As shown in Table 7, it can be deduced that the tenants who witness vandalism see it as a big problem. It can also be deduced that the tenants who are aware of the availability or proximity of services, such as the welfare office and the CMACAO service center, perceive vandalism as a big problem. The possible explanation for this could be that the population that uses these services is at home or around their complex most of the time. Thus, there is a greater likelihood that they would witness vandalism. On the other hand, most working individuals may not use these services because they do not need them. Thus, in the case of these individuals, it may be that they are never at home long enough to witness acts of vandalism. Any damage due to vandalism that they might notice could be perceived as ordinary breakage by rough youth, rather than vandalism.

Also in Table 7, the research brought out another significant fact. From this research it could be deduced that the tenants who do

TABLE 7

ANALYSIS OF VARIANCE

Variables	F Prob-ability	Groups	N of Cases	Mean
(V19) How perceive vandalism in complex? by (V20) How often witness vandalism?	.0203*	All the time Sometimes Never	12 26 22	1.1667 1.9231 2.3182
(V19) How perceive vandalism in complex? by (V23E) Welfare Office availability	.0389*	Yes No	33 27	1.6364 2.2593
(V19) How perceive vandalism in complex? by (V23F) CMACAO	.0480*	Yes No	26 34	1.5769 2.1765
(V19) How perceive vandalism in complex? by (V40) Whether apartment is on the end or not	.0000*	End unit No end unit	23 37	2.6522 1.4595
(V20) How often witness vandalism? by (V23B) Head Start availability	.0100*	Yes No	25 35	.8800 1.3714
(V20) How often witness vandalism? by (V23C) Crisis intervention programs available	.0029*	Yes No	6 54	.3333 1.1667
(V20) How often witness vandalism? by (V23G) Transportation services available	.0053*	Yes No	29 31	.8966 1.4194

*Significant at the .05 level
NOTE: V19: (1) Big problem (5) No problem; V20: (0) All the time (2) Never

not live in end units perceive vandalism as a problem in their complex. This also confirms the results found in the t-test earlier.

Finally, it can be deduced from Table 7 that tenants who witness vandalism all of the time are aware of services, such as Head Start, crisis intervention programs, and transportation services.

Regression Analysis

Regression analysis is used to attempt to predict the exact value of one variable from the other. In certain problems the interest is not only in significance tests and measures of degree of relationship, but also in describing the nature of the relationship between the two variables so that it is possible to predict the value of one variable if the other is known.

In the present study it was hypothesized that the presence or absence of certain independent variables, Table 4, could predict the presence of vandalism in the housing complex.

In Table 8, the dependent variable vandalism is represented by variables 19 and 20. Under these variables are the independent variables that have a predictive value to variables 19 and 20.

In looking at variable 19 and its relationship to the other variables, it can be deduced that: as the tenants are aware of day care services, they are not employed, their apartments face a street, and they do not live in end units, they may perceive vandalism as a big problem in their complex.

In looking at variable 20 and its relationship to the other variables, it can be deduced that: as the tenants are aware of services

TABLE 8

REGRESSION RESULTS: RELATIONSHIP OF INDEPENDENT
VARIABLES TO THE PERCEPTION OF VANDALISM, V19,
AND HOW OFTEN IT WAS WITNESSED, V20

V19. How perceive vandalism in the complex.		
Variables	b	F Ratio
V23A Day Care Coded by: (0) Yes (1) No	.82935	2.298*
V27A Employed Coded by: (0) Yes (1) No	.76568	2.216*
V39 What type of street does apartment face? Coded by: (0) Major Street (1) Interior Collector (2) Residential Street (3) No street	-.23101	1.525*
V40 Whether apartment is an end unit or not. Coded by: (0) End (1) No end unit	-1.1430	9.556*

R^2 .45025

R^2 adjusted   .24569

V20. How often witness vandalism.		
Variables	b	F Ratio
V23C Crisis Intervention Programs Coded by: (0) Yes (1) No	.67951	2.467*
V23G Transportation Services Coded by: (0) Yes (1) No	.41717	3.409*

V39
What type of street does
apartment face? Coded by:
  (0) Major street
  (1) Interior collector
  (2) Residential street
  (3) No street
	-.29238	5.753*

R^2 .41863		
R^2 adjusted .20231		

*Significant at the .05 level.

NOTE: V19 coded by: (1) Big problem (5) No problem
       V20 coded by: (0) All the time (2) Never

such as crisis intervention programs and transportation services, and their apartments do not face a street, they may witness vandalism all of the time.

The results of this test are the opposite of the original hypothesis. It was originally hypothesized that: as the tenants were not aware of any services, they lived in end units, and their apartments did not face a street, vandalism would be perceived as a big problem and witnessed all of the time. The only variable that agreed with the original hypothesis is that the apartments do not face a major street.

The Chi-Square Test

The chi-square test is a general test used to evaluate whether or not frequencies which have been empirically obtained differ from those which would be expected under a certain set of theoretical assumptions. In chi-square tests it is important to ask whether or not these differences are statistically significant and the level at which they were judged significant.

Table 9 illustrates the chi-square relation between tenants' perceptions of vandalism, variable 19, and the housing complexes in which they live. Using a significance level of .05, the research has indicated that there is a very significant relationship between the perception of vandalism and the housing complex at the 0.0019 level.

Surprisingly, the tenants in both Sullivant Gardens and Mt. Vernon Plaza viewed vandalism as a big problem. The hypothesis was that Sullivant Gardens would view vandalism as a big problem, Bonnie Ridge would view vandalism as a moderate problem, and Mt. Vernon Plaza would

TABLE 9

RELATIONSHIP BETWEEN HOUSING COMPLEXES
AND PERCEPTION OF VANDALISM
CHI-SQUARE

V01.	V19 Big Problem	Moderate Problem	Do Not Know	Not Much of A Problem	No Problem
Sullivant Gardens	13 65%	2 10%	3 15%	0 --	2 10%
Bonnie Ridge	5 25%	9 45%	1 5%	5 25%	0 --
Mt. Vernon Plaza Townhouses	13 65%	2 10%	4 20%	1 5%	0 --

Chi-Square = 24.41745
Degrees of Freedom = 8
Significance Level = 0.0019

view vandalism as not a problem. These would all be relative to the actual incidences of vandalism that took place at the complexes. Bonnie Ridge did view vandalism as a moderate problem in their complex, but Mt. Vernon Plaza also saw vandalism as a big problem even though their incidence of vandalism was respectively low.

One reason for this decided discrepancy with Mt. Vernon Plaza may be the fact that many of the tenants are not committing the acts of vandalism themselves. Most of the vandalism that takes place at Mt. Vernon Plaza is committed by individuals outside of the area. Evidence of this comes from interviews that were conducted with the tenants of Mt. Vernon Plaza Townhouses. Many of the tenants stated that the individuals they witness committing the vandalism do not live in the complex. They stated that these individuals live in neighboring complexes (such as Balovor Arms), in the surrounding neighborhood, or in other low income housing complexes.

This leads to another type of vandalism taking place at Mt. Vernon Plaza. This type of vandalism is called malicious vandalism. As discussed in Chapter II, malicious vandalism is damage done to property as an expression of rage and frustration. The individuals who reside in the neighboring housing that surrounds Mt. Vernon Plaza live in housing that is somewhat substandard. Most of it is unattractive and not aesthetically pleasing. Thus, when the individuals who reside in this type of housing view Mt. Vernon Plaza Townhouses and their tenants--who for the most part have similar incomes--they experience rage and frustration. They resent the fact that they must live in their substandard housing while someone who is "no better off" than

they are gets to live in decent, nice housing--housing with green grass, open space, tot lots, a swimming pool, and a clean environment.

The major target area of malicious vandalism has been the tot lots. Tenants have reported seeing individuals breaking up the tot lot swings and hobby horses. They also report that these people who vandalize do not live in the Plaza Townhouses. In addition, the individuals who frequent Mt. Vernon Avenue, directly across the street from the Townhouses, come over. While there, they break bottles and leave "needles" (tools of a trade) in the parking lot.

Summary

Chapter IV has discussed each of the five tests that were used to analyze the data and their results. The tests that were used to analyze the data were: Correlation Coefficient Relations, t-Test Results, Analysis of Variance, Regression Analysis, and the Chi-Square Test.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Throughout this research it was hypothesized that the rates of vandalism for the three housing complexes--Sullivant Gardens, Bonnie Ridge, and Mt. Vernon Plaza--would be influenced by the lack of certain social factors and the presence or absence of certain physical characteristics that currently exist in the complexes. It was further hypothesized that, depending upon the degree to which these social and physical factors were present or absent, there would be a corresponding rate of vandalism ranging from low to moderate to high.

Conclusions

The research indicates that there is a significant relationship between the incidence of vandalism in the three housing complexes and the presence or absence of certain social and physical factors that were hypothesized to relate to vandalism.

Table 10 illustrates the social and physical factor variables that were hypothesized to relate to the perception of vandalism. Some of these variables did and some did not exhibit significant relationships. The variables that were shown to be related to vandalism are designated by an asterisk (*) beside the variable number.

TABLE 10

HYPOTHESES CONSIDERED

Abbreviated Hypotheses	V19 Perceive Vandalism		V20 Witness Vandalism	
	Accepted	Rejected	Accepted	Rejected
V10. Tenants with many friends may not perceive worse vandalism		x		x
V12. Tenants who do not belong to organizations may perceive worse vandalism		x		x
V13. Complexes that do not have organizations directly associated with them may perceive worse vandalism		x		x
V14. Tenants who do not interact with neighbors may perceive worse vandalism		x		x
V15. Tenants who do not feel maintenance work is done well may perceive worse vandalism		x		x
V16. Tenants who do not do their own maintenance work may perceive worse vandalism		x		x
V17. Tenants who would not buy items for their home may perceive worse vandalism		x		x
V18. Tenants aware of others breaking the rules may perceive worse vandalism		x		x

Abbreviated Hypotheses	V19 Perceive Vandalism		V20 Witness Vandalism	
	Accepted	Rejected	Accepted	Rejected
*V19,V20. As the population views vandalism as a big problem they may witness it all of the time	x		x	
V21. Tenants who do not feel security is adequate may perceive worse vandalism		x		x
V22. Tenants who do not feel there is enough Black security personnel may perceive worse vandalism		x		x
*V23a. Tenants aware of day care may not perceive vandalism as a worse problem		x		x
*V23b. Tenants aware of Head Start may not perceive vandalism as a worse problem		x		x
*V23c. Tenants aware of crisis intervention programs may not perceive vandalism as a worse problem		x		x
*V23d. Tenants aware of job placement office may not perceive vandalism as a worse problem		x		x
*V23e. Tenants aware of Welfare Office may not perceive vandalism as a worse problem		x		x
*V23f. Tenants aware of CMACAO Service Center may not perceive vandalism as a worse problem		x		x
V23g. Tenants aware of transportation service may not perceive vandalism as a worse problem		x		x

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Abbreviated Hypotheses	V19 Perceive Vandalism		V20 Witness Vandalism	
	Accepted	Rejected	Accepted	Rejected
V23h. Tenants aware of medical services may not perceive vandalism as a worse problem				
V23i. Tenants aware of other services may not perceive vandalism as a worse problem				
V23k. Tenants not aware of any services may perceive vandalism as a worse problem				
V24. Complexes that do not organize youth activities may be perceived as having worse vandalism		x		x
V25. Complexes that do not have youth activities throughout the year may be perceived as having worse vandalism		x		x
V26. Complexes not having specific summer youth activities may be perceived as having worse vandalism		x		x
V28. The larger the complex the worse vandalism may be perceived		x		x
V29. The larger the population the worse vandalism may be perceived		x		x
V30. The larger the number of dwelling units the worse vandalism may be perceived		x		x

Abbreviated Hypotheses	V19 Perceive Vandalism Accepted	V19 Perceive Vandalism Rejected	V20 Witness Vandalism Accepted	V20 Witness Vandalism Rejected
*V31. Flats and/or townhouse residents may not perceive vandalism as a worse problem	X			
V32. The larger the number of buildings the worse vandalism may be perceived		X		X
V33. The smaller the amount of open space the worse vandalism may be perceived		X		X
*V37. Apartments facing the street, especially a major street, may not perceive vandalism as a worse problem			X	
*V38. Units facing open space may not perceive vandalism as a worse problem		X		
*V39. Apartments that do not face a certain type of street may perceive vandalism as a worse problem		X		X
*V40. End units may perceive vandalism as a worse problem		X		
V41. The greater the distance to the laundry the worse vandalism may be perceived		X		X
V42. The greater the distance to offsite facilities the worse vandalism may be perceived		X		X

Abbreviated Hypotheses	V19 Perceive Vandalism		V20 Witness Vandalism	
	Accepted	Rejected	Accepted	Rejected
V43. The greater the distance to the closest complex recreational lot the worse vandalism may be perceived		x		x
V44. The greater the distance to the complex office the worse vandalism may be perceived		x		x
V45. The greater the local density per unit the worse vandalism may be perceived		x		x

*Variable was significant to the incidence of vandalism.

The data showed that as the population views vandalism as a big problem, they are also likely to witness it all of the time. In studying the service availability, even as tenants were aware of such services, they still viewed vandalism as a big problem. Also, it can be accepted that the residents who live in flats or townhouses do not perceive vandalism as a big problem. The tenants who live in apartments that face a major street do not perceive vandalism or witness it as a problem. It was found that apartment units that face open space perceive vandalism as a big problem. Finally, it was concluded that tenants who reside in end units do not perceive vandalism as a major problem. The rest of these variables showed no significant relation to the incidence of vandalism.

Recommendations

It was not the purpose of this investigation to deduce a conclusive, comprehensive means of investigating and solving the problem of vandalism in housing complexes. Further study must be made into this area to elicit conclusive data. The purpose was to explore the causes of vandalism and derive conclusionary suggestions as a means to forestall further acts of vandalism from being perpetrated.

It can be concluded that social factors such as the lack of social organization, social cohesion, and informal social control, the lack of proprietary interest and territoriality among residents, the lack of adequately trained and culturally sensitive security personnel, the lack of supervision and organized youth activities, and the lack of employment opportunities for residents do not seem to have an effect on

the perception and incidence of vandalism.

Also, physical factors such as the size and population of the complex, the number of buildings and their units, the amount of open space, and the distance to different services and facilities do not seem to have a significant effect on the perception and incidence of vandalism.

What the research does illustrate is that the original hypothesis was correct in that vandalism will be present, and that the rate will be worse, given the presence or absence of a few of these social and physical factors. Thus, the presence of both physical and social factors does affect the incidence of vandalism.

Since only three housing complexes were surveyed and a small sample was generated, further study needs to be conducted into this area of research to obtain stronger credence for this hypothesis. One thing, however, was proven by this study; that is, given the presence of certain physical and social factors, there is a relatively high likelihood that vandalism will occur.

ENDNOTES

ENDNOTES

[1]Oscar Newman, <u>Defensible Space</u> (New York: The MacMillan Company, 1972), pp. 22-23.

[2]W. Victor Rouse and Herb Rubenstein, <u>Crime in Public Housing: A Review of Major Issues and Selected Crime Reduction Strategies</u> (Washington, D.C.: Department of Housing and Urban Development, Office of Policy Development and Research, December 1978), pp. 24-25.

[3]John M. Martin, <u>Juvenile Vandalism</u> (Springfield, Ill.: Charles C. Thomas, Publisher, 1961), p. 72.

[4]Ibid., p. 4.

[5]Ibid.

[6]Jane Sykes, ed., <u>Designing Against Vandalism</u> (New York: Van Nostrand Reinhold Co., 1970), p. 20.

[7]Martin, <u>Juvenile Vandalism</u>, pp. 4-5.

[8]Sykes, <u>Designing Against Vandalism</u>, p. 11.

[9]Martin, <u>Juvenile Vandalism</u>, p. 5.

[10]Sykes, <u>Designing Against Vandalism</u>, p. 21.

[11]Martin, <u>Juvenile Vandalism</u>, p. 3.

[12]Sykes, <u>Designing Against Vandalism</u>, p. 7.

[13]M. D. Whitting, "Vandalism: The Urge to Damage and Destroy," <u>Canadian Journal of Criminology and Corrections</u>, 23 (1981):69.

[14]Columbus Metropolitan Housing Authority, Crime Report CMHA, "Uniform Crime Report: Statistical Information," January 1, 1979-December 31, 1980. (Xeroxed.)

[15]Sykes, <u>Designing Against Vandalism</u>, p. 19.

[16]Whitting, "Vandalism: The Urge to Damage and Destroy," p. 71.

[17]Sykes, <u>Designing Against Vandalism</u>, p. 16.

[18]Ibid., p. 11.

[19]Ibid., p. 15.

[20]J. P. Harlan and C. P. McDowell, "Vindictive Vandalism and the Schools--Some Theoretical Considerations," Journal of Political Science and Administration, 8 (1980):400.

[21]Martin, Juvenile Vandalism, pp. 89-90.

[22]Ibid., p. 93.

[23]Arnold Madison, Vandalism: The Not-So-Senseless Crime (New York: The Seabury Press, 1970), pp. 26-27.

[24]Ibid., p. 29.

[25]Ibid.

[26]Ibid., pp. 29-30.

[27]Martin, Juvenile Vandalism, p. 18.

[28]Ibid., pp. 18-19.

[29]Ibid., p. 19.

[30]Ibid., p. 20.

[31]Ibid., p. 21.

[32]Ibid., p. 26.

[33]Ibid.

[34]Sykes, Designing Against Vandalism, p. 12.

[35]Ibid., p. 23.

[36]Ibid.

[37]Whitting, "The Urge to Damage and Destroy," p. 72.

[38]Sykes, Designing Against Vandalism, p. 14.

[39]Ibid., p. 7.

[40]Ibid., p. 8.

[41]Newman, Defensible Space, pp. 22-23.

[42]U.S., Department of Justice, Law Enforcement Assistance Administration, National Institute of Law Enforcement and Criminal Justice, <u>Architectural Design for Crime Prevention</u>, by Oscar Newman (1971), p. 116.

[43]Ibid., p. 113.

[44]Ibid., p. 114.

[45]Newman, <u>Defensible Space</u>, p. 3.

[46]Ibid., p. 4.

[47]Ibid., p. 40.

[48]Ibid., p. 42.

[49]Ibid., p. 47.

[50]Ibid., p. 49.

[51]Martin, <u>Juvenile Vandalism</u>, pp. 16-17.

[52]Sykes, <u>Designing Against Vandalism</u>, p. 43.

[53]Rouse and Rubenstein, <u>Crime in Public Housing</u>, pp. 24-25.

[54]Ibid., pp. 25-26.

[55]Ibid., p. 26.

[56]Sykes, <u>Designing Against Vandalism</u>, p. 24.

[57]Rouse and Rubenstein, <u>Crime and Public Housing</u>, pp. 29-30.

[58]Ibid., p. 30.

[59]Ibid.

[60]Ibid., p. 31.

[61]Ibid., pp. 31-32.

[62]Ibid., pp. 33-34.

[63]Ibid., p. 34.

[64]Ibid., p. 35.

[65]Ibid., p. 36.

[66] Ibid., p. 37.

[67] Ibid., p. 38.

[68] Harlan and McDowell, "Vindictive Vandalism and the Schools," p. 400.

[69] Ibid.

[70] Ibid., p. 401.

[71] Sykes, Designing Against Vandalism, pp. 48-49.

[72] Rouse and Rubenstein, Crime in Public Housing, pp. 24-25.

APPENDIX A

RATES OF VANDALISM

RATES OF VANDALISM OF THE THREE HOUSING
COMPLEXES IN COLUMBUS, OHIO FROM
JANUARY 1 - DECEMBER 31, 1980*

Mt. Vernon Plaza (Low)	1
Bonnie Ridge (Moderate)	8
Sullivant Gardens (High)	12

*CMHA Uniform Crime Report
Statistical Information

APPENDIX B

SUMMARY OF BASIC CHARACTERISTICS

OF THE THREE HOUSING COMPLEXES

The following is a summary of the basic characteristics of each of the three housing complexes.

Sullivant Gardens is located at 590 Van Buren Drive in Columbus. It has 362 units within 80 two-story apartment buildings. All of the buildings are red brick. The first phase of the housing complex was built in 1941. The second phase was built in 1961. Sullivant Gardens has the highest rate of vandalism.

Bonnie Ridge is located at 1383 Vida Way in Columbus. It has 232 units within 41 two-story apartment buildings. The buildings are dark wood and in poor condition. Bonnie Ridge was taken over by CMHA in 1978, but they are not fully owned by CMHA. They are waiting to contact the owners. Bonnie Ridge has a moderate rate of vandalism.

Mt. Vernon Plaza is located at 371 N. 20th Street. It has 376 units, 225 of which are Senior Citizen units and 150 are family resident units. The family residents are comprised of rows of town-houses in rows of 6, 8 and 12. The Senior Citizen units are all one highrise. All of the buildings are red brick and in very good condition. Ground breaking for the Mt. Vernon Plaza was in 1976 and it was open for tenants in 1978. Mt. Vernon Plaza has a low rate of vandalism.

APPENDIX C

HOUSING SURVEY ON VANDALISM QUESTIONNAIRE

HOUSING SURVEY ON VANDALISM

Date of Interview_____

V01. Name_____

V02. Address_____

V03. Age_____

V04. Race
        a. Afro-American
        b. Caucasian
        c. Other _____

V05. What does your family consist of?
        a. Single person
        b. Husband and wife, no children
        c. Husband, wife and children
        d. Single parent (male/female) with one or more children
        e. Other _____

V06. Number of children in household under the age of 21 _____

V07. Head of household
        a. Male
        b. Female

08. How long have you lived in your apartment? _____

V09. Location of apartment in the housing complex. (code this)

      _____

V10. Do you have many friends who live in the complex?
     If so, how many? _____
        a. Yes
        b. No

V11. Where do your friends live in the complex?
     (Show diagram and code area)

      _____

V12. Which of the following organizations do you belong to?
     (check any of the following)
        a. Masons
        b. Tents
        c. Church groups
        d. Tenants groups
        e. Elks
        f. Other _____

V13. Which, if any, of these organizations is directly associated with the housing complex? (state briefly)

_____

_____

V14. How often do you get together with your neighbors to have coffee, party, talk, etc.? Why?

_____

_____

V15. Do you feel that the maintenance work is done well in your complex?
      a. Yes
      b. No

V16. How often do you do your own maintenance work?

1	2	3	4	5
All the time	Most of the time	Some-times	Not much	Not at all

V17. Which of the following items have you or would you purchase for your apartment and/or surrounding yard?
      a. Paint
      b. Plants
      c. Curtains
      d. Flowers
      e. Other _____

V18. Does anyone in your complex break the rules? What kinds of rules do they break? How often?

_____

V19. How do you perceive vandalism in your complex?

1	2	3	4	5
A big problem	A moderate problem	Don't know	Not much of a problem	Not a problem

V20. How often do you witness acts of vandalism in your complex?

_____

_____

V21. Do you feel that security is adequate in your complex? If the answer is "No," then why?
      a. Yes
      b. No

_____

V22.   Do you feel that there are enough Black security personnel?
        a.   Yes
        b.   No

V23.   Please look at this list of services. Which are available to you
      and/or close to your complex and how often do you use them?

Services	How Often Used
V23 a. Day care	_____
V23 b. Head Start	_____
V23 c. Crisis intervention program	_____
V23 d. Job placement office	_____
V23 e. Welfare office	_____
V23 f. CMACAO service center	_____
V23 g. Transportation services	_____
V23 h. Mental health agencies	_____
V23 i. Medical services	_____
V23 j. Other _____	_____
V23 k. None of the above	

V24.   Does your complex organize youth activities?
        a.   Yes
        b.   No

V25.   Do they have them regularly throughout the year? If so,
      how often?

_____

V26.   Does your complex provide specific Summer Activities for
      the youth? If so, how often?

_____

V27.   What is your source of income?

      V27 a.   Employed
      V27 b.   Unemployed
      V27 c.   Welfare/ADC
      V27 d.   Retirement income
      V27 e.   Social Security
      V27 f.   Other _____

APPENDIX D

CHECKLIST OF PHYSICAL DATA

CHECKLIST OF PHYSICAL DATA

V28. Total size of complex in acres:

      0   1-5 acres
      1   5-10 acres
      2   10-15 acres
      3   15-20 acres
      4   20+   acres

V29. Total population (number of people in complex):_____

V30. Total number of dwelling units:

      0   1-150 units
      1 150-300 units
      2   300+ units

V31. Building height:

      0 Flats
      1 Townhouses
      2 Mix

V32. Total number of buildings:

      0   1-25 buildings
      1 25-45 buildings
      2 45-85 buildings

V33. Total amount of open space in complex, in acres:

      0   0 -1.5 acres
      1 1.5-2.5 acres
      2 2.5+   acres

V34. Original purpose of units:

      0 Subsidized
      1 Other

V35. Acquisition

      0 Private developer
      1 Turnkey
      2 Purchased from government

V36. Age of project:

        0   0-5 years
        1   5-10 years
        2 10-15 years
        3 15+   years

V37. Does apartment face the street?

        0 Yes
        1 No

V38. Does apartment face open space?

        0 Yes
        1 No

V39. Which of the following does the apartment face?

        0 Major street
        1 Interior collector
        2 Residential street
        3 No street

V40. Where is apartment located?

        0 End
        1 No end unit

V41. Distance to laundry in feet: _____

V42. Distance to offsite facility in feet: _____

V43. Closest complex recreational lot in feet: _____

V44. Distance to office in feet: _____

V45. Local density per unit in feet: _____

APPENDIX E

PHOTOGRAPHS OF VANDALISM IN

THE THREE HOUSING COMPLEXES
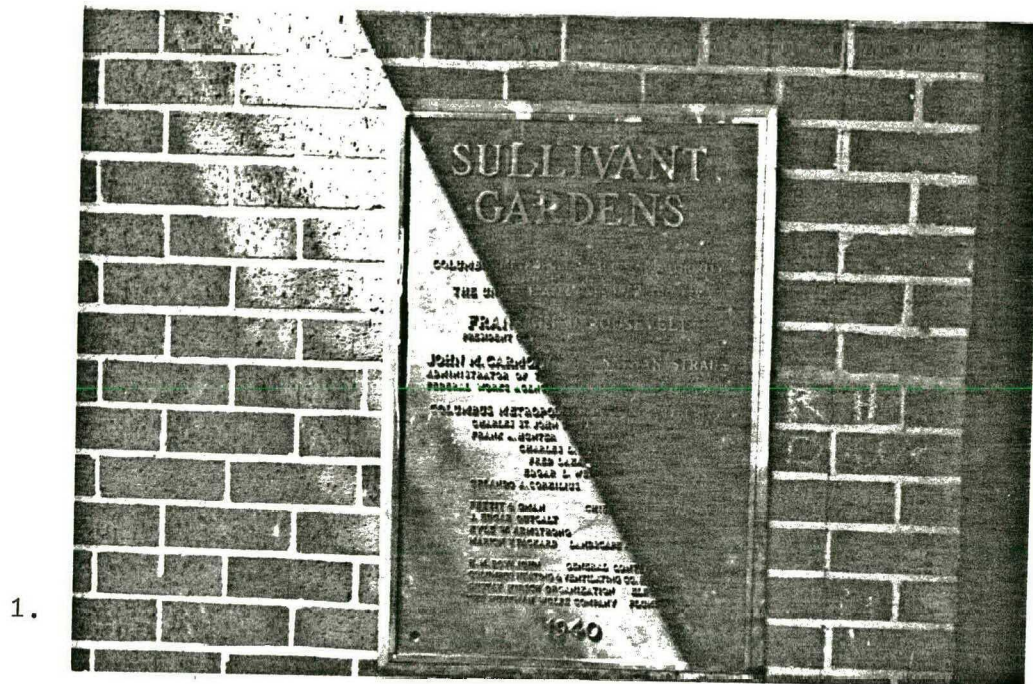
Figure 1.   Sullivant Gardens plaque

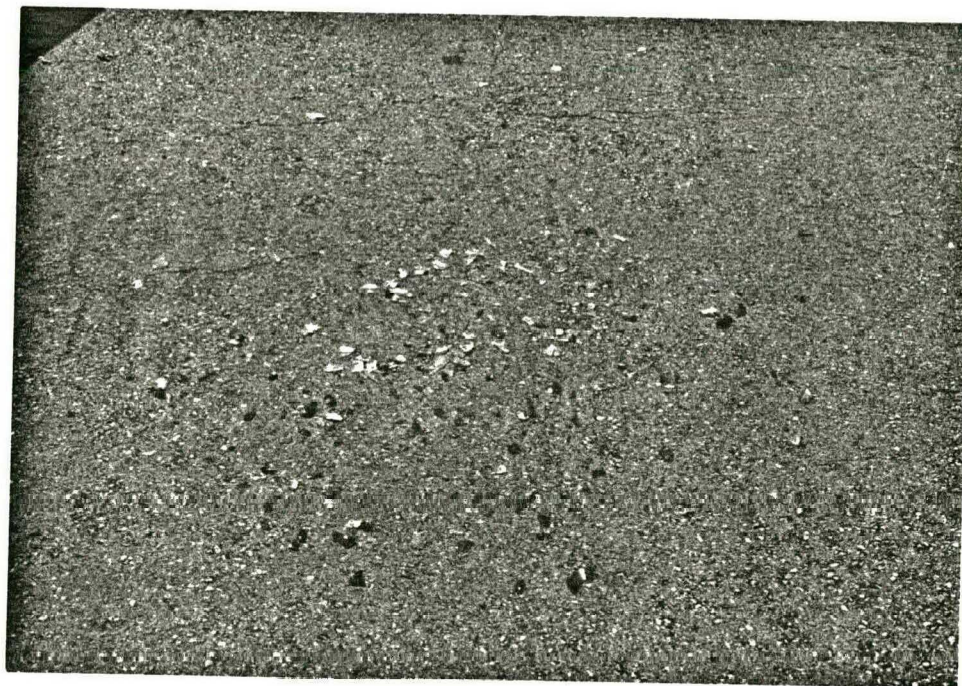Figure 2.   Typical housing at Sullivant Gardens

3.

4.

Figure 3.   Vandalized playground of Sullivant Gardens

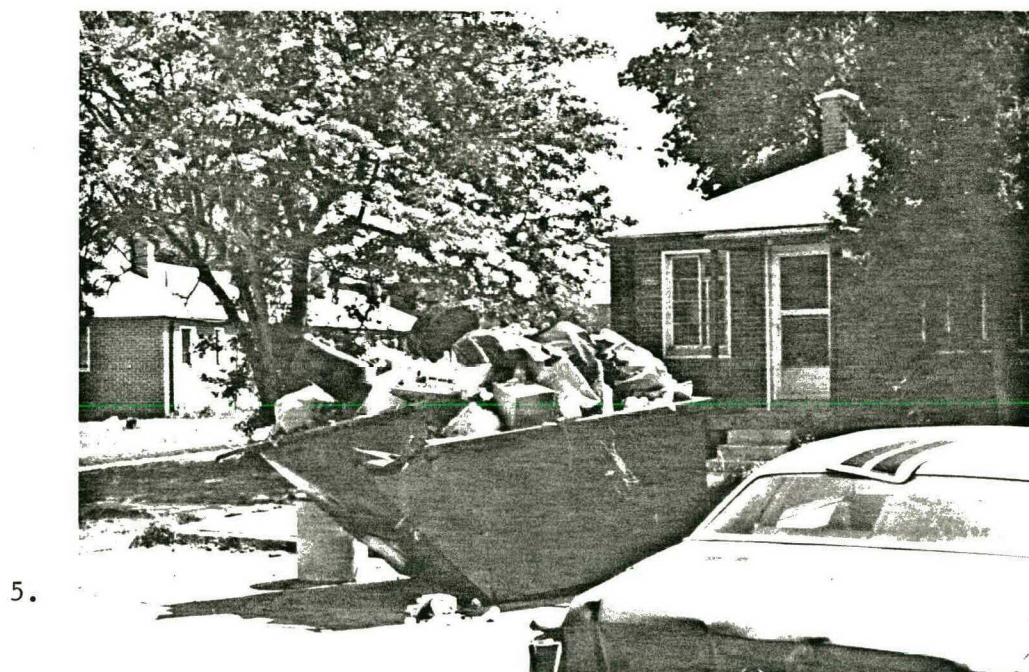Figure 4.   Broken glass found on the playground of Sullivant Gardens

5.

6.

Figure 5.   Common trash problem at Sullivant Gardens
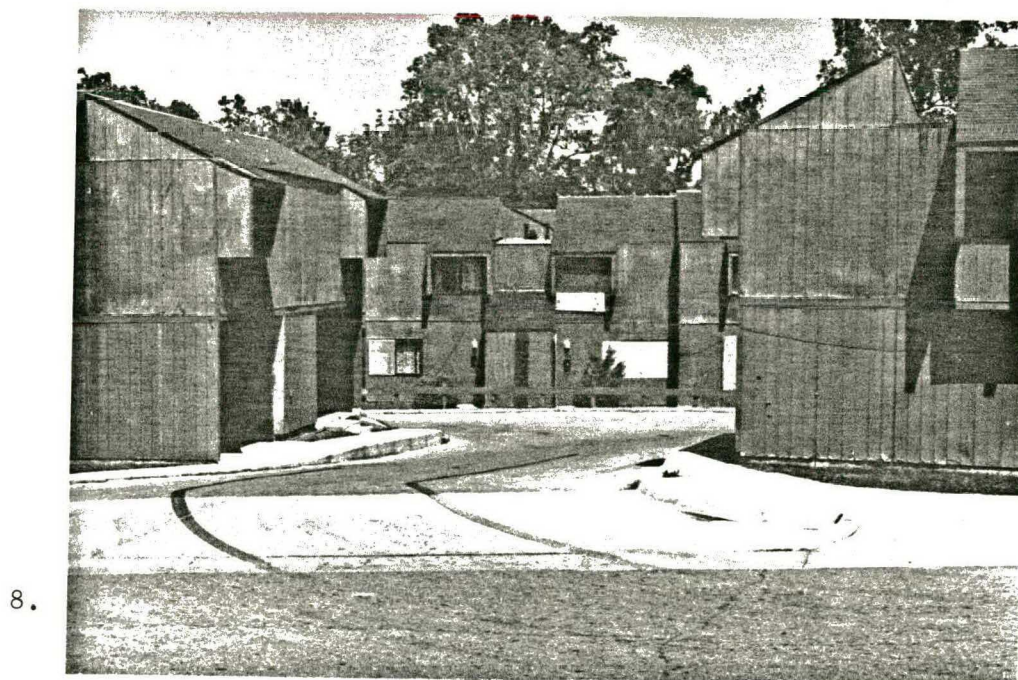
Figure 6.   Housing at Sullivant Gardens

Figure 7.   Bonnie Ridge Estates Office

Figure 8.   Typical housing at Bonnie Ridge

Figure 9.   Illustrates the common vandalism found at Bonnie Ridge

Figure 10.   Illustrates the common vandalism found at Bonnie Ridge

Figure 11.   Further illustrates vandalism found at Bonnie Ridge

Figure 12.   Vandalized playground at Bonnie Ridge

Figure 13.   Mt. Vernon Plaza Family Unit

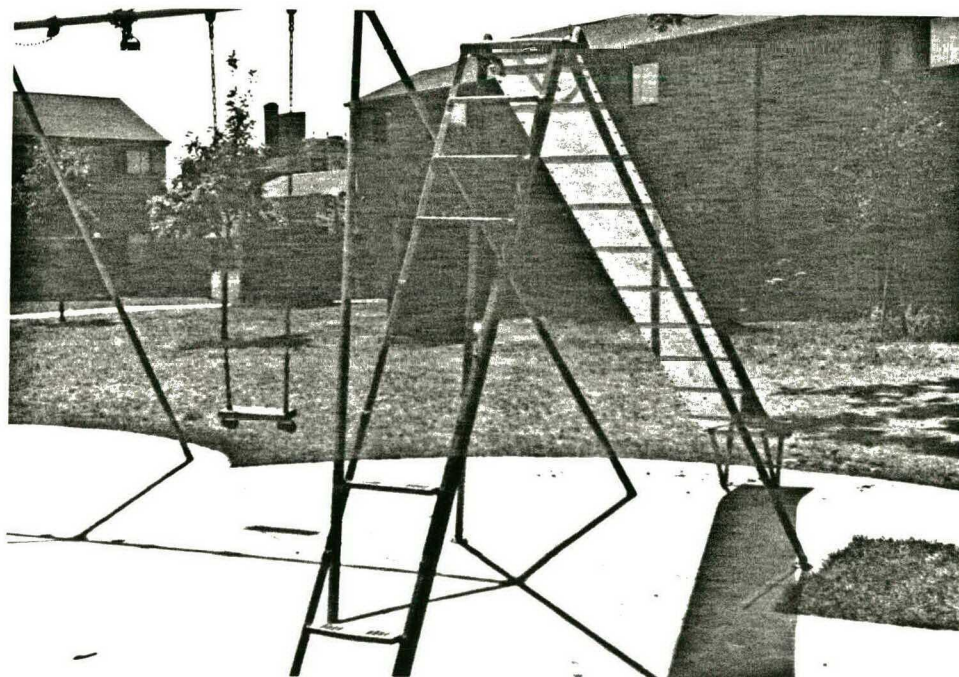Figure 14.   Typical housing found at Mt. Vernon Plaza

15.

16.

Figure 15.   Vandalized playground at Mt. Vernon Plaza

Figure 16.   Vandalized playground at Mt. Vernon Plaza

Figure 17.   Balovor Arms Apartments, a complex that is said to influ-
ence the incidence of vandalism at Mt. Vernon Plaza.
This complex is located behind Mt. Vernon Plaza.

Figure 18.   Mt. Vernon Avenue, which is located in front of Mt.
Vernon Plaza, is another area that is said to facili-
tate vandalism in the complex.

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