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VILLA BORINQUEN: A CASE STUDY OF THE INTERACTION OF
ARCHITECTURAL, PSYCHOSOCIAL, AND COMMUNITY FACTORS IN
A LOW-INCOME HOUSING DEVELOPMENT

by

Carlos Hernández

A dissertation submitted to the Graduate Faculty in
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Chair of Examining Committee

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Abstract

VILLA BORINQUEN: A CASE STUDY OF THE INTERACTION OF ARCHITECTURAL, PSYCHOSOCIAL, AND COMMUNITY FACTORS IN A LOW-INCOME HOUSING DEVELOPMENT

by

Carlos Hernández

Adviser: Professor Gary Winkel

Villa Borinquen is a low-rise, medium density 242 family housing development in downtown Jersey City. The Development is unique in that the local community, through community based agencies played a major role in initiating the concept for the housing, site selection, design of the complex and selection of tenants. Residents who are primarily low and lower middle income families have a greater than usual voice in the management of the development. The housing itself is designed in three quadrants and has a mixture of rowhouses, garden apartments and an eleven story apartment tower. Small plazas, private streets and protected open spaces unify the quadrants.

For this thesis one hundred twenty households were given in-depth interviews to ascertain their attitudes toward life in the development, the quality of the housing, use of public space, feelings about the community and commitment to neighborhood. These issues formed the basis for the creation of the investigation's variables. The major architectural, psychosocial and community variables were organized into

Abstract (cont'd)

theoretical models of causal relationships and path analyses were statistically obtained models. The theoretical models represented the investigator's assumptions of the interrelationships between the variables and therefore the obtained models tested the validity of these assumptions.

The results of the investigation generally supported the hypotheses that residents would be satisfied with the housing. It was also found that the general direction of the theoretical models of causal relationship were valid. Significantly, it was found that community variables and management policies played major roles in determining attitudes, perceptions, participation in housing activities and commitment to the neighborhood. Finally it was concluded that an understanding of the setting could only occur if one considered the interconnectedness of all the variables.

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CHAPTER 1

SOME NOTES ON THE RELATIONSHIP OF HOUSING TO SELF-CONCEPT

Over the course of time many authors have argued that there are many associations between one's living environment and one's psychological and social well-being. In fact, several authors have assumed that the quality of one's living environment will have a strong impact on one's self-esteem and self-worth. One group of writers has come to see the home as an extension of the self. Cooper (1974), using a psychoanalytic interpretation, described the home as an extension of the self. In such a conceptualization the house is perceived as a sanctuary; giving one a protected and fixed frame of reference around which to structure events and experiences. In the Poetics of Space (1969) Bachelard compared the usual division of psychic space, self and non-self, to the division of geographical space by house and non-house. Rapoport (1969) demonstrated how the traditional preferences for a particular house form that is characteristic of so many cultures are in fact reflections of distinct self systems that each culture has evolved. These preferences respond to images of the universal forms of the body and of the various environmental features found in their habitats. In describing the villages of the Dogon and Bambara of Mali for example, Rapoport noted:

The villages are built in pairs to represent heaven on earth, and the fields are cleared in spirals because the world has been created spirally. The villages are laid out in the way the parts of the body lie with respect to each other, while the house of the Dogon, or paramount chief, is a model of the universe at a smaller scale (page 50).

Cooper (1974) stated that there is an inverse relationship between technological advancements and the conscious awareness of the symbols and rituals as described by Rapoport:

For civilized man, the conscious recognition of the symbolism of what we do, how we live, and the houses we live in, has been all but lost. But if we start to delve beneath the surface, the symbolism is still there.

A second view, and one that is related to the concept of house as a symbol of self, is the belief that the home must serve a variety of functions other than simple shelter; the home must provide psychological as well as social privacy for the individual and family unit. The home is perceived as the medium of control for the family's interactions with various elements of the environment. This aspect of home is accomplished by our acceptance of it as the principal demarcator of the family's territory (Rapoport, 1968; Weil, 1952; January, 1971).

Finally, the home is the setting where our primary social interactions take place. It is the setting where our values, attitudes, beliefs, and coping strategies are evolved, and where basic personality development is initiated (Schorr, 1963; Skurka, 1974).

The process by which the house begins to take on such a crucial role in our development is a long and complex one. Cooper (1974) described how the process and its outcome occur:

As space becomes known and experienced it becomes a part of the child's world. But all the time, the house is home, the place of first conscious thoughts, of security and roots. It is no longer an inert box; it has been experienced, has become a symbol of the self, family, mother, and security.

Most individuals are not conscious of the role of the homes in their psychosocial development. We either come to take our physical settings for granted, or their impact is so ubiquitous that as psychoanalyst, Harold Searles (1960), was prompted to write:

I believe that the actual importance of that (non-human) environment to the individual is so great that he dare not recognize it. Unconsciously, it is felt, I believe, to be not only an intense conglomeration of things outside the self, but also a large and integral part of the self.

It is only for those whose homes are deficient in some way that the basic relationship between home, psycho-social development, and potential inadequacies becomes apparent, and that the interface between the two takes on full weight. It is in such environments that psychological and social well-being are threatened and satisfaction with the living environment is lowest (Ryan, 1963; Proshansky, 1970).

Another factor that must be considered if an understanding of the relationship between living environment, attitudes and perceptions, and ultimate satisfaction with one's housing as contributing to the fullness of one's life is that within our culture there is a pervasive desire for single-family home ownership as the ideal environment and lifestyle. Obviously such an acquisition is beyond the means of most low-income families, a reality that must have a tremendous influence on their feelings of well-being and satisfaction. This desire for single-family home ownership has deep historical and cultural roots and has permeated our attitudes and reactions to our home environments (Rapoport, 1969; Michelson, 1968; Cooper, 1972). A number of investigators have demonstrated that this desire is instilled in us very early in life (Ladd, 1972; Dennis, 1966; Rand, 1972). The housing available to the poor are furthest from these perceived norms and poor people often see little hope in obtaining such housing in the future.

The most obvious examples then of inadequate housing are seen in the living environments of the poor. A sizable portion of the housing literature has been specifically directed toward an understanding of these settings (for example, Schorr, 1963; Ryar, 1963; Wilner, et al,

1963; Fried, 1963). Although some of this research has been attacked because of possible methodological weaknesses (Dean, 1966; Kerlinger, 1973), the focus and significance of the findings are none the less pivotal to this proposed thesis.

An early and crucial work that investigated the impacts of inadequate housing on its residents was Alvin Schorr's Slums and Social Insecurity (1963). Schorr divided the potential impacts into three major types. First, the house is an extension of the self, a factor which helps mediate stress, state of health, and influences attitudes toward and satisfaction with oneself, one's family, one's immediate environment and the world in general. The second impact is attributed to the physical condition of the living unit itself, that is, its state of repair, amount of space within, its lay-out, facilities, and the like. A survey of United States urban families on welfare illustrated the still miserable living conditions to which many poor families continue to be exposed; 24 percent of the families having no hot or cold running water, 30 percent having insufficient beds for members of the family (Harris and Lindsey, 1972). This aspect of housing may strongly influence notions of privacy, child rearing practices, sexual attitudes, and housekeeping practices. Finally, Schorr pointed out, effects of the unit can interact with the immediate neighborhood environment and the city as a whole, influencing one's attitudes toward these settings as well. In his analysis, Schorr made it very clear that inadequacies in these three areas of the living unit challenge one's sense of individuality and freedom, one's ability to control the immediate setting, create illusions about others, and generally block an objective appraisal of the world and its problems.

In a more recent study, Saegert (1976), demonstrated how the maintenance and control of social interactions are impaired by such factors as attentional overload and spatial constraint, both of which may lead toward greater demands toward coordination of behavior, increasing stress, irrationality and possible psychopathology. Physical crowding appears to affect adversely one's health and to be a contributor to such ill effects as stress, cynicism about people and organizations, sexual frustration, and feelings of dissatisfaction. Loring (1956) similarly found that compared to families with adequate living space, families living in high density dwellings were more socially disorganized. Other investigators have found similar relationships between high density and pathology (Lantz, 1953; Hollingshead and Redlic, 1958; Faris and Dunham, 1965). Plant (1930) succinctly described the effects of high density living when he referred to:

. . . the mental strain arising from the constantly having to "get along" with other people . . . In the strain of having to constantly adapt to others, there is a continuous challenge to the integrity of the child's defenses, and the child gives to us beautifully the irritable, restless, insecure picture which proclaims this ever present threat. Often adults feel the strain of having to adjust to others if they are persistently in a group for a period of time. We see children who have never known any other situation.

High density and the perceived crowding that can be associated with it, do not always lead to stress and decompensation. Saegert (1976) also demonstrated that, at times, people like to "lose themselves" in high density situations such as parties and rallies. The point is made, however, with the understanding that in such situations we voluntarily enter the setting, know that the experience will last for a relatively brief period of time, and that we are more or less in control of the interactions and their consequences. The high density housing that so many urban poor find themselves in is not usually their housing by

choice; it is usually the only housing they can find and afford. The inability to choose housing that meets the needs of families and the subsequent inability to pursue family goals has a disastrous impact upon self-worth and engenders dissatisfaction with existing housing.

While systematic investigations of specific variables such as density offers insightful data that can aid in the understanding of environments such as low-income housing, this study must begin with a review of our notions about poverty and the strategies that evolved to house the growing number of disadvantaged families in this country. Only by establishing this general perspective can one understand the reactions to living environments created especially for the poor. Chapter 2 introduces this perspective as well as public housing as a strategy designed to improve housing and one of our most visible attempts at creating low-income housing. The chapter also presents some of the literature that has demonstrated the overwhelmingly negative effects of such housing on its residents. The chapter finally presents some of the factors that must be considered if the goal is to stimulate a positive sense of self in relationship to housing.

Chapter 3 describes the various architectural, social, and community structural elements of housing as interdependent determinants of attitudes and well-being. Only by viewing these factors as interdependent can a true understanding of a housing environment be established.

Finally, Chapter 4 outlines the research method employed in the present study. The research strategy was based on comparing the attitudes and perceptions of households of Villa Borinquen, a low-rise development with 241 low-income families, the majority of whom are Puerto Rican.

CHAPTER 2

A HISTORICAL PERSPECTIVE OF THE DEVELOPMENT OF LOW-INCOME HOUSING
AND THE IMPACTS OF SUCH HOUSING ON ITS RESIDENTS

Our attitudes, beliefs, and values about poverty can be comprehended only within the context of realizing that these same attitudes, beliefs, and values are the consequences of a social reality in which poverty is a relative phenomenon; relative, that is, to increasing prosperity. While our society is blessed, on the one hand, with increasing prosperity for many, on the other hand there remain a large number of people who, for various reasons, do not share in the growing wealth of society. This widening rift between the two groups has always been a fact of life, but it more obvious and painful now. It is also this seeming paradox that helps frame our reactions to poverty. The widespread poverty that was experienced during the 1930's did not carry the stigmatization and stereotyping that present day poverty does for the singular reason that the Depression affected large sectors of the populations and was believed to be a temporary setback.

In this country currently achieved levels of prosperity have allowed enormous scientific and technological gains to be made. Unfortunately, when similar energy is directed toward the alleviation of social ills or the improvement of living conditions for the poor, our efforts have fallen far short of their goals. In so many instances of reform, programs of a social nature have served only to make the beneficiaries more conscious of their plight and highlight the gulf that

separates the poor from the prosperous. Now, as never before, we find poverty increasingly concentrated in certain groups and geographical areas while other groups and locations are spared the experience (Duhl, 1961).

The many issues related to poverty, housing being one of the major ones, continue to be nagging problems that appear to defy solution partly due to relative prosperity and the resultant perceptions we have about poverty and the poor (Duhl, 1961).

To be poor in the United States usually means that a host of labels are attached to one and one's family. There exist images of the poor as being worthless, lacking self and social control, as having no moral standards, and as being useless and shameless. In the views of some, the poor are not God-fearing, are unproductive, unwilling to better themselves, and a menace to society.

Using a medical analogy, just as one can be stricken with disease, the poor are poverty-stricken. Such beliefs can lead to the conclusions that the poor are in some way aberrant or predisposed not only to their economic plight, but also to any number of psychopathologies such as anti-social or disruptive behavior, or sexually deviant tendencies. The result of such views can be policies whose underlying assumptions are that, through some fault of their own, the poor are always to blame for their status; that they possibly do not want or desire change in their condition, and should be overlooked by society. Related to those beliefs already mentioned is the belief that the poor are so different from the rest of society that very little can be done to help them, or at worst, that poverty is a problem without solution. Accordingly, the best that can be hoped for is a gradual dissipation of their "culture of poverty" with their acceptance of a need for change. Ultimately, the

poor are seen as being unable to care for themselves and incapable or not responsible enough to make their own decisions or manage their own lives. This being the case, it follows that the "cure" for poverty must be placed in the hands of the various agencies developed to oversee the lives of the disadvantaged.

Whether these images or stereotypes emerged from personal contact with or ignorance of poverty is difficult to establish. Duhl (1961) wrote that: "Every one of us has had a personal look at poverty." Whether this implies that observing the effects of poverty is the same as experiencing them as one's daily reality is not made clear. Anthony Downs (1968) took a different perspective when he wrote in Agenda for the Nation:

Most Americans have no conception of the filth, degradation, squalor, overcrowding and personal danger and insecurity millions of inadequate housing units are causing . . . Until you have actually stumbled through the ill-lit and decaying rooms of slum dwellings . . . you can have no real idea of what bad housing is like.

According to Downs, the effect of such attitudes and conflicting and contradictory opinions are evident in our perceptions of poverty conditions. While deploring the dirt, squalor, and impacted housing, there is also an attraction to the apparent casual interpersonal and social networks as well as the excitement and color that many poor neighborhoods possess. Regardless of the ambivalence of these perceptions, one must understand poverty in relation to the goals of most of society's members.

The most prevalent aspiration in our culture is to attain a standard of living high enough to allow one to maximize one's options and alternatives and be free to choose from them. The model we have created for actualizing this is the self-made individual; the person

who, through his own resources, has reached the highest level of growth possible. The degree to which one can approximate this goal will have a tremendous influence on self-esteem and psychological well-being. It can thus be stated that those with the fewest options and alternatives and who must rely on others for aid and support are at a tremendous disadvantage at establishing a positive sense of self-worth and may be viewed by others as deficient, deviant, or stereotyped in any of the ways described.

The most visible example of the frustration of these goals is found in the housing of the poor and in the efforts made to change these living environments by housing agencies. Low-income housing policies have been framed to some degree around the values and attitudes presented. The reactions and responses of those living in such housing must be understood relative to these values. It is the contention of this writer that the site investigated in this study can be considered a working alternative to the attitudes that exist about housing for the poor, and therefore can offer significant insight into the perception of low-income individuals and families to their environments. However, before exploring the specifics of the study, the following section of this chapter describes the history of the development of housing policies for the poor as well as the findings of a number of investigators of the impacts of low-income housing on its residents.

The Housing Industry's and Design Profession's Attitudes Toward the Poor

The dynamics of poverty where mass housing is concerned can be viewed from either one or two perspectives. From the viewpoint of the housing industry as well as that of national, state, and municipal

housing agencies, the major concerns are economic and therefore quantitative. The major issues are how many units of housing can be built in the least amount of time. Added to this is the concern that in the case of government-sponsored housing, the unit has costs that must fall within specified budget appropriations and in the case of the private builder, that profit criteria be met. These concerns must be weighed against the users whose needs and concerns can best be described as qualitative. The qualitative focus is on the unit's location in relation to jobs, schools, neighbors, family, as well as control exerted over the living environment (Turner and Fichter, 1972). The problems of the poor appear different depending upon from which vantage point one happens to be observing. Those who make mass housing policies see the problems of low-income housing as that of supply; the faster units can be produced, the faster the resolution of the problem. The users are also concerned with supply but are as concerned about the quality of the units being built.

As in all market economies, the market responds to the effective demands placed upon it by the consumer. In the housing market, this is translated into better quality housing going to those who can afford it. Having little economic viability, the poor place no effective demands on the system and must, therefore, usually settle for housing that is deficient in its physical aspects, or if physically adequate then socially debilitating (Winnick, 1950; Turner and Fichter, 1972).

Effective demands and established minimum standards are market and government evolved concepts; user needs, on the other hand, place less quantifiable demands on the housing industry, and in the case of low-income housing residents, are often at odds with the market concepts.

One can therefore view the impacts of low-income housing on its residents as, at least in part, resulting from the conflicts between traditionally established norms and the dynamic needs of users.

Housing professionals historically have not necessarily responded to the needs of the poor for a number of reasons. First, the poor have asked for facilities that, given the nature of the market economy and accepted housing standards, are deemed as impossible and inappropriate. This particular difficulty may be due to the fact that user needs go beyond the physical structure of housing and extend into social and economic domains as well. Frequently, users express themselves emotionally, responding to the experiences and conditions under which they live. The professionals, on the other hand, have been trained to respond dispassionately, and the emotional reactions seem alien and embarrassing (Porteous, 1976). Finally, the professionals' training, status, class and lifestyle can create feelings of superiority on their part or feelings that they know what is best. While this is generally a problem, it is even more pronounced for the poor as client of the professional.

Public Housing as a Strategy to House the Urban Poor

The Housing Act of 1937 was the first national low-income housing program established in the United States. Its major objective was to stimulate the post-Depression economy and to provide temporary accommodations for those unable to obtain housing on the private market (Wheaton, 1966; Solomon, 1974). The intention was to serve the large number of "deserving poor" who were submerged in the working class. The thinking behind the Act was to house poor temporarily until economic conditions improved. Families having achieved a maximum income limit

would move from the public housing into private housing. This turnover was a pivotal element of the program as it would insure the availability of a large number of units for other low-income families. As is frequently the case with such government undertakings, the operation of the housing program failed to understand the reality of poverty in this country. What was to be a relatively small stock of public housing units expanded tremendously over the years. By 1970, there were almost three million Americans, well over ten percent of the population, living in federal public housing (Solomon, 1974). The vision of a class of temporarily deserving poor disappearing from the American scene never fully materialized. The exigencies of wartime housing needs, returning veterans, neighborhoods displaced by urban renewal and massive highway construction created a continued demand for new housing. Periodic economic recessions coupled with practices that excluded certain groups from advancing to higher social economic levels led to the creation of families that for generations experienced nothing but public housing; the deserving poor had become as trapped in the vicious cycle of poverty as the dependent poor. In 1968 the President's Committee on Urban Housing found that public housing tenants were economically immobile and the housing developments had low turnover rates (Solomon, 1974).

Viewed as temporary accommodations, the minimum standards criteria for public housing design might be acceptable to residents with little or no damage to their sense of integrity. When, however, public housing becomes a way of life, the minimum standards become mirrors of shattered dreams and failure. For many of its residents, public housing erodes any sense of self-worth. For those not in public housing, the stereotype of the poor as the undeserving dregs of society evolves; and the

acceptance of minimum standards becomes the deserving punishment for the intransigent poor.

Research on public housing has demonstrated its demoralizing effects on residents, neighborhoods, and communities. Rainwater (1970) vividly described the frustrations, conflicts, and pressures experienced by residents of Pruitt-Igoe, a large-scale public housing complex in St. Louis built in the 1960's. Although hailed as a design breakthrough by the architectural community (Architectural Forum, 1951), the project was so out of keeping with the lifestyle of the residents that vandalism and abandonment became major problems with individual buildings having to be demolished after only a few years occupancy. Rainwater believed that the basic fault of the complex was that it hindered the normal social interaction patterns of its black population. This observation is indeed ironic as the professionals in charge of its design believed it to be a sensitive response to these very community needs (Architectural Forum, 1951).

In another investigation of this complex, Yancey (1971) similarly contended that Pruitt-Igoe failed because it fractured the all-important social networks of its resident population. Specifically, the author pointed out that the absence of semi-private spaces and lack of adequate facilities intensified the expressed social atomization and social unrest. Yancey cited Suttles (1968) who observed that the conflicts in the Adams area of Chicago resulted in the reinforcement of small informal groups around semi-private spaces immediately adjacent to their homes. Other investigators have demonstrated the importance of the interpersonal networks and spaces in urban working and low-income groups (Bott, 1957; Young and Wilmott, 1957; Gans, 1962).

In a study of public housing (caserios) of Puerto Rico, Hollingshead and Rogler (1963) found that good housing in accordance with standards set by architects and planners and built by well-intentioned housing authorities resulted in housing that the residents felt was unsatisfactory and that thwarted meaningful and successful familial relationships. Their in-depth study comparing attitudes toward caserios and "slums" found that 65% of the men and women living in the so-called slums liked these environments, while 86% of the men and 71% of the women disliked living in the caserios. As in the Yancey study, this investigation found that the caserios families did not feel in control of their environment because social interactions were forced upon them by the architecture and the autonomous housing authority.

One might conclude from such findings that public housing has led only to dissatisfaction and pathology of individuals, families and neighborhoods. Public housing in the United States, however, has taken on varied forms and has meant different things to different people. In a Baltimore public housing project which provided common areas for informal gatherings as well as facilities for tenant use, there developed increasing amounts of neighboring and mutual aid among tenants who had prior residency in slum housing (Wilner et al, 1963). These residents also developed more positive self-aid among residents who had prior residency in slum housing. These residents also developed more positive self-concepts and more positive attitudes toward their neighborhood when compared to a control sample that remained in slum housing. This study analyzed six socio-psychological dimensions of satisfaction: reaction to housing and space, relations with neighbors, personal and family relations, attitudes and behaviors toward neighborhood and community, social and self-concept and aspirations, and psy-

chological space. The findings lead to general confirmation of the principle hypothesis that tenants would express more satisfaction in these dimensions than a control group remaining in slum housing. Earlier studies reached similar conclusions as related to public housing residents working together to solve project problems (Merton, 1948; Jahoda and West (1951).

The growing number of poor individuals and families migrating to old urban centers in search of housing, social services, and the possibility of work placed a tremendous burden on the available housing with the result that many areas began to deteriorate physically. Various investigators began to study this process in an attempt to find a remedy for it (Foote et al, 1960; Gans, 1962). It became apparent that many of these areas would require massive renovation and replacement of old structures and urban renewal became a major strategy to allow for new housing to be built. However, the process had unanticipated impacts. Fried and Gleicher (1961) had to explain why such a large proportion, 75%, of the working class residents of the West End of Boston liked their physically deteriorated environment and why the relocation that ensued as a consequence of tearing down much of the existing housing did not appreciably reduce the social pathology the "slums" were believed to generate:

In studying the reasons for satisfaction that the majority of slum residents experience, two major components have emerged. On the one hand, the residential area is the region in which a vast interlocking set of social networks is localized. And on the other, the physical area has considerable meaning as an extension of the home, in which various parts are delineated and structured on the basis of a sense of belonging.

In his well-known study of this same neighborhood, Gans (1962) anticipated the findings of Fried and Gleicher when he indicated that

rather than focus on density as the mediator of well-being and satisfaction as previous investigators had (Loring, 1956), social structure might be propinquitous and familial contacts were key determinators of well-being and satisfaction.

Residents of the West End were family-centered with strong friendship ties in the immediate areas. Two or three generations of the same family lived together and close relatives were within easy visiting distance, a factor that is extremely important to ethnic groups of working class origin. And because the population was drawn mainly from a single socio-economic class, there was a homogeneity of cultural values. People "got along" because they shared the same general interests.

It would appear then that as the home is an extension of the self (Cooper, 1974; Rapoport, 1969; Bachelard, 1969; Searles, 1960), the neighborhood is an extension of the home for many low-income groups and therefore, is directly related to psychological well-being. These three elements, self, home, and neighborhood, comprise a mutually interdependent system. A change in one will have impacts on the others. If low-income housing is to be successful, the sponsors and the architects must be sensitive to the dynamics of the system that helps shape psychological well-being.

Many questions and controversies persist regarding the success or failure of public housing programs. As these uncertainties remain, there have been numerous attempts to create housing for the poor that would be qualitatively superior to the "traditionally" designed public housing that has come to have such a negative stigma attached to it. Of course, a question that can be raised is how different such new housing must be to be perceived as a true break from the established norms? The answers to this vary considerably from architect to architect, housing authority to housing authority, and user to user. In Defensible Space Newman (1972) compared various types of public housing and found that

the more successful (safer and imageable) were low-rise, medium-density developments where the designers emphasized the need for humanizing and enriching the housing environments. These safer environments give their tenants a greater sense of territoriality. Through increased visibility these environments allow for a natural surveillance of the site. The image of the developments is a more positive one when compared to that of the high-rise complex. And finally these settings blend into their surrounding neighborhood much more naturally, creating a pleasing milieu. Examples of such settings are the St. Frances Square complex in San Francisco, Marcus Garvey Square, also in San Francisco, and the modified Classon Point Gardens in the Bronx. In each of these, the scale is human, less regimented, and more conducive to personal involvement (Ittelson et al, 1974). Another setting that was the focus of a major study of residents' attitudes of themselves, their families, and their community, is the Easter Hill Village in California. The low-income project falls halfway between success and failure. The architects were successful through individual porch design and location to create a semi-private zone in front of each dwelling. In effect, these areas were seen as extensions of the family domain and insured their maintenance by the tenants. It is such transitional spaces that, according to Newman, are so crucial to good public housing design planning. The rear walks of each unit, however, are open to the street and residents complained of a lack of privacy; the yards were unused and therefore, unsatisfactory. An intensive interview study of Easter Hill Village was conducted by Cooper (1975). She examined closely many aspects of life in the development including space and privacy within the home, use of private outdoor spaces, children and their activities, resident reaction to physical and social dimensions and attitudes toward

public housing in general. One of the many important facts to emerge from this investigation was that while the architects devoted much attention to the articulation of space within the units, not enough energy was spent in adequate exterior space design. The conclusion from this, and other studies already cited, however, demonstrates that it is just these semi-private and public transitional spaces surrounding dwellings that are keys to establishing positive attitudes toward housing (Gans, 1962; Rainwater, 1970; Yancey, 1971).

The location of the project was not considered by the residents to be a desirable one for raising children. This perception, coupled with inadequate consideration or provisions for children in the environment, exacerbated inter- as well as intra-family conflicts. Cooper echoed other researchers in stating that people generally select homes by virtue of their perception of the neighborhood rather than by the intrinsic design features of the individual dwelling unit itself (Gans, 1962; Fried and Gleicher, 1961; Yancey, 1971). Cooper's advice to architects and housing authorities is to place greater emphasis on these larger neighborhood factors especially when designing for the poor whose options for selecting their neighborhood are severely limited.

Reactions to Low-Income Multi-Family Housing Strategies:
Squatting, Participation, New Housing

Looking at housing for the poor in its global dimensions, researchers have observed the tremendous growth and apparent success of squatter settlements in the developing countries. The number and size of these settlements points to the failure of traditional economic, social and political structures to house the poor. The investigations that have been undertaken to understand the dynamics of these shanty-

towns generally conclude that they have been very successful in providing a stable community structure in a physical setting that, while initially viewed by outsiders as squalid, improves dramatically over time (Van Huych and Rosser, 1966; Mangin and Turner, 1968; Turner, 1967; Andrews et al, 1973). These studies also demonstrate that the relative failure of government-sponsored public housing in these countries is due to the fact that they do not allow for tenant involvement in management and that they have architectural designs that conflict with family and social interaction patterns. In essence their failure is a consequence of dynamics similar to those that have led to failure of public housing in the United States.

The potential for similar developments in this country is quite remote. There obviously exist many fundamental social, economic, and political differences between the urbanized, industrialized countries and the Third World where most of these squatter settlements exist, not the least important of these differences being enforced legal constraints against such towns, building codes that can be overwhelming, and vast bureaucracies that intervene in the lives of the poor.

The reactions or alternatives to traditionally planned public housing in the United States have employed other means and have been based on other conceptions of how to house the poor. The site involved in the present investigation, Villa Borinquen, represents one such alternative to create public housing that did not reflect the established and accepted norms and strategies of public housing and will hopefully avoid the mistakes that these norms and strategies have produced.

Before describing Villa Borinquen and why it was viewed as a break with tradition, let us first look at a number of contemporary approaches

to housing that are in fact reactions to traditionally conceived public housing as well as being crucial to an understanding of the operation of Villa Borinquen.

The most recent trends in housing for the poor have involved the direct participation of potential users in the renovation of existing structures and in the planning of new developments. The first of these two directions goes by various names: homesteading, sweat equity housing, or self-help housing. The procedure involves the occupation of an abandoned building by a community group in need of housing. These occupants perform all the necessary repairs and remodeling to make the dwelling habitable. When these types of movements first began, local municipalities attempted to remove these "squatters" from the occupied premises. However, it soon became apparent that not only could these groups make the necessary repairs, but they could also make the building socially and economically viable. Many of the original owners of these buildings had lost interest in maintaining them because of the extensive time, energy, and money they would have had to invest without being sure of obtaining a reasonable profit. In New York City, where this movement has had great success, there was a city agency, the Urban Homesteading Assistance Board, which provided technical assistance to sweat equity groups. Banks and other lending institutions also provided assistance through the provision of low-cost mortgages and home improvement loans to these groups. The number and type of groups was rapidly growing. More and more, low-income families saw this as an alternative to poor quality housing or public housing projects which offer somewhat adequate interior spaces, but suffer from the disadvantages described earlier. One of the most successful of these squatter groups was the People's

Development Corporation (PDC) of the South Bronx. The group, composed primarily of low-income Hispanics and Blacks, initiated its drive with the rehabilitation of one abandoned tenement with 28 apartments. The group was so successful that it had plans to renovate many more buildings in the neighborhood. UHAB gave technical assistance for the renovation of 26 abandoned buildings in New York and another 50 or so had plans drawn up. An unanticipated and beneficial development of this type of activity was that the groups branched out into other activities and got involved in creating small parks, building greenhouses, forming food cooperatives, and enlisting the support of other community residents in the maintenance of these facilities. What the impact on self, family, attitudes toward housing and neighborhood are for these people requires future research. One can hypothesize, however, that as the energy is coming from neighborhood residents working to preserve and upgrade their own quality of life within their own territories, the effect will be positive for the psycho-social environment as well as for the physical setting.

The second of the newer trends, the participation of the community in the planning and design of totally new living environments, involves a more complex set of procedures and dynamics. At present, at least, homesteading involves relatively small numbers of people, as the renovation process is a lengthy one working on a few buildings at a time. The creation of new environments, however, can create housing for hundreds of families at a time. In creating new housing new approaches to design can be tested while in rehabilitation, one is, of necessity, committed to existing structures. New housing also involves much larger expenditures of money. Finally, in deciding to build new environments, various interest groups are obliged to work together, e.g. municipal

housing authorities, lending institutions, architects and planners, and community organizations. The realization of meaningful dialogue between these groups and the delineation of a successful working relationship may be difficult to establish. Difficulties arise as each group brings different amounts of expertise to the design process. Difficulties can inevitably arise if the groups are wary and suspicious of each others' motives, tactics, and goals. Given the potential problems and complexities that may exist, the construction of new low-income housing is an essential strategy for the housing of the poor. In some settings there are large, vacant spaces where housing would be the best option for their development. In other areas, such as large cities, much of the abandoned housing may be so structurally unsound that proper rehabilitation would be a senseless waste of money, time, and energy.

The rationale for this housing strategy is a simple one. Housing experts and authorities have come to realize that present forms of public housing planning and management do not adequately meet the basic needs of the communities they are meant to serve. Therefore, in order to clarify these needs and to develop means of facilitating their actualization, responsible community leaders should be incorporated in the design process. The information and advice would be those of their constituents. The results of such collaborations should be housing environments that offer adequate physical facilities but, in addition, will be sensitive and responsible to the social needs of the people in the communities and neighborhoods in which future residents live. There are a number of such housing environments already completed and others are in the construction or planning stages. Villa Victoria in Boston's South End, for example, is a small community where about 550 hispanic

families live. By far, the most ambitious and controversial of these projects was the East Harlem Pilot Project, Taino Towers. Within its four towers, each named after a tribe of the Taino Indians of the Caribe, 656 low-income families had all that the best luxury apartment buildings had to offer. Amenities such as air conditioning, indoor pool, gymnasium, youth center, and a greenhouse were just a few of the many available to tenants. The surrounding East Harlem community was to have access to the complex's ground floor stores and to a large medical center. Taino Towers reached the attention of the nation when its sponsors asked the federal government to help bridge a budget gap of 10 million dollars so that work on the nearly completed project could continue and accept its first tenants. Opponents of the project felt that the project was too lavish an experiment, having already exhausted its 45 million dollar projected cost. It was also felt that any further funding would have to be contingent on allowing middle- and upper-income families access to units in the development. The sponsors have countered that the project should be offered only to those low-income residents of East Harlem who had only the poorest quality housing to choose from, and that the realization of the original goals for the complex would be perceived by the community as a positive sign that it could be made into a viable and thriving one. Former President Carter agreed with the sponsors of the project; the money was released and Taino Towers' first tenants moved into the project in 1980.

Collaboration can mean different things in different settings and certainly the degree of collaboration varies from project to project. At the most minimal level of input, community members can be called in to react to an already evolving housing plan. The overall impact at this level would serve only to affect minor changes in the plan. At the

other end, however, community involvement can be built in early, when the ideas for creating new housing are first explored. It is this latter approach that, while more time-consuming and difficult to establish (Meyerson, 1969; Harwick and Harwick, 1974), may offer the best long-term solution to improved low-income housing (Schaffer, 1970; Betjeman, 1971; Boodmon, 1971-1972).

The Special Case of the Attitudes of Puerto Ricans Toward Urban Multi-Family Housing

One may well imagine, with names such as Villa Victoria and Taino Towers, that all the projects where community participation has been attempted have focused on hispanic communities. While this is obviously not the case, it is true that many hispanic communities are becoming increasingly involved in the evolution of such programs. The fact that many programs include involve hispanic communities, neighborhoods, housing and tenants address the central concern of this dissertation.

While the research findings have begun to unravel the complex dynamics of attitudes, perceptions, and well-being of many groups, there is a conspicuous lack of information about these variables as related hispanics and specifically of the largest groups of hispanics in the United States - the Puerto Ricans. The works of Lewis (1970) and Hollingshead and Rogler (1963) have gone a long way toward explaining the impact of changed housing of Puerto Ricans living on the island of Puerto Rico. Little has been understood, however, of the experiences of Puerto Rican families living in the United States. With a population of approximately 800,000 in New York City alone, many of whom live in neighborhoods where the available housing is of poor quality, the impact on the community of such housing must be enormous. An analysis of

attitudes and perceptions of self, family, housing and neighborhood must be conducted in light of a very fundamental aspect of this community, a unique set of experiences that are specific to the Puerto Rican. At least four of these have been isolated:

(a) The Puerto Rican family is still, to a great extent, an extended family as opposed to the more traditional North American nuclear family system. The extended family has, due to its larger size and varied social dynamics, vastly different physical and social needs than the nuclear family. The number of people occupying an apartment or house, for example, can change depending upon the social needs of the family. Also, a member who has a minor role in the family's interactions can assume a more dominant position because of his/her age or because of changed social patterns within the social unit.

(b) Secondly, Puerto Rico has probably undergone the most accelerated and drastic changes from an agrarian-rural culture to a modern, industrialized one with vastly different needs and values. This is, of course, due to the introduction of massive North American industrial-technological know-how to the island during the 1950's (Bonilla, 1965; Dennis, 1972; Safa, 1974).

(c) Thirdly, the Puerto Rican culture has been absorbed in the process of acculturation within a dominant culture that is itself undergoing vast social, economic, political, and physical change. This fact has, at time, led to feelings of uncertainty as to the norms and values of the dominant culture and confusion as to the expected social roles one must take on.

(d) Finally, and perhaps one of the most critical components of the Puerto Rican's attitudes and perceptions, is that, with relative ease and little hardship, the Puerto Rican can "commute" between the

mainland of the United States and the island of Puerto Rico. Commitments and allegiances can realistically be divided between both settings, and actions taken in either environment can, in fact, be made in anticipation of a possible move to the other. The movement of entire families, a number of times, between both settings has not been well-documented but does occur. The extended family, with members on the mainland and the island, helps support and facilitate such movements. But even with familial ties bridging members across the Caribbean, the geographical, climatological, political, economic, and social differences have contributed to housing concepts that are quite divergent in both settings. Investigations undertaken to measure attitudes toward housing on the island may not be valid or reliable indicators of attitudes in the United States. If these assumptions are correct and hispanics on the mainland constitute a population whose perceptions have not been adequately accessed:

(1) An analysis must be undertaken to assess attitudes toward self, family, immediate living environment and neighborhood. Such an analysis should demonstrate whether this population exhibits similar dynamics and concerns as others already studied.

(2) An understanding must be developed of how members of this group distribute themselves along a number of population characteristics and how members perceive themselves with regard to these characteristics. How members perceive themselves with regard to these characteristics may greatly influence attitudes and behaviors. Keller (1968), for example, pointed out that on the basis of one shared characteristic such as low socio-economic status, one could not make sweeping generalizations as to "group" attitudes. Other characteristics

may play as pivotal a role in attitudinal and behavioral makeup as economic status. In essence, Keller was calling for an assessment of internal consistency and diversity within members of a group.

(3) The potential for differing and often contradictory attitudes among members makes participatory planning all the more crucial for good housing. It will be through effective participatory planning that the divergent attitudes and perceptions of this or any other group can be channeled to the decision makers, making their plans more responsive to the various needs of the community.

Goals of Study

This study had as its principal goal the exploration of attitudes and perceptions of residents to their new living environment. The site chosen was a housing complex in downtown Jersey City called Villa Borinquen. The largely hispanic population of the area participated in designing the complex through its involvement with a local social agency that was the major sponsor of the project. Through the interactions among area residents, sponsors, and architects, Villa Borinquen developed as an attempt not only to provide residents with good housing, but also to bring about positive effects on the social well-being of residents of the project and the greater community as well. Villa Borinquen, therefore, offered an opportunity to evaluate an environment that rejects the historical notions about the poor and that attempts to integrate factors believed to be essential for successful multi-family low-income housing. The following is a description of the site and also of the events that led to its development.

Site Characteristics of Villa Borinquen

Villa Borinquen is located on a 6.5 acre site adjacent to the downtown Jersey City central business district. The development is bounded by Henderson Street at its eastern edge and by Grove Street at its western edge. Its northern boundary is 5th Street and its southern one is 2nd Street. This area and the downtown area of Jersey City over the past decade have become a growing low-income neighborhood. As middle-income whites have left, they have been replaced by a large proportion of hispanics and blacks who have had to settle for increasingly deteriorated housing.

The project includes three low-rise complexes or quadrants of housing. Each quadrant has single-family attached row houses or townhouses. Each of these townhouses is two stories in height. Located on the first floor are the living spaces, kitchens, and dining areas; on the second floor are the bedrooms and bathrooms. These townhouses are the largest of the units in the development having up to three bedrooms. Each townhouse has its own private entrance facing the street and a small stoop at each entrance. At the corners of each housing quadrant is a three-story garden apartment edifice. The units have two bedrooms each. Each quadrant has an entrance plaza which has a laundry, store fronts for small businesses or offices, and meeting spaces for residents' gatherings, social affairs, and so on.

An important feature of each quadrant is the "secured open space" onto which all units have a view and which they all surround. These spaces are landscaped with trees of various sizes, shrubbery, lawns, mounds, and walking paths. Aside from the aesthetic appeal, these spaces are meant to be used by residents for many outdoor activities.

The townhouse units have private rear door entrances on to patios leading to these open spaces. Each garden apartment unit has an entrance on to the open space that is shared by these residents.

The tallest part of the project is an 11-story apartment tower which has 110 one-bedroom and efficiency units. These are intended for the elderly, unmarried singles, and childless couples of the community. Figures 1 through 3 illustrate these components of the Villa Borinquen complex.

In their desire to create housing that was innovative, sensitive, and that broke with the traditionally poor image that low-income housing had come to have, the sponsors decided to meet with the architectural firms that were recommended to them by the State Housing Authority. After evaluating each on the design concept they proposed, sensitivity to community needs and willingness to work with sponsors, the New York City firm of Beyer, Blinder, and Bell was selected to develop the architectural plans.

When the final 247 unit design was first introduced, 242 living units and 5 commercial, the cost estimate for its completion was placed at 7.5 million dollars. Delays in finalizing the design and contract signing, personnel changes in the housing authority, and increasing construction costs raised the total cost to 9.5 million dollars. Negotiations with the state housing authority and the state's finance agency were renewed, the additional 2 million dollars secured and construction began.

The first residents moved in early in 1979. Approximately 95% of the units were rented. About 40% of the households were receiving rent



Figure 1
(looking southwest to quadrant 1)
Garden Apartments in Foreground, High Rise in Background



Figure 2
(looking east)
Pedestrian/Open Space of Quadrant 1



Figure 3
(looking west)
Quadrant 3 with Garden Apartments in Foreground and High Rise in Background

subsidies through FHA 236 and 101 programs. The majority of the subsidies have gone to elderly households. The remaining subsidies have gone to the larger families.

Goals of the Community and Architect

The goals of the community and of the architect were to create a safe, secure, and comfortable environment for the residents. It was felt that rather than construct the standard high-rise block that so typifies new low-income housing, the goals could be best achieved through building a low-rise medium-density project. The architects were greatly influenced by Oscar Newman's Defensible Space (1972), and believed that the goals of surveillance, territoriality, image, and low-maintenance cost could best be achieved by their design for Villa Borinquen. The secured open space in each quadrant was accessible with a special key that only the tenants were given. Each townhouse had its own entrance on the sidewalk eliminating the long, double-loaded corridors that would be necessary had a high-rise structure been the alternative structure chosen. It was felt that such corridors would be potential danger points and more difficult to maintain. It was believed, as Newman points out, that such private entrances would encourage the residents to maintain their entrances, allow for personalization of the spaces, and discourage acts of vandalism and assault against residents and passers-by. All entrances were highly visible from within and without through the extensive use of glass. By locating meeting rooms, laundries, and store fronts at these points, the architects assumed that regular usage-surveillance would result, adding to the safety of the project. The through streets (3rd and 4th) were closed off from vehicular traffic relegating all parking to the

peripheral areas of the development creating exclusively pedestrian areas throughout the development. Though the parking spaces were at the perimeter, they were visible and easily accessible from the low-rise units. Circulation within the project was on foot where paved, tree-lined streets joined the quadrants to one another. Natural lighting was plentiful as the low-rise buildings allowed abundant sunlight to filter through and ample artificial lighting was provided for nighttime activities throughout the streets, entrance plazas, and open spaces.

As mentioned earlier, the planners of Villa Borinquen hoped that it would improve the socio-psychological and political climate of the neighborhood. The sponsors of Villa Borinquen hoped that it would be seen as a symbol for the hispanic and other poor communities of Jersey City; a symbol of success and achievement that residents and neighborhood alike could identify with and take pride in. Community leaders believed that through the development of such projects the image, outlook, and commitment of individuals and families could be made more positive. It was believed that through community-sponsored and evolved projects such as Villa Borinquen, the trend toward increasing levels of poverty, crimes, and fractured interpersonal interactions would be reversed.

In light of this history, Villa Borinquen could be perceived as an alternative to traditionally designed and managed low-income housing because it attempted to integrate the architectural elements of housing with the various social characteristics of residents and consequently with the community it was to serve. In this researcher's discussion with the architects, they expressed their beliefs that, by taking this integrative approach, their product would be housing that not only met

the physical needs of the residents but that was also sensitive to their psycho-social needs as well. It offered an opportunity to study whether community participation was a meaningful approach to planning new low-income housing. Villa Borinquen was a departure from the established position that the poor deserved only minimum consideration in their desire to achieve better housing. It allowed for not only community participation in its design phases, but it also gave residents a role in the management of their housing and, therefore, control over an important part of their lives. These policies ran counter to the historical attitudes, beliefs, and values that the poor could not or should not have better quality housing in planned settings where residents had options and responsibilities.

This study explored how the various physical and social characteristics of Villa Borinquen interacted to influence the attitudes and perceptions of the residents to the housing itself, themselves, and to the larger community. The study investigated whether the strategy taken in the creation of Villa Borinquen, an integrative approach to low-income housing, could halt the spiraling housing degradation and the related demise of residents' feeling of self-worth and self-integrity.

CHAPTER 3

THE ARCHITECTURAL, SOCIAL, AND COMMUNITY STRUCTURAL ELEMENTS
AS INTERDEPENDENT FACTORS OF PSYCHOLOGICAL WELL-BEING

There have been numerous theories posited to explain attitudes and behaviors exhibited in various settings. Many of these, however, have been too simplistic to adequately describe the relationships between physical space and psychological well-being and ultimately attitudes toward housing. One such theory, that of architectural determinism, espouses the viewpoint that human kind is doomed unless action is taken to improve the architectural environment (Beshers, 1962). In elaborations of this view it is held that the physical environment completely determines or at least is the prime influence of our behavior. The roots of this type of thinking can be found in the middle class reactions to the appalling living conditions of the poor in the nineteenth century. British housing crusaders firmly believed that by improving the housing of the poor, concomitant changes in their personalities and lives would result. The visual utopians, Howard, Wright, and Le Corbussier strong spokesmen for this perspective, evolved elaborate plans for the ideal cities that would reshape society. Their plans were based on an architectural rationality that would inspire, elevate, and bring out the very best in its residents.

At the same time "sewer socialism" a popular movement in the United States drew attention to the relationship between housing, overcrowding, and various physical and psychopathologies (Porteous, 1976). Similar thinking reinforced the strategies of slum clearance, urban renewal, and

public housing during the 1960's. It was these very programs that had such disastrous impacts on the residents of many communities and on the relocatees (Rainwater, 1970; Yancey, 1971; Fried, 1963; Fried and Gleicher, 1961). These housing strategies and their resultant effects served as fertile ground for social scientific research and also forced architects, designers, and planners to reassess their thinking (Seligman, 1957).

Once upon a time we thought that if we could get our problem families out of those dreadful slums, the papa would stop taking dope, mama would stop chasing around, and junior would stop carrying a knife. Well, we've got them in a nice new apartment with modern kitchen and a recreation center and they are the same bunch of bastards they always were.

Architectural determinists either dismissed as unnecessary an understanding of how social forces could play a role in the success of housing or were simply unaware of the relationship between the two.

Social scientists responded by asserting that social factors far outweighed physical ones in determining quality of life. All too often they said, architects were caught up in the enthusiasm for "good design" as a cure for all social ills. Social determinism, it was felt, should supplant architectural determinism (Gans, 1968; Broady, 1966, 1972).

What both these perspectives failed to realize was that a growing body of literature that was establishing a position somewhere in between the deterministic positions. An early study by Festinger, Schacter and Back (1950), surveyed friendship patterns of students in university housing composed of single family detached homes grouped around public yards. In general, it was found that families were more likely to establish social contact with others living in the same residential group. Moreover, the probability of friendship tended to increase as the interhouse distance within a courtyard decreased. Taking these

finding into account, Yoshioka and Athanasiou (1971) interviewed residents of single family dwellings living in differently planned sites. Among the relationships found was that the distances to friends' homes were a function of the particular site plan. Families living in cul-de-sacs or dead end streets lived closer to their friends than families living on through streets. It is important to note that physical proximity is no doubt aided by the similarity in social backgrounds of the participants in this study.

Other investigators were uncovering relationships between physical environment and social behavior. Caplow and Forman (1950), in a study of university housing observed that friendships were likely to develop when residents' doors opened onto a common sidewalk. Similar observations were obtained for doors that were closer together but opened onto different sidewalks.

A significant study of residential environment and behavior was conducted by Whyte (1956) in a new, fast-growing suburb of Chicago. He found that people living close to one another engaged in the same social activities. Three years later Whyte returned to the community and discovered that while many of the residents had moved and despite the fact the activities had been transposed to other locations, the same relationship between distance and activity held. The conclusions reached by Whyte (1956), and the others were similar; given certain shared social characteristics, physical arrangements could determine neighboring and friendship.

As citizen involvement in the design, construction and management of housing environments has emerged as a potentially significant contributor to residential satisfaction there continues to exist ongoing research interest in this area. Indeed interest in the growth of

community awareness and involvement in many aspects of a community's life has received scholarly attention from many varied disciplines and professions.

In a lecture given by Saegert (1985) some of the most recent research on community participation in housing environments was summarized and placed within the broader theoretical framework of environmental psychology. Saegert first draws upon the work of Kantrowitz (1985) who identified a number of environments including housing, hospitals and prisons as settings that have been impacted by behavioral research. In these settings she identifies a common core of dependent variables that have been investigated. These variables relate to spatial orientation, privacy, territoriality, social interaction, sense of control and personalization. Kantrowitz and others e.g. Wener, Frazier and Farkerstein (1985) acknowledged that user participation in the design process and later in management can reduce stress and improve interaction and communication among groups. There is, however, another line of investigation demonstrating that unclear and ambiguous roles in the participation process can lead to feelings of exploitation, un-realized promises, feelings of deception and loss of control (Ward, 1982).

As part of a comprehensive longitudinal study of a Nashville, Tennessee neighborhood, Wandersman and Giamartino (1984) studied factors linked to initial participation and non-participation in a block organization meeting in an urban neighborhood. The study was stimulated by earlier questionnaire data identifying two adjacent blocks that reported opposite responses to the desire to organize. The focus of the study was to identify some of the factors which may have influenced the

different responses. The overall results suggested that a combination of individual differences were important determinants of participation. It was also found that the perception of residents of concrete problems and a socio-political climate conducive to working on them created a necessary but not sufficient context for successful organization. Within such a climate participants were distinguished from non-participants by the degree to which they believed they could influence outcomes.

Chavis (1984) studied the personality characteristics that influenced participation and the effects of participation on a number of measures of personal development. He found that those with a sense of community reported an increased sense of personal and group empowerment, increased neighboring and greater satisfaction with their block. These factors also led to increased participation in a number of projects in their homes and neighborhoods. Chavis also found that individual personal development was enhanced as a result of an improved sense of community and increased opportunities for local action. He concluded that these factors offered constructive ways of reducing stress and fostered more participation in local organization. Saegert (1985) argues that collective action and participation may not always result in residents feeling that their quality of life has improved but rather in an expanded awareness of the interdependence of the many factors that play a role in the environment. This awareness may eventually lead to more realistic and productive local action and participation by residents.

In another study of resident participation, Village Homes in Davis, California provided an ideal setting to use a participatory and behavioral design approach to the creation of a childrens' playground

(Francis, 1983). This housing was considered an ideal setting because there was community involvement and interaction in mind in the design of the neighborhood. In his approach to the design of the playground he sought active participation through meetings with residents; both parents and children, surveys of needs and direct behavioral observation of where and how children played. Residents were also involved in the actual construction of the playground. Francis reported that as intended, the playground had become a popular site for children and had indeed established itself as a center of childrens' activity within the community.

In a theoretical paper, Francis (1983) described the history, significance and future of community design. In this paper we learn how this design approach emerged in the 1960's as an effective method of organizing opposition to top town design and planning proposals. In the consequences of community design section of the paper the author describes impacts on participants and neighborhood. For the participant the author cites the work of Rachel Kaplan who found that people involved in designing and maintaining a community open space reported increased personal satisfaction, self-esteem, interest and fascination. They also enjoyed greater use than adjacent professionally designed public parks. Resident designed spaces were also found to be better maintained with significantly less vandalism than traditionally produced parks.

With regard to neighborhood effects Francis points to economic benefits on land and property values and on community pride. Finally he states that the process increases local awareness and concern with preserving the quality of the neighborhood.

In order to clarify what are often contradictory and certainly fragmentary findings in the literature on residential satisfaction and residential attachment, Fried (1982) undertook a study of 2,622 respondents from 42 municipalities. One critical finding was the primacy of objective features of the housing environment as determinants of satisfaction. Objective environmental attributes therefore, appeared to be major factors contributing to variation in community attachment. While purely physical factors alone did not account for these variations they clearly played a major role. Interestingly, local social relationships regardless of type seemed to only minimally contribute to local resident satisfaction. Fried's analysis tended to demonstrate that features of the physical environment played a more crucial role in determining residential satisfaction and neighborhood attachment than did relationships in the social environment.

Weidemann and Anderson (1985) bring together many of the empirical issues, ideas, concepts and methodologies found throughout the housing literature, as well as this thesis. The authors undertook their study with the intention of focusing on the evaluation of the home in terms of resident satisfaction. They referred to Ajzen and Fishbein (1981) who pointed out that people respond to any social object in three general ways: affectively, cognitively and behaviorally. If, in fact, these are the ways people can respond to all physical as well as social objects, then people can respond to their homes in these three ways. According to the authors, early models of resident satisfaction tended to measure people's affective responses because these were the easiest to measure.

More inclusive conceptual models, such as those proposed by Marans and Sprecklemeyer (1981) recognized that physical factors have an

influence upon people's satisfaction through a person's assessment of these physical factors. Their model states that a person's behavior is influenced by satisfaction. In this model there is an appreciation for the fact that satisfaction can serve as a criterion for evaluating residential satisfaction or can serve as a predictor of behavior within the housing environment. The authors stress that attitudes do not often directly predict behavior. Intervenors can, and often do, mediate the relationship.

While these earlier conceptual models indicate causal linkages between different elements in the models, more recent work suggests that the relationships may be more complex and reciprocal than previously thought. In a true systems sense, some of the research postulates multidirectional causation in that any variable can influence any other variable in the model. The later models explicitly include information about objective environmental attributes. These models also link satisfaction to behavior via behavioral intervenors such as use of space and finally, the more inclusive models link the attitudinal, behavioral and environmental variables to characteristics of the individuals such as personality or socioeconomic factors.

These later findings and the rest of the review of literature presented have demonstrated that neither architectural features nor social characteristics taken in isolation are sufficient to explain the range of behaviors exhibited by groups of people in the various dwelling types they may inhabit. The crucial influences on psychological well-being, and attitudes toward housing and community involve architectural, social and psychological factors all working in a mutually interdependent system. An adequate and meaningful analysis of an environment requires

that the interactions between the various elements be understood, not that a particular element be projected as the sole modifier of behavior and attitudes. Both deterministic models fail to take into consideration these interactions and therefore, theories and research attempting verification of either position are destined to be poor reflections of the actual dynamics of the system.

This research was undertaken in light of these theories, concepts and research. Each element, the architectural, the social and the community were analyzed not to determine which one was the most pivotal to well-being, but to examine the interrelationships between them as they shaped life at Villa Borinquen.

ARCHITECTURAL ELEMENTS

Given the physical design of Villa Borinquen, a number of architectural features stood out as the most important and were therefore extracted for study.

1. Dwelling Type

There were three types of units in Villa Borinquen. First, there were two-story single family townhouses. Second, there were apartments in three-story garden apartment arrangements. Lastly, there were apartments in the 11-story tower.

Existing literature has demonstrated that there exists in our culture an overriding preference for single family home ownership (Rapoport, 1968; Michelson, 1968; Cooper, 1972). Moreover, satisfaction with housing and neighborhood was found to vary with the type of housing; greatest satisfaction is voiced by residents of single family houses, while the least satisfaction is found in high rise residents (Hinshaw and Allott, 1972). Other investigators have found differences

in neighboring patterns, involvement in community activities, and attitude toward management as a function of dwelling type (Boyd, Morris and Pell, 1965; McCarthy and Saegert, 1976; Kumore, 1966). This study hopefully assessed differences in attitudes and perceptions of families residing in the three different types of dwellings to see if differences did exist.

2. Entrance to Dwelling

This aspect of dwelling space has been investigated as a determinant of attitudes toward living arrangement. Newman (1972) stated that the fewer the number of residents sharing an entry, the more they will feel an association to it increasing the likelihood of their maintaining and surveying it. Other studies have concluded that in housing established with external family spaces, the thresholds to the apartments serve an important social function in that they become the locus for supervised childrens' play and for social contacts between families (Jacobs, 1961; Cooper, 1975).

2a. Number of Apartments Sharing Entry: (Garden Apartments and High Rise

McCarthy and Saegert (1976) compared responses of residents living in a walk-up with those of residents living in a high rise. It was demonstrated that for the nine families living in the walk-up, social networks centered around the entry to the edifice while for the 64 families in the high rise tower, social networks centered around corridors on each floor, with the families sharing a corridor forming a social unit. The dynamics operating would appear to be similar to those affecting attitudes and behaviors toward entrance to the individual dwelling. As the number of people using an entrance increases, there is less of a feeling of this transitional space as part

of their territory. This could possibly be due to the greater likelihood of strangers having access to these areas.

3. Secured Open Spaces

Each housing quadrant has in its center a landscaped open space that the architects hoped would be used by the tenants. Cooper (1971) found that developments with similar inward oriented communal spaces not only offered residents a place for various social activities, but also became recognized as a place of belonging, their own territory outside the dwelling unit. It was the creation of such areas that Rainwater (1970) and Yancey (1971) advocated in their criticisms of low-income housing. Through the combination of the designed spaces and residents' input into how the yards should be used, the sponsors hoped to encourage usage of the spaces and foster in the tenants a sense of these spaces as being theirs. This study investigated these assumptions. The study also determined whether varying access to these spaces influenced those who used them and how they were used. The townhouses had the most direct access to these yards through a back door, Garden apartment residents had an entrance to the spaces as did all the residents in the high rise.

4. Multi-Use Entrance Plaza

In traditionally designed high rise public housing, entry into a building or unit is gained via a lobby. At these entries public spaces mix with project space with no distinguishing features to give residents a clear sense of where public space ends and housing space begins. Such entries are the areas of potential conflicts between tenants and outsiders (Newman, 1973). The architects of Villa Borinquen attempted to avoid such problems by building a low rise development. However, they did not want to isolate the development from the

surrounding community nor did they want to limit access to the commercial spaces that were to be open to the public. Their solution was to design entrance plazas. These spaces are exposed and highly visible. Their mixed-use design was achieved by incorporating store fronts, laundries and small meeting rooms in each of these squares. It was assumed that a variety of activities could take place throughout the day and that they would not be desolate at night. Jacobs (1961) mentioned the desired inclusion of such features to help create a vibrant community life as well as their enhancing the surveillance of the squares by shop keepers and other users. There was also visible access from the square to the interior open space although entry was attained through a locked gate for which only residents had a key. The success of these architectural elements was investigated.

5. Physical Sense of Community

This last element concerned the overall site characteristics of the housing. The architects and sponsors believed that through the proper relationship of all the physical elements there could be instilled in the residents a perception of Villa Borinquen as a territorial whole, a feeling of the development as being their community. Perhaps the discussion that Newman (1973) gave regarding the "organic approach" to the creation of territorial housing best illustrates this concept:

In this (organic) approach, a major design concern is the way in which the buildings themselves serve to define and break up the grounds on which they sit . . . The disposition of the apartment units follows organically the results of the initial site plan and is directed at framing relationships between units and creating areas of shared entry, much as the building itself defends the use of the ground on which it sits (p. 59).

Cooper (1975) stated that low-income families prefer to live in housing that conforms to local standards of middle class housing and architects should avoid very "novel" designs. The perception of residents to this notion of community was also explored to determine whether it had been achieved.

Social Characteristics: Resident Variables

As described in the introduction, a major focus of this investigation involved understanding whether the various personal and family backgrounds of residents interacted with the physical features of the housing to shape attitudes and perceptions toward self, family, living space and community. In this study the following social variables were analyzed as they related to such attitudes and perceptions.

1. Family Life Cycle - Studies at other sites have found that families at different stages have different attitudes toward their housing which are related to particular needs. Smith and Hayler (1974) for example, found that childless couples with high residential mobility saw their present housing as but a step toward the goal of home ownership associated with raising a family. Michelson (1970) found that both child-free young couples and child-free older couples (those couples who have set their children on courses of independence) have needs that are different from those of child raisers. The young couples desired access to city cultural and entertainment centers whereas the older couples expressed the need to be near stores, clinics and hospitals.

A Chicago study found that the younger residents of a high rise apartment building valued spaces within the building for socializing while the elderly were more concerned with overall physical quality of

the building itself (Hall and Wekerle, 1972). These needs and desires would seem to be best satisfied by apartment dwellings within an urban setting.

These needs are to be contrasted to those of households with children where obviously more living space is required. Yet Cooper (1975) criticized the agencies writing housing specifications for having ". . . just one sentence that refers to the needs of children . . ." The study probed for such differences in attitudes of households in different life cycles.

2. Length of Residence - Many researchers have found length of residence at a particular site to affect attitudes, perceptions and behavior. Kasarda and Janowitz (1974) found length of residence to be positively correlated with number of friends and relatives living in the neighborhood and with other measures of attachment to the community. Onibokum (1976) found that for those who originally moved to public housing as temporary habitation but did not manage to move out, the longer their stay in such housing the more negative their attitude toward the housing and the lower their sense of self-esteem.

For the residents of Villa Borinquen, length of residence had to be expanded to include residents whose experience in the continental United States varied considerably. Since the majority of residents were Hispanic, there were households whose predominant housing experiences had been on the island of Puerto Rico.

3. Socioeconomic Status - Socioeconomic factors tend to intercorrelate highly; therefore, the socioeconomic status of an individual or family can manifest itself in a variety of ways. A number of studies have demonstrated how occupational status distances are reflected in residential separation, that is, the more distant the gap

between occupational status the greater the distance between residential settings (Wheeler, 1968).

Class differences are also reflected in housing attitudes and preferences. Rainwater (1966) studied the attitudes and perceptions of lower class families and found that they perceived their homes as havens or sanctuaries from a threatening, hostile and dangerous external environment. Clark (1966) found middle class families to be more preoccupied with making their homes as attractive and comfortable as possible. Porteous (1976) described these perceptions as "house as heaven." Finally, there are those who have transcended house as haven and house as heaven. The activities of these higher socioeconomic households are outer directed with the home being perceived as a base of operations from which behavior is launched toward its role in the larger society.

While such divergent attitudes may be interpreted as socioeconomic status dictating housing preferences, this interpretation has been challenged. Michelson (1970) cited a series of investigations that demonstrated how preferences for various residence features such as house type, lot size and neighborhood locations and atmosphere were in fact not determined by socioeconomic factors but were related to life style and life cycle. Michelson stated that there were general preferences toward housing in the direction of the type enjoyed by higher-status households.

4. Ethnicity - Villa Borinquen became a reality largely due to the efforts of a Hispanic community organization, Puerto Rican Association for Community Organization (P.A.C.O.). Its name and mostly Hispanic population were manifestations of this reality. However, there were

other ethnics residing in the housing complex (blacks and anglos) who were affected by its physical and social features, and their presence helped shape experiences at the development. Deutch and Collins (1951) found that attitudes of one racial group towards another became increasingly favorable if there was sufficient contact between the two. These interethnic contacts must take place between individuals who are similar in their social status and where there is minimal competition for limited goods and facilities. As the findings of this study were confined primarily to one ethnic group, future research may shed more light on this factor.

5. Participation Orientation - Villa Borinquen's sponsors contend that an integral part of psychological well-being is manifested in greater amounts of overt activity, whereas those who have a poor sense of psychological well-being will be more prone to passivity. Using this polarity, Villa Borinquen was composed of residents who were active in its development and residents who "passively" moved in and had no impact on its development. It was also composed of residents who varied in their participation activities in the housing and surrounding community. This study compared these subgroups to determine if indeed those who were more active in Villa .pa Borinquen activities expressed more positive attitudes toward themselves, their housing and the general community.

COMMUNITY STRUCTURE CHARACTERISTICS

Now that the architectural and social variables that influence resident's attitudes have been described, the third variable necessary for a meaningful analysis of Villa Borinquen, its organizational structure, must be described. While this structure was not as visible as the

physical components, nor perhaps as well studied as the many social factors, it was viewed as the bridging mechanism that joined the architectural and social dimensions. At its best, this structure served to maintain and enhance the physical qualities of a housing complex. It was also the vehicle by which the various interest groups of tenants, housing agencies and managers communicated their desires and needs to one another. At its worst, this organizational fabric was the cause of conflict, suspicion and even hostility among the various interest groups. For the purposes of the research the following structural elements were analyzed: management policies and residents' perceptions of them; residents' participation in various tenant associations and organizations; and residents' perceptions of the larger community or neighborhood.

1. Management Policies and Residents' Perceptions of - Some of the more recent investigations have demonstrated the importance of healthy management-tenant contacts in creating a positive atmosphere in multi-family housing projects (Bechtel, 1973; Angrist, 1974; Ahlbrandt and Brophy, 1976). Obviously for those tenants who feel degraded by the inability to exercise certain housing options by living in public housing, the rules and regulations established by management may be perceived as a further assault on their freedom to make decisions about their lives (Ahlbrandt and Brophy, 1976). However, some residents may see the rules and regulations as beneficial and a means of assuring the upkeep of their environment:

Many people could not conceive of a neighborhood where there were no regulations and no authority to enforce them, in such a situation they envisioned a state of social and psychological chaos, in which homes would not be kept up, yards would not be maintained and everybody would mess up their place (Cooper, 1975 p. 159).

In order to allow as much tenant input as possible into the daily functioning of Villa Borinquen, a management structure consisting of tenants and officers of P.A.C.O. initially managed the housing complex. The sponsors expressed the hope that not only would such a board allow for more and better communication among various groups but would also help create an atmosphere of shared responsibility for the quality of life at Villa Borinquen. These hopes and aspirations were explored in this study.

2. Participation by Residents in Villa Borinquen Association and Other Organizations - An active tenants association was a visible element of life at Villa Borinquen. Signs and posters announcing meetings and activities could be seen throughout the complex. The association functioned not only to help resolve conflicts that arose, but it also advised the management board and the sponsors about possible programs and policies for the development. This study analyzed membership patterns in the associations. It considered whether membership was a random phenomenon, that is, did membership represent the varied social backgrounds found at Villa Borinquen or were there certain shared characteristics that members had that pre-selected them? For example, were parents with young children more likely to join such organizations than childless couples, or singles, the elderly, or parents with older offspring?

3. Participation by Residents in Other Neighborhood Organizations - The same set of relationships described above was studied to determine residents' level of participation in neighborhood organizations. Wherever activity such as membership in civic, religious, or political organizations was found, the interviewer explored the role of membership

played in their activity in housing organization and in residents' attitudes toward their housing.

The following section describes the research strategy and methodology used in this investigation. The section concludes with a description of the demography of the sample of residents.

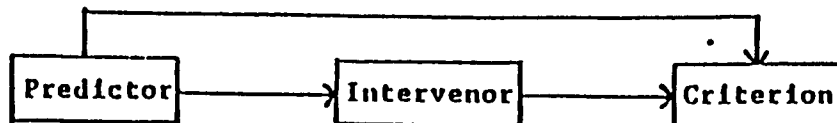
CHAPTER 4

RESEARCH STRATEGY

The research was designed to investigate the causal relationship between the various architectural, social and community elements presented in the preceding chapter and to assess their influence upon the attitudes of Villa Borinquen residents. In order to examine possible relationships among variables path analysis was utilized. A path analysis is essentially a way of dissecting and interpreting linear relationships between a set of variables. This particular strategy offered significant insight into multivariate relationships where variable inter-connectedness was expected but not initially understood. In this investigation path analysis was used to determine the significant direct and indirect paths in a theoretical model of causal relationships and in this way to determine the causal links between architectural, social and community aspects of the site and attitudinal make-up of the residents. A simple path analysis model is illustrated below.

FIGURE 4

Theoretical Relationship Between a Predictor,
Intervenor and Criterion Variables

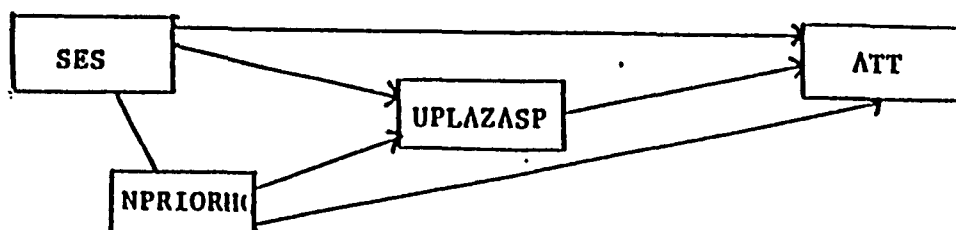


In this example, the predictor is believed to influence the criterion directly (as indicated by the single arrow connecting these two variables). It is also believed that the influence of the predictor on the criterion is probably mediated through a variable known as an intervenor. This more complex assumption is illustrated by the arrow from predictor to intervenor, then to criterion. Finally, the arrow from the intervenor represents its own direct influence on the criterion. These various linkages comprise the paths that can be analyzed in this model.

Specifically, if one hypothesizes that a given variable or variables are insufficient to predict attitudes toward housing accurately, one introduces intervenors. These intervenors are variables that the researcher believes will supply a more complete and theoretically satisfying explanation of the attitudes under investigation. One such proposed explanation is illustrated in Figure 5.

FIGURE 5

Theoretical Causal Relationship Between the Variables
Socioeconomic Status (SES), Prior Housing Quality (NPRHIQU),
Use of Space and Attitudes (ATT)



The arrows indicate the hypothesized direction of influence. Thus, while socioeconomic status of residents and their prior housing experiences directly influence attitudes toward present housing, their influence on attitudes can be more completely understood by including their indirect influence through use of space. It should be noted that the causal link between the two predictors is also illustrated. The paths being investigated in this study are given in Figures 6 to 12. These various path networks represented this investigator's "mini-theory" of the relationships between the variables.

The value of each path coefficient was determined by calculating the standardized partial regression coefficient produced by each predictor variable on the criterion while all other predictors were held constant. The number of predictors included in the regression equation for any variable were equal to the numbers of variables that in the path model were believed to influence the criterion or be causally prior to it.

In Figure 6 for example, one regresses the intervenor on the predictor, the intervenor in this case is the dependent variable and the predictor is the independent variable. These path coefficients can be expressed by the ordinary regression coefficient obtained or by the standardized beta weight; it is however customary to use the beta weight. Having determined the beta weight for this regression equation one then regresses the criterion variable on those variables believed to be causally prior to it. In this latter equation, the causally prior variables are the predictor and the intervenor.

In a direct path the beta weight was the path coefficient for the two variables included. In an indirect path the complete coefficient was obtained by summing the individual betas from predictor to intervenor and finally to criterion.

The next step was to test the significance of each path by use of F tests. Those paths found to be insignificant are dropped from the model. The hypotheses of the investigation were derived from the path networks and express what this investigator believed to be reasonable assumptions as to the expected relationships between variables.

QUESTIONNAIRE DESIGN AND RESPONDENT SELECTION

Attitudes and perceptions of the residents were obtained through the use of a structured questionnaire developed specifically for use at this site. The questionnaire (see Appendix) was composed of 207 items the majority of which were semantic differential scales and fixed choice items. For clarifying and exploring specific aspects of life at the development there were open ended questions designed to gather in-depth subjective responses to the experiences in the housing. The items were

either created by the investigator or were chosen from other questionnaires used in other housing studies.

The questionnaire items were grouped into several measures each of which focused on the architectural, social and community variables discussed in Chapter 3. These measures are presented in Table 16. Several of the measures were represented by more than one questionnaire item. In order to reduce these measures to a smaller number of items or to a single index for each measure, factor analyses were used on these measures. The analyses determined how many underlying factors were present in each measure and how saturated the measure was with the factor or factors. Based on the derived factor matrixes each respondent was assigned a score for each measure.

Initial entry to Villa Borinquen was provided through PACO. As a faculty member at Jersey City State College, a nearby state college, the investigator knew the agency's director and had also taught courses for community residents. The investigator also had a number of Villa Borinquen residents as students. One of these residents was hired and trained as a bilingual interviewer for the study. Familiarity with the sponsoring agency which was in favor of the investigation and some of the residents therefore facilitated the investigator's introduction to the site.

The first introduction to the tenants came as the result of an invitation by PACO to present the goals of the study at a tenant meeting. At this meeting PACO announced its support for the investigation and asked that residents volunteer to be interviewed. The investigator was subsequently invited to other meetings and the trust and support of active tenants developed as a result of this contact. Visits to the

site and informal observations were also facilitated by the early acceptance.

In similar fashion PACO introduced the investigator to Beyer, Blinder and Belle, the architects of the project. Two meetings with the architects provided the investigator with the philosophy and approach of the architects to their project. The architects also provided the photographs taken at completion of construction which are found in the study.

To obtain respondents, each household received a letter that explained the purpose of the study as well as asking it to participate and reasons why it should (see Appendix). The household was contacted via telephone to determine if it was willing to participate and it was also asked which form of the questionnaire, either English or Spanish, it would prefer. An appointment was then scheduled at the consenting respondent's convenience. When a household was hesitant to participate, it was classified as deferring and a call-back was made one week after initial contact. Administration of the questionnaire took place in the respondent's home. If however, this was not satisfactory a table was provided in the community room of the complex. As the majority of the residents were Spanish speaking, the questionnaire was printed on both English and Spanish forms. Administration of the questionnaire was conducted by either the principal investigator or by one of the two trained bilingual interviewers.

Since this questionnaire had not been used before, the questions were refined by conducting a pilot study in a downtown Jersey City housing development and with other downtown Jersey City households.

Respondents in the pilot were of similar socioeconomic and ethnic composition as those of Villa Borinquen.

The analyses undertaken facilitated a number internal comparisons among the residents of Villa Borinquen. For example, did the hispanic nature of the site, in terms of name and residents have different impacts across ethnic lines? Or did living in different types of units lead to significant differences in attitude toward the housing? Another question that was asked was did active residents, as measured by involvement in tenant and community activities lead to a more positive perception in these residents when compared to non-participants. The analyses of such hypotheses did not only give insight into the success of Villa Borinquen, but could also be of benefit to other groups or agencies planning such projects. It was this desire to explore the relationships between the variables selected systematically that guided the research.

The models which represent the hypotheses, and therefore the theoretical relationships among the variables, are presented in Figures 6 through 12.

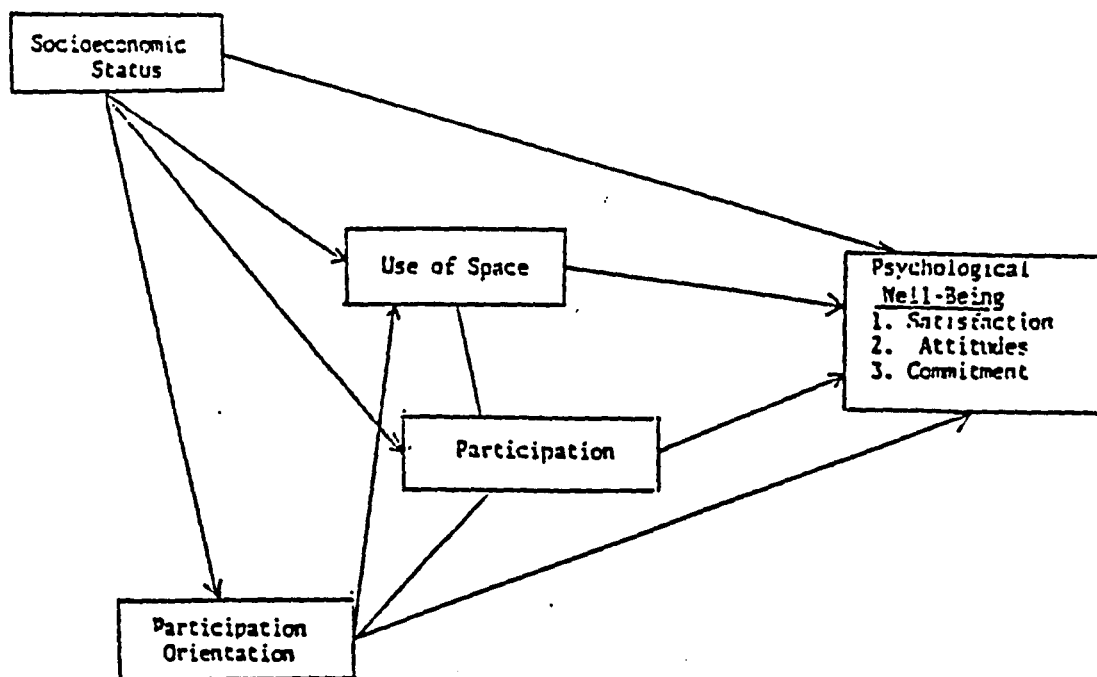


Figure 6 Theoretical Model of Causal Relationships Between Two Predictors, Two Intervenors, and Criterion Variables

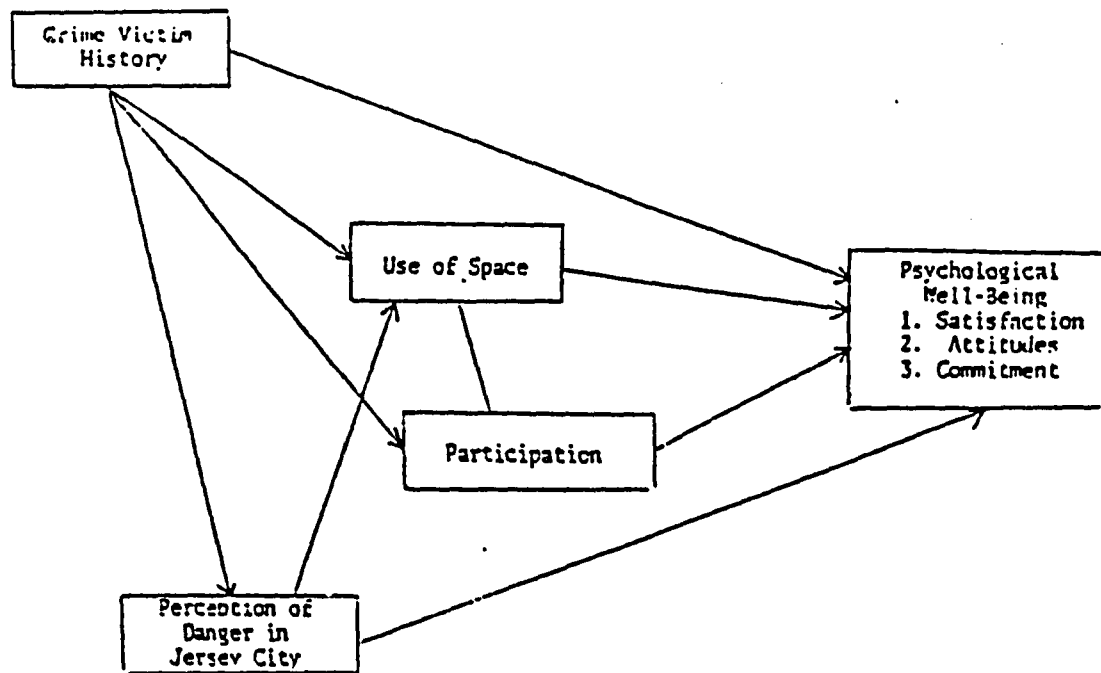


Figure 7 Theoretical Model of Causal Relationships Between Two Predictors, Two Intervenors, and Criterion Variables

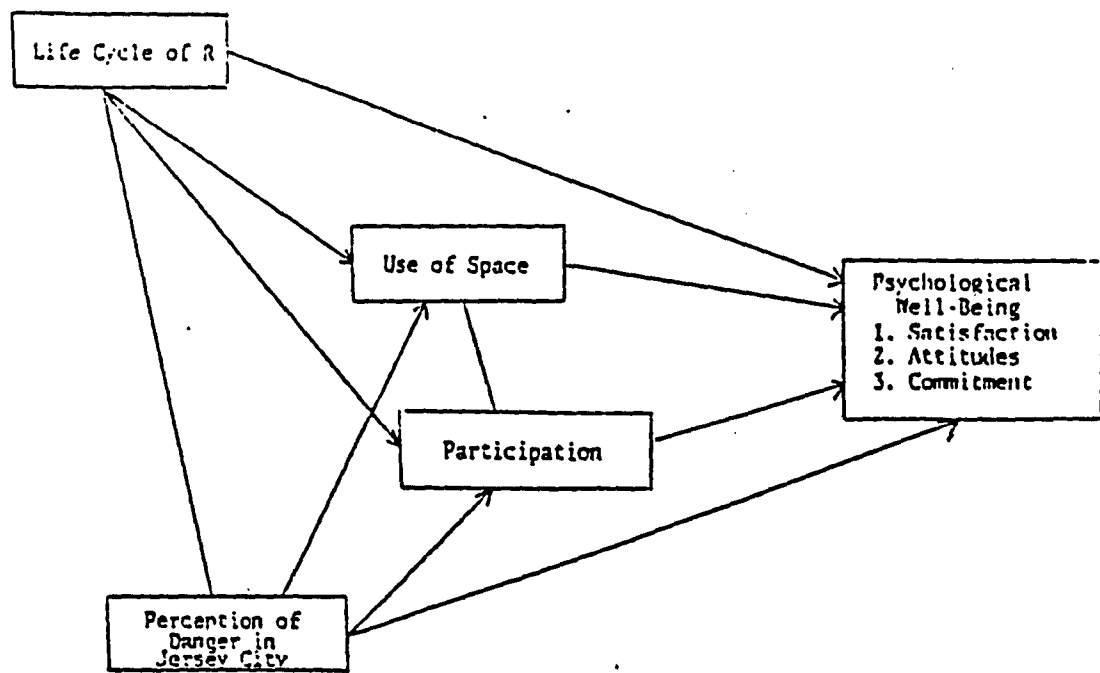


Figure 8 Theoretical Model of Causal Relationships Between Two Predictors, Two Intervenors, and Criterion Variables

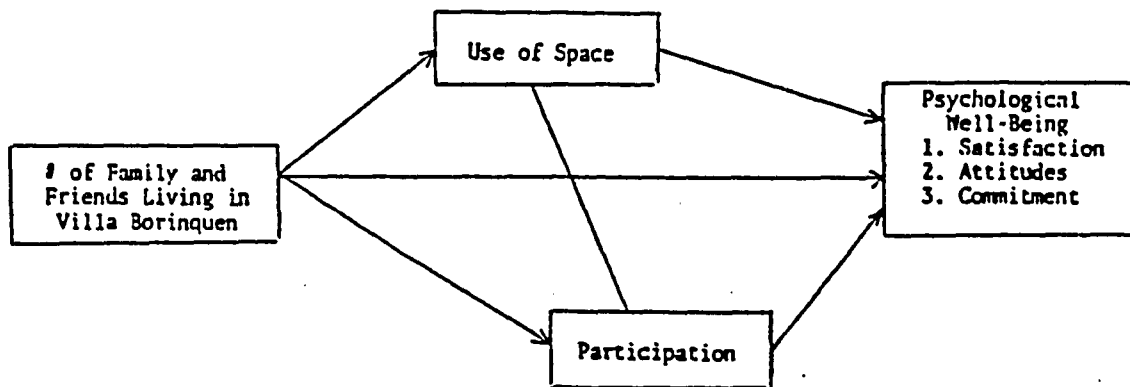


Figure 9 Theoretical Model of Causal Relationships Between One Predictor, Two Intervenors and Criterion Variables

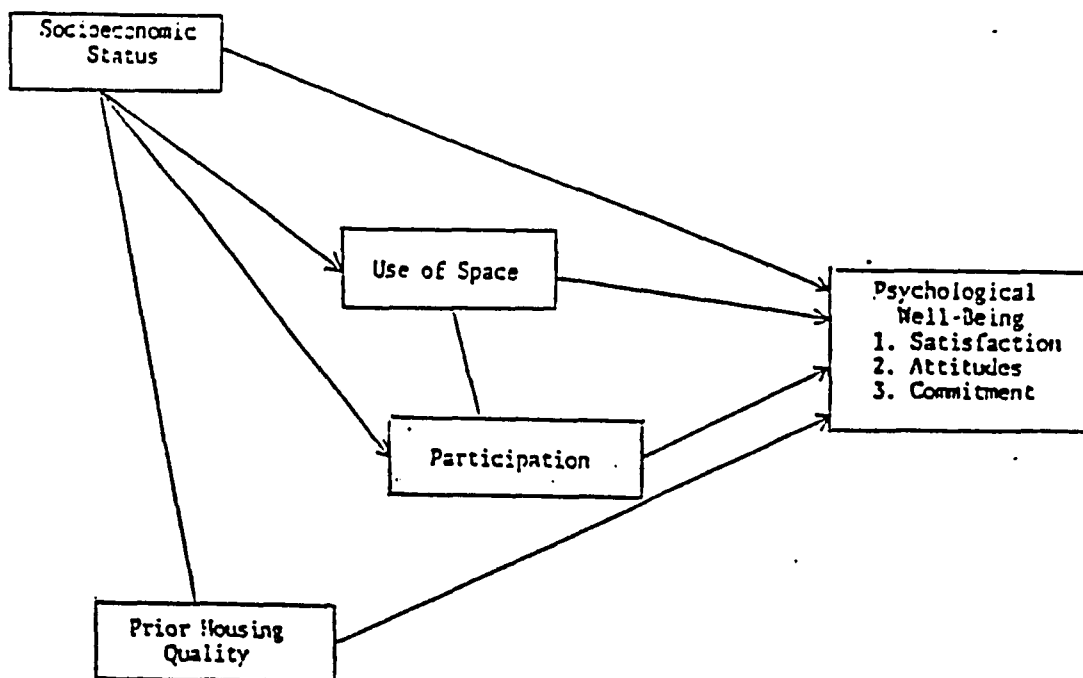


Figure 10 Theoretical Model of Causal Relationships Between Two Predictors, Two Intervenors, and Criterion Variables

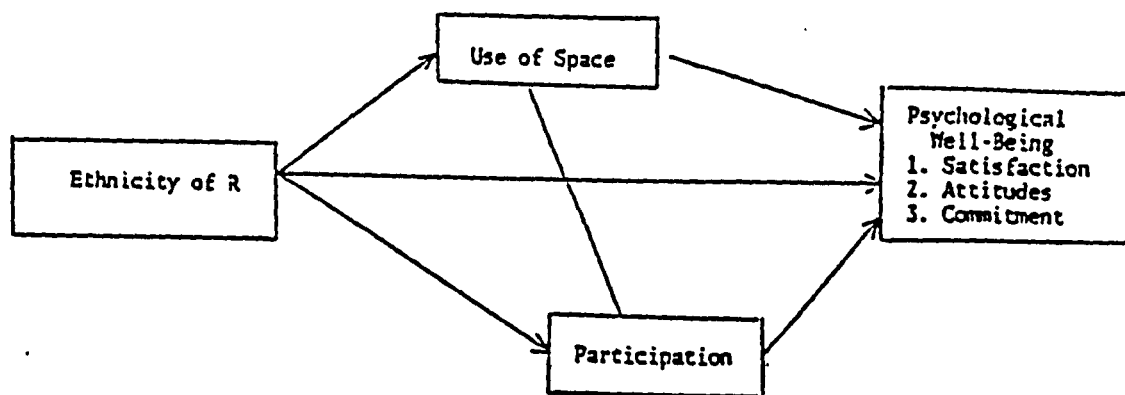


Figure 11 Theoretical model of Causal Relationships Between One Predictor, Two Intervenors, and Criterion Variables

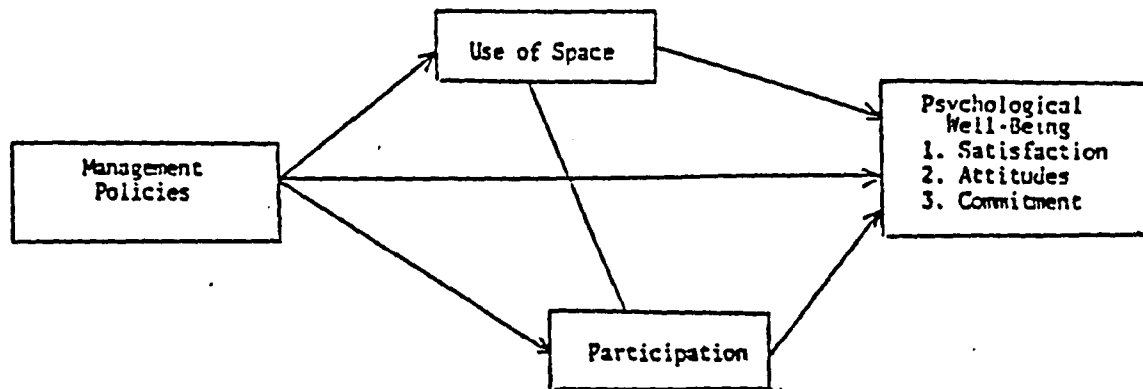


Figure 12 Theoretical Model of Causal Relationship Between One Predictor, Two Intervenors, and Criterion Variables

DEMOGRAPHIC CHARACTERISTICS OF SAMPLE

The sample employed in the study were the households of Villa Borinquen. There were 241 households in Villa Borinquen at the time of interviewing and the goal was to interview each household. The introduction to the tenants by PACO and the procedure to familiarize households with the study were designed to maximize tenant participation. It became, however, difficult to increase the number of households willing to be interviewed. A number of factors probably contributed to this difficulty including: 1) many households making appointments but failing to keep them; 2) some residents voicing their concern and anxiety about giving information to an outsider, i.e. someone who was not an "official" and 3) the growing dissatisfaction with management policies and expressions that the study was another attempt to interfere with their lives. These problems led to a decision to cease interviewing upon the completion of 120 interviews. The following descriptions summarizes many of the demographic characteristics of the respondents and their families.

As expected, the majority of respondents, 81% were Hispanic. While no differentiation of Hispanic respondents was undertaken, the majority were undoubtedly Puerto Ricans as this group comprised the largest group of Hispanics in Jersey City.

The remaining 19% non-Hispanic respondents were black, white or of other racial or ethnic origin.

Respondents ranged in age from 22 to 73 with the median age calculated at 30 years. Interviews with heads of households comprised 41% of the sample and of these 16.6% were female and 83.3% male. Females made up 59% of all respondents interviewed. Households with at least one child living at home make up 55% of the sample.

An analysis of various socioeconomic indicators produced the following results. The modal grade or year completed by respondents (26.7%) was the 12th grade. Approximately 8% of the respondents had completed at least one year of college. A total of 21.6% completed the 9th grade and did not go on to secondary school. The data on family income revealed that 29% of the households had income ranging from \$9,000 to \$12,000 and 28% from \$6,000 to \$9,000 a year.

Combined, families with incomes ranging from \$6,000 to \$12,000 accounted for over 58% of all households interviewed. At the lowest end of reported income were the 8% of the respondents who reported annual incomes of \$3,000. At the upper end of the income range were the 13% who reported income of \$12,000 or more.

The socioeconomic profile described above could have been different as a result of the respondent's age or sex. To give the reader a fuller description of the relationship among the main demographic variables used in the study, cross-tabulations of these variables were produced and statistically significant findings are presented in Tables 1 through 5 below. For all cross-tabulations (Tables 1 through 11) totals and percentages are presented for each cell as well as for each category. For example in Table 1 "Cross-Tabulation of Respondent's Sex by Working Status," the "Not Working" category had an N of 67 which was made up of 23 males and 44 females. The values in parentheses are the percentage for each cell within each category. Therefore males not working made up 34.33% of the entire "Not Working" category. Females made up 65.67% of this category.

While a respondent's age was not significantly related to whether he or she was working, Table 1 shows that the respondent's sex was related to work status with males being more likely to work than

females. For the purposes of the study working was defined as earning wage in an occupation outside the residence.

TABLE 1

Cross-Tabulation of Respondent's Sex by Working Status

	<u>Not Working</u>	<u>Working</u>	<u>Total</u>
Male	23 (34.33)	44 (36.67)	67 (55.83)
Female	44 (65.67)	9 (16.98)	53 (44.17)
Total	67 (100.00)	53 (100.00)	120 (100.00)

$$\chi^2 = 28.449 \quad DF = 1 \quad \text{Significant} = 0.0001$$

The data in Table 1 indicate that men were more likely to be working, that is employed outside the home than were women.

TABLE 2

Cross-Tabulation of Respondent's Age by Income

	<u>Less than \$3,000</u>	<u>\$3,000 to \$6,000</u>	<u>\$6,000 to \$9,000</u>	<u>\$9,000 to \$12,000</u>	<u>\$12,000 to Greater</u>	<u>Total</u>
Under 25 yrs.	3 (30.0)	0 (0.00)	1 (2.86)	0 (0.00)	0 (0.00)	4 (3.33)
25-35	3 (30.0)	5 (20.00)	12 (34.26)	11 (31.43)	8 (53.33)	39 (32.5)
36-45	1 (10.0)	5 (20.00)	6 (17.14)	15 (42.86)	5 (33.33)	32 (26.67)
46-55	1 (10.0)	4 (16.00)	3 (8.57)	7 (20.00)	2 (13.33)	17 (14.17)
56-65	1 (10.0)	6 (24.00)	9 (25.71)	1 (2.86)	0 (0.00)	17 (14.17)
66 yrs. or older	1 (10.0)	5 (20.00)	4 (11.43)	1 (2.86)	0 (0.00)	11 (9.17)
Total	10 (100.00)	25 (100.00)	35 (100.00)	35 (100.00)	15 (100.00)	120 (100.0)

$\chi^2 = 51.9$, $df = 20$ significant .05

Table 2 indicates that younger residents were more likely to have higher annual incomes than the older residents. While significant at the .05 level, the χ^2 value is suspect due to large numbers of cells with zero entries.

A respondent's age was not significantly related to whether he was keeping house, keeping house defined as one's major responsibility being the unsalaried maintenance of an apartment and, in the case of households with children, being primarily responsible for their daily well-being. Table 3 however, shows a significant relationship between the respondent's sex and keeping house as a reported activity.

TABLE 3

Cross-Tabulation of Respondent's Sex by Keeping House

	<u>Not Keeping House</u>	<u>Keeping House</u>	<u>Total</u>
Male	62 (72.09)	5 (14.71)	67 (55.83)
Female	24 (27.91)	29 (85.29)	53 (44.17)
Total	86 (100.00)	34 (100.00)	120 (100.00)

The data demonstrate that women were more likely to be keeping house than men in the sample.

Both respondent's age and sex were significantly related to the level of education as can be seen by Tables 4 and 5.

TABLE 4

Cross-Tabulation of Respondent's Age by Educational Attainment

	<u>Elem. School</u>	<u>7th Grade</u>	<u>8th Grade</u>	<u>9th Grade</u>	<u>10th Grade</u>	<u>11th Grade</u>	<u>12th Grade</u>	<u>Completed at least 1 yr. College</u>	<u>Total</u>
Under									
25	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
25-35	0 (0.00)	0 (0.00)	4 (28.57)	5 (19.23)	4 (16.66)	1 (8.33)	14 (43.75)	8 (88.8)	36 (30.00)
36-45	0 (0.00)	0 (0.00)	3 (21.43)	6 (23.07)	11 (45.83)	6 (50.00)	6 (18.75)	0 (0.00)	32 (26.66)
46-55	0 (0.00)	0 (0.00)	0 (0.00)	3 (11.54)	5 (20.83)	4 (33.33)	5 (15.63)	0 (0.00)	17 (14.17)
56-65	1 (100.00)	1 (50.00)	2 (14.29)	9 (34.62)	1 (4.17)	1 (8.33)	2 (6.25)	0 (0.00)	17 (14.17)
65 or older	0 (0.00)	1 (50.00)	5 (35.71)	3 (11.54)	0 (0.00)	0 (0.00)	2 (6.25)	0 (0.00)	11 (9.17)
Total	1 (100.00)	2 (100.00)	14 (100.00)	26 (100.00)	24 (100.00)	12 (100.00)	32 (100.00)	8 (100.00)	120 (100.00)

TABLE 5

Cross-Tabulation of Respondent's Sex by Educational Attainment

	<u>Elem. School</u>	<u>7th Grade</u>	<u>8th Grade</u>	<u>9th Grade</u>	<u>10th Grade</u>	<u>11th Grade</u>	<u>12th Grade</u>	<u>at least 1 yr. College</u>	<u>Total</u>
Male	1	2	11	13	9	4	23	4	67
	(100.00)	(100.00)	(78.57)	(50.00)	(37.50)	(33.33)	(71.86)	(4.44)	(55.83)
Female	0	0	3	13	15	8	9	5	53
	(0.00)	(0.00)	(21.43)	(50.00)	(52.50)	(66.66)	(28.16)	(55.35)	(44.17)
Total	1	2	14	26	24	12	32	9	120
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

$\chi^2 = 15.2$, $df = 7$ significant .05

Since dwelling unit type was to have been a significant influence on tenant behavior, it was useful to explore its relationship with the socioeconomic variables to determine what respondent characteristics were present in the three housing types. Table 6 through 11 present the cross-tabulations of DWELTYPE with the variables significantly related to it.

TABLE 6

Cross-Tabulation of Respondent's Age by Dwelling Unit Type

	<u>Townhouse</u>	<u>Garden Apt.</u>	<u>Highrise</u>	<u>Total</u>
Under 25	0 (0.00)	0 (0.00)	4 (7.69)	4 (3.33)
25-35	8 (23.53)	19 (55.88)	12 (23.08)	39 (32.50)
36-45	17 (50.00)	10 (29.41)	5 (9.62)	32 (26.67)
46-55	9 (26.47)	5 (14.70)	3 (5.77)	17 (14.17)
56-65	0 (0.00)	0 (0.00)	17 (32.69)	17 (14.17)
66 or older	0 (0.00)	0 (0.00)	11 (21.15)	11 (9.17)
Total	34 (100.00)	34 (100.00)	52 (100.00)	120 (100.00)

$\chi^2 = 68.76$, $df = 10$ significant .0001

When examining the relationships between these variables it became apparent that older residents (those 56 year of age or older) were residing exclusively in the highrise while residents between the age of 36 and 55 were more likely to reside in townhouse or garden apartments. These findings demonstrate the age segregated distribution of households by building unit type. This was an intended design feature.

TABLE 7

Cross-Tabulation of Respondent's Sex by Dwelling Unit Type

	<u>Townhouse</u>	<u>Garden Apt.</u>	<u>Highrise</u>	<u>Total</u>
Male	19 (55.88)	12 (35.29)	36 (69.23)	67 (55.83)
Female	15 (44.12)	22 (64.71)	16 (30.77)	53 (44.17)
Total	34 (100.00)	34 (100.00)	52 (100.00)	120 (100.00)

$\chi^2 = 9.601$, $df = 2$ significant .0082

It was evident from a review of the above table that men were more likely to be residents of the highrise than were women. Women on the other hand were more evenly represented across the three building types. Combined with the findings of prior chi square results, one observes that older men made up the largest percentage of respondents in the highrise. The finding that more women were respondents in townhouses and garden apartments reflected the fact that these units were designed for families with children.

TABLE 8

Cross-Tabulation of Respondent's Working Status
with Dwelling Unit Type

	<u>Townhouse</u>	<u>Garden Apt.</u>	<u>Highrise</u>	<u>Total</u>
Not Working	13 (38.24)	23 (67.65)	31 (59.62)	67 (55.83)
Working	21 (61.76)	11 (32.35)	21 (40.38)	53 (44.17)
Total	34 (100.00)	34 (100.00)	52 (100.00)	120 (100.00)

$\chi^2 = 6.496$, $df = 2$ significant .03 p .03

The variable WORKING was designed to measure employment outside the home, as opposed to unpaid work at home (KEEPHOUSE). Table 8 presents the relationship of WORKING to DWELTYPE. Highrise residents represented the largest proportion of those not working. Again, if one reviews Table 8 which summarizes sex by dweltype one would conclude men were more likely to be working than women; men represented the largest percentage of respondents in both townhouses and the highrise. The fact that highrise residents also represented the largest percentage of non-workers was interpreted to mean that men were also the largest percentage of older and perhaps retired residents. In essence, one found a significant percentage of male respondents out in the work force as well as a significant percentage of men retired who were no longer employed.

TABLE 9

Cross-Tabulation of Respondents as Housekeeper
by Dwelling Unit Type

	<u>Townhouse</u>	<u>Garden Apt.</u>	<u>Highrise</u>	<u>Total</u>
Not Keeping House	22 (64.72)	18 (52.94)	46 (88.46)	86 (71.67)
Keeping House	12 (35.29)	16 (47.06)	6 (11.54)	34 (28.33)
Total	34 (100.00)	34 (100.00)	52 (100.00)	120 (100.00)

$\chi^2 = 13.906$, $df = 2$ significant .001

Table 9 summarizes the cross tabulation results of respondent keeping house (KEEPHOUSE) by dwelling unit type (DWELTYPE). The majority of respondents reported they were not keeping house. Those not keeping house were more prevalent in the townhouse and highrise units with the distribution more evenly distributed in the garden apartment units.

TABLE 10

Cross-Tabulation of Educational Attainment
by Dwelling Unit Type

	<u>Townhouse</u>	<u>Garden Apt.</u>	<u>Highrise</u>	<u>Total</u>
Elem School	0 (0.00)	0 (0.00)	1 (1.92)	1 (0.83)
7th Grade	0 (0.00)	0 (0.00)	2 (3.85)	2 (1.67)
8th Grade	1 (2.94)	1 (2.94)	12 (23.08)	14 (11.67)
9th Grade	8 (23.53)	4 (11.76)	14 (26.92)	26 (21.67)
10th Grade	11 (32.35)	7 (20.59)	6 (11.54)	24 (20.00)
11th Grade	3 (8.82)	5 (14.71)	4 (7.69)	12 (10.00)
12th Grade	10 (29.41)	14 (41.18)	8 (15.38)	32 (26.67)
At least 1 Yr. College	1 (2.94)	3 (8.82)	5 (9.62)	9 (7.50)
Total	34 (100.00)	34 (100.00)	52 (100.00)	120 (100.00)

$\chi^2 = 28.552$, $df = 14$ significant .01

The significant cross tabulation of DWELTYPE with education is reported in Table 10. In this relationship we found that of the 26.67% of all respondents who completed a formal education, defined as graduation from the 12th grade, 31.25% of these were townhouse residents, 43.75% were garden apartment residents and 25% were highrise residents.

A total of nine or 7.5% of all residents had completed at least one year of college. An interesting observation was that five residents or 4.17% of these nine were highrise residents. The investigator reviewed the questionnaire of these five and determined that they were all ages 35 or younger.

TABLE 11

Cross-Tabulation of Income by Dwelling Unit Type

	<u>Townhouse</u>	<u>Garden Apt.</u>	<u>Highrise</u>	<u>Total</u>
Less than \$3000	0 (0.00)	2 (5.88)	8 (15.38)	10 (8.83)
\$3000 to \$6000	4 (11.76)	3 (8.82)	18 (34.62)	25 (20.83)
\$6000 to \$9000	7 (20.59)	10 (29.41)	18 (34.62)	35 (29.17)
\$9000 to \$12000	14 (41.18)	14 (41.18)	7 (13.46)	35 (29.17)
\$12000 or Greater	9 (26.47)	5 (14.71)	1 (1.92)	15 (12.50)
Total	34 (100.00)	34 (100.00)	52 (100.00)	120 (100.00)

$\chi^2 = 33.861$, $df = 8$ significant .0001

The above Table gives the final significant cross-tabulation for DWELTYPE and a socioeconomic variable, in this case INCOME. These data indicated that townhouse households had the highest incomes of the three types of units. At the other end 11.76% of highrise households inter-

viewed had incomes of under \$3000. These findings were not surprising in that townhouse households were younger with children and were therefore at an earlier stage in their family cycle with a wage earner employed outside. Highrise dwellers, were the older residents who, being at an advanced stage in their life cycles were probably retired, not working and therefore did not have substantial incomes, if indeed they had any at all.

One can generally conclude from these cross-tabulations that dwelling unit type differentiated between different types of residents at different stages in their life cycles. While the planners' and architects' decision to build this mixed dwelling unit type complex for both economic and aesthetic reasons it will be proposed in the results and discussion that other impacts were evident as a result of the differentiation.

DATA TRANSFORMATION

In order to test our model it was first necessary to transform data for some of the variables. These data were not originally in order of scalability and some of the distributions were not normal. For example, we asked respondents: "Do you feel that living in Villa Borinquen is an achievement for your family? " Answers were given as "Yes", "No", or "Don't Know." The distribution of responses to this question are found in Table 12 below.

TABLE 12

Distribution of Responses to Question

"Do you feel that living in Villa Borinquen
is an achievement for your family?"

	F	% Adjusted for Missing Cases	Cumulative F
Yes	52	44.1	44.1
No	11	9.3	53.4
Don't know	55	46.6	100.0
No answer	2	1.7	Missing cases

In order to create a scale we reordered the choices with Yes (Achievement) at one end receiving a score of 1; No (No Achievement) at the other end, receiving a score of 3; and Don't Know as the central point with a score of 2.

After this simple type of rescaling was accomplished, the frequency distributions were recalculated. In a number of cases in which dichotomous variables were used, the variance is a direct function of the proportion of cases that fall into each category. Proportions are not linear scales and this in turn can affect variability. Thus, in an effort to account for this problem, the variables were transformed using either a probit or logit transformation. Both probit and logit transformations have the effect of normalizing the proportions. The probit and logit transformations both stretch the "tails" of the cumulative proportions for a variable (Cohen and Cohen, 1972). Increasing the variance in this way is important in the calculation of correlation coefficients which are dependent on the variance of the two variables

being correlated. As can be seen from Table below, using probit transformation now creates an normalized distribution of scale scores.

TABLE 13

Probit Scale for Question

"Do you feel that living in Villa Borinquen is an Achievement for your Family?"

	<u>Yes</u>	<u>Not Sure</u>	<u>No</u>
Adj. %	44.1	46.6	9.3
Cum. &	44.1	90.7	100.0
Probit Scale	4.85	6.33	7.65

.44 = 4.85 (Table 6.5.1: Cohen and Cohen, 1975:257)

cum. pct of 90.7 (not sure category)

Probit scales were calculated using this procedure for the following questions: "Do you feel that living in Villa Borinquen is an achievement for you and your family?" "Does living in Villa Borinquen make Jersey City a better place in which to reside?" and "Does living in Villa Borinquen affect your desire to remain in Jersey City?"

Logit scales were calculated for the following skewed binary items. "Have you ever worked on a tenant project?" "Do you or any other members of your family belong to other tenant organizations such as the Cadets?" and "Does living in Villa Borinquen make your stay in Jersey City more or less likely?"

In this manner all variables were set in order of scalability. Within the limits imposed by the forms of the non-normal distributions, the transformations rendered these scales closer to normality.

Even after these changes, however, a review of the frequency of distributions demonstrated no variability in some items and these were dropped from further consideration. Respondents' Ethnicity and Crime Victim History are examples of such variables. For other variables, questionnaire items appeared to be homogenous indicators of a single construct and in these cases, items were collapsed into a single measure. Housing Satisfaction was one such variable. In this case it was composed of five questionnaire items each measuring a particular architectural or design feature of the housing (See questionnaire items A26 through A30 in the Appendix).

For subsequent analyses the original block diagrams underwent further changes (see original block diagrams pp. 69 to 75 of the Introduction). The block diagrams were the product of the review of the literature, as well as the conceptual considerations that emerged from the investigator's understanding of the history of the site and familiarity with conditions that existed there. These early models were indicative of the general relationships that were expected to hold among the variables. They reflected the basic theoretical assumptions about possible causal relationships among the forces that exist at Villa Borinquen and that are believed to influence the outcome measures of criterion variables.

In the diagrams, the single criterion variable Psychological Well-Being, was actually composed of three separate aspects of the variable, each of which was represented by either a single questionnaire item or set of items. The first of these was intended to measure attitude toward the housing and feelings about living at Villa Borinquen. The second was intended to measure satisfaction with various architectural or design features of the respondent's dwelling unit and the housing in

general. The third measured the respondent's commitment to the housing and neighborhood. In order to determine whether variables considered to be measuring the same construct were indeed doing so, as well as to discover underlying patterns that existed between items that made up the blocks, a Varimax Factor Analysis was conducted. This analysis helped establish if indices based on obtained empirical data could be legitimately created to represent blocks in the original models. The factor analysis did indicate that there were indeed patterns among clusters of variables for some of the hypothesized blocks, but do not represent a test of the model. Table 14 lists the factors produced by the analysis.

We find that the three variables mentioned above; Respondents' Feelings About Telling Others of Their Villa Borinquen Residency (TELVBRES); Respondents' Feelings About a Hypothetical Move from Villa Borinquen (HYPOMOV); and the degree to which respondents' felt Villa Borinquen residency had met family goals (NMETGOAL) loaded highly on the first factor (.71497, .72323, .63532 respectively). However, a number of other variables also appeared on the same factor with high loadings, e.g., Satisfaction With The Housing (HOUSATF), Villa Borinquen Making Downtown Jersey City a Better Place to Reside (NVBJCBTR), Perception of Prior Housing Quality (NPRIHOUQ), and Perception of Management Policies (NMANGPA). With other variables loading highly it would be impossible to say that this was purely a Psychological Well-Being factor. The fact that they did load on the same factor was a further indication that a relationship between the variables in the block diagrams did exist. Unfortunately, factor analysis generally yields only information about correlation and not the direction of causation. Causal relationships will be discussed later in the chapter. The other factors produced some clear but uninteresting loadings. Factor 4, for example, showed that

the participation variables; Respondent Having Worked on a Tenant Project (NWRKTENP, .80945), Respondent's Participation in Organization(s) Outside Villa Borinquen (PARTOUT, .54622), Respondent's Participation Orientation (PARTORT, .42866), Participation in Other Villa Borinquen Organizations (NOTHORG, .74952), and Respondent's Attendance at Tenant Meetings (NATENDTM, .58912) were related to Villa Borinquen Residency Affecting Desire to Stay in Jersey City (NJCDSIRE, .42367), and Villa Borinquen Residency Making a Jersey City Stay More or Less Likely (JCSTALKIK, .63262). The factor results did provide early clues about the general relationships among variables and where the unique variable contributions might be. From the analysis it was clear that Psychological Well-Being, as well as other variables that were considered causally prior to the Well-Being indices, were in fact multi-faceted with particular questionnaire items loading on specific aspects of the variable. As a result, the three variables that made up the endpoint endogenous variables were disaggregated. The attitude variable was decomposed into the following separate endpoint endogenous variables:

1. Respondent's feelings about telling others of their Villa Borinquen residency.
2. Respondent's feelings about a hypothetical move from Villa Borinquen.
3. The degree to which respondent felt Villa Borinquen residency had met family goals.

The researcher believes this better captures the complexity of the concept.

TABLE 14

Varimax Factor Rotation Analysis of Variables
 Found in Original Block Diagrams
 (Figure 6 through 12*)

	ROTATED FACTOR PATTERN							
	FACTOR ₁	FACTOR ₂	FACTOR ₃	FACTOR ₄	FACTOR ₅	FACTOR ₆	FACTOR ₇	FACTOR ₈
DWFLTYPE	-0.22828	0.35147	-0.10475	-0.14613	0.29100	-0.11323	-0.65258	0.13156
TÉLVBRES	0.71497	-0.08129	0.08138	0.18997	-0.19194	0.17602	0.12064	-0.08116
HYPOMOV	-0.72323	-0.34754	-0.01346	-0.09613	-0.01231	-0.07596	-0.23072	0.08694
NOFAMLIV	-0.08069	-0.27335	-0.06181	0.18833	-0.02950	0.73205	-0.15782	-0.02817
NWRKTENP	0.07830	0.01971	-0.01365	-0.80945	-0.02473	-0.12951	-0.04935	0.30166
AGE	0.02245	0.73950	-0.14302	-0.09952	0.08433	-0.22469	-0.06591	-0.17242

* Please refer to Table 16 (p. 103) for an explanation of the variable mneumonics used in this table and the scoring direction for the variables.

TABLE 14

TABLE 14 (Continued)

ROTATED FACTOR PATTERN

	FACTOR ₁	FACTOR ₂	FACTOR ₃	FACTOR ₄	FACTOR ₅	FACTOR ₆	FACTOR ₇	FACTOR ₈
ED	-0.10956	-0.69068	-0.05335	0.08392	0.23466	0.23541	0.30068	0.05032
INCOME	0.01609	-0.15567	-0.05618	0.15003	-0.00327	0.02054	0.82487	0.19736
UPLAZASP	-0.01134	0.14937	0.07389	0.00439	0.18303	0.18603	-0.24689	-0.68517
SIDESP	0.13747	0.02781	0.08721	0.04276	-0.10874	0.68284	0.27628	-0.08035
PARTOUT	0.02717	-0.08734	-0.01273	0.54622	0.33792	-0.03220	0.38705	0.20369
WORKING	-0.01124	-0.05481	-0.83168	-0.06639	-0.26574	0.16427	0.23583	0.06215
KEEPHOUS	-0.05375	-0.10282	0.83785	-0.01375	-0.30964	-0.00851	0.055008	-0.04093
SCHOOL	-0.07556	-0.11139	0.13103	-0.03117	0.82535	-0.10271	-0.12773	-0.03753
HOUSATF	0.74240	0.12913	0.11028	0.10116	-0.14100	-0.17350	0.21682	-0.32150
PARTORT	-0.08741	-0.21457	0.09109	-0.42866	-0.36703	0.14190	-0.31452	0.24462
FEDSPACE	0.04600	0.64973	-0.01551	0.02672	-0.02571	0.46259	-0.13104	-0.00326
NMETGOAL	-0.63532	0.14845	0.18610	0.14700	-0.25393	-0.29286	-0.28147	0.26091
NVBJCBTR	-0.65823	0.03118	0.03628	-0.11612	-0.29779	-0.16207	0.35249	0.09345

TABLE 14 (Continued)

ROTATED FACTOR PATTERN

	FACTOR ₁	FACTOR ₂	FACTOR ₃	FACTOR ₄	FACTOR ₅	FACTOR ₆	FACTOR ₇	FACTOR ₈
NJCDSIRE	-0.35501	0.00103	0.00632	-0.41367	0.20579	0.04559	-0.02108	0.61210
NOTHRURG	-0.25312	0.02209	-0.13812	-0.74952	0.01086	-0.21064	-0.09846	-0.26548
ND_GERJC	0.19150	0.15172	0.05637	0.02040	0.0P6294	-0.26906	0.07070	-0.00076
NDNGERHO	0.13935	0.02751	-0.06428	0.07144	0.10040	0.09140	-0.10497	0.10879
NPPIHOUQ	0.65819	-0.12364	-0.08432	0.13486	-0.04244	-0.10837	-0.19889	0.25557
SFX	-0.05130	-0.07049	0.87056	0.01288	0.15636	0.13498	0.12538	0.04194
JCSTALIK	0.21888	-0.32652	0.00558	0.63262	-0.25055	-0.08720	-0.05475	-0.04220
NATENUIM	0.28188	0.12916	-0.16387	0.58912	-0.02360	0.42513	0.10750	-0.30527
NMANG PA	0.63246	0.43664	-0.24131	0.02896	-0.09937	-0.13483	-0.00627	0.19371

Before proceeding with the statistical analyses of complex causal relationships between multiple variables, simpler relationships between pairs of variables were analyzed. For these analyses we re-examined a Pearson Product Movement Correlation Matrix of twenty-nine variables. The matrix, which is presented in the Appendix gives the relationship for every possible pair of variables and those relationships that are statistically significant at .05 are underlined. From a review of these correlations it can be generally observed that, at least at this elementary level of analysis, many of the variables which the investigator expected to be correlated were found to be so.

Dwelling Unit Type, for example, was correlated with a number of endpoint endogenous variables such as Desire to Remain in Jersey City (.23) and Feelings About Telling Others About Villa Borinquen Residency (-.36). As expected, Dwelling Unit type was also correlated with endogenous variables such as Use of Pedestrian/Open Space (.20) and Use of Sidewalk Space (-.28) and Membership in Other Villa Borinquen Organizations (.24) and Participation in Organizations Outside Villa Borinquen (-.22). It is understood, however, that by themselves, raw correlations do not give a totally accurate picture of the relationships. Due to intercorrelations of any particular variable with others in the data and because of possible suppression effects, the direct interpretability of simple correlations is problematic (Cohen and Cohen, 1975). As a result the correlations and the factor analysis are only generally informative and serve to provide only a preliminary understanding of the interrelationships among variables.

In order to overcome these limitations and to develop a more complete understanding of unique contributions of individual variables as predictors of endogenous variables, Maximum R Square Improvement proce-

dures were used. The decision to use the Max R was based on a number of factors. For one thing in a field study such as this the natural conditions are such that there will be some degree of correlation among the variables. Also, it is often the case that people are not randomly assigned to various comparison conditions of interest. The Max R handles the problems of intercorrelated variables by assessing the unique relationships among a set of variables. This also gave clues on ways of writing the final equation system (Pedhazur, 1982).

It must be remembered that our ultimate intention involved modeling the process hypothesized in the Introduction to this study. To accomplish this meant that a series of equations would have to be written for each of the intermediate and final outcome variables. Although the factor analysis suggested that these variables should be related as hypothesized, that analysis would not indicate which variable or variables were dependent on others in the system. The use of the Max R procedure was designed to provide clues regarding which variables should be obtained or excluded as potential explanatory variables using the hypothesis contained in the Introduction as a basis for writing the different sets of equations that were evaluated with the Max R procedure.

The Maximum R improvement is an efficient stepwise regression analysis that takes the variables that are considered "predictors" and attempts to construct the best one variable, two variable, three variable and so on prediction equation for the outcome measure. The Max R procedure begins by finding the one variable that produces the greatest correlation with the outcome measure. It then searches for a variable that yields the greatest increase in R^2 and adds it to the

model. Once the variable model is obtained, the Max R procedure compares this model with all variables included in the model to determine if removing one variable in the model and replacing it with another variable increases the multiple correlation. After comparing all possible models, the one that yields the largest R^2 is found. The process is then repeated again. When the combination of two variables that gives the highest R^2 is found, this is reported as the "best two variable model found." The procedure continues for all the predictors variables specified by the investigator. Table 15 identifies the best possible model for the variable titled Feelings About a Hypothetical Move from Villa Borinquen (HYPOMOV) as the dependent variable. The best model included as predictors Perception of Management Policies (NMANGPA), Villa Borinquen meeting family goals (NMETGOAL), having worked on a tenant project (NWRKTEND), and use of pedestrian/open space (PED/OP SPACE). This was the best of seven models tested with the lowest model value of 3.02.

There were 19 variables that required modeling; these variables were reflective of the different facets of life in Villa Borinquen. As a consequence 19 Max R analyses were conducted using different configurations of explanatory variables guided by the block diagram in the Introduction. These 19 variables are presented in Table 16.

The results of these analyses indicated that some of the hypothesized explanatory variables (from Figures 6 through 12) were not significant regarding particular outcomes of interest (e.g. those with p values greater than .10). It must be remembered, however, that each Max R equation was developed in isolation from other Max R equations, even

TABLE 15

Maximum R-Square Improvement for Dependent Variable
 "Feelings About a Hypothetical Move" (HYPOMOV)

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE HYPOMOV

VARIABLE N METGOAL ENTERED R SQUARE = 0.24678185 C(P) = 3.02556666

	<u>DF</u>	<u>SUM OF SQUARES</u>	<u>MEAN SQUARE</u>	<u>F</u>
REGRESSION	4	27.20359933	6.80089996	8.60
ERROR	105	83.02979041	0.79075991	
TOTAL	109	110.23339025		

	<u>R VALUE</u>	<u>STD ERROR</u>	<u>TYPE II SS</u>	<u>F</u>
INTERCEPT	0.02614516			
NMANG PA	-0.31385332	0.08874627	9.89003663	12.51
NMETGOAL	0.16202361	0.08791906	2.68556236	3.40
NWRKTENP	0.16116172	0.08327323	2.96181311	3.75
PEDS PACE	-0.19996317	0.08732583	4.14628598	5.24

TABLE 16

Variables Used to Test Models

<u>Variable</u>	<u>Measurement of</u>	<u>Response Range</u>	<u>Item #</u>
DWELTYPE	Type of living unit	1 = townhouse 3 = high rise	
AGE	Respondent's age	1 = under 25 6 = 65 or older	
SEX	Respondent's sex	1 = male 2 = female	
WORKING	Whether R is employed	1 = yes 2 = no	
KEEPHOUS	Whether R is principal house-keeper	1 = yes 2 = no	
NOFAMILLY	# of family and friends living in Jersey City	0 = no one 3 = five or more	C7

TABLE 16 (Continued)
Variables Used to Test Models

<u>Variable</u>	<u>Measurement of</u>	<u>Response Range</u>	<u>Item #</u>
ED	Last grade or year completed in formal education	1 = did not finish elementary school 8 = did complete at least one year of college	J4
INCOME	Yearly household income from all sources	1 = less than \$3,000 5 = over \$12,000	J7
SIDESP	Total activity on sidewalk spaces of Villa Borinquen	0 = no use 4 = multiple uses	B18
PEDSPACE	Total activity on pedestrian/open spaces of Villa Borinquen	0 = no use 4 = multiple uses	B7, B17
NATENDTM	Frequency of attendance at tenant association meetings	1 = yes attend 3 = no attendance	D2
PARTORT	Respondent's Orientation to participate	1 = yes, oriented to participate 3 = not oriented	D18
NWRTENP	Whether respondent has ever worked on a tenant project	1 = yes 3 = no	D5
NOTHORG	Respondent's participation in other Villa Borinquen organizations	1 = yes 3 = no	D8

TABLE 16 (Continued)

Variables Used to Test Models

<u>Variable</u>	<u>Measurement of</u>	<u>Response Range</u>	<u>Item #</u>
PARTOUT	Respondent's participation in organizations outside of Villa Borinquen	0 = no 9 = multiple outside activities	D12
NMANGPA	Respondent's perception of say in management policies	1 = no say at all 5 = great say	G8
NMETGOAL	Degree to which respondent feels Villa Borinquen residency meets family goals	1 = yes, meets a goal 3 = no, does not	A37
HOUSATF	Degree to which respondent is satisfied with housing	1 = very dissatisfied 5 = very satisfied	A26, A30
NDNGERJC	Perception of danger in housing relative to rest of Jersey City	1 = less safe 3 = safer	E32
NDNGERHD	Perception of danger in housing relative to other housing developments	1 = less safe 3 = safer	E33
TELVBRES	Feelings about telling others about Villa Borinquen residency	1 = very ashamed 5 = very proud, happy	A35
HYPOMOV	Feelings about a hypothetical move from Villa Borinquen	1 = very sad 5 = very happy	A36

TABLE 16 (Continued)

Variables Used to Test Models

<u>Variable</u>	<u>Measurement of</u>	<u>Response Range</u>	<u>Item #</u>
NJCDSIRE	Villa Borinquen affecting desire to remain in Jersey City	1 = yes, does affect desire 3 = no, does not affect	A52
NVBJCBTR	Villa Borinquen's presence making Jersey City a better place to reside	1 = yes, better 3 = no, not better	A50
UPLAZA	Total activity in plaza spaces	0 = no use 4 = multiple use	
NPRIQUA	Quality of prior housing relative to Villa Borinquen	1 = worse than 3 = better than	

though the block diagram is written as a set of multiple equations that must be solved as a whole. Since this was the case, we needed to utilize a technique that would allow us to achieve this objective. Hence, no final decision was made regarding retention of variables that had been hypothesized as being explanatory until they could be evaluated in the context of all other equations in the block diagram. It was the understanding of how the many variables interacted as a system that was the final goal of this investigation.

To determine more precisely if the theoretical suppositions of the study were justified and the complex relationships between exogenous and endogenous variables were indeed valid, a systems regression approach was employed.

Of course, the calculation of each regression equation in the Max R procedure is done sequentially. In the process of calculating the regression weights for any one jointly determined or endogenous variable, then, information contained in any one of the remaining equations is not included in determining the weights. The effect of this procedure is that there is no guarantee that the resulting regression weights are best in a statistical sense. The model that was hypothesized originally in this research involved multiple equations whose operation must be considered as a system of equations. The weights that are attached to the explanatory variables, then, must be solved not sequentially as in Max R but simultaneously.

Although not generally recognized in the psychological literature, economists have been quite active in the development of statistical techniques that are appropriate to equation systems (Thiel, 1971; Kmenta, 1972). In the course of developing these models, a further

assumption was required when solving for the regression weights in a series of regression equations. This assumption states that within the error terms associated with each regression equation there is no unknown systematic variance associated with theoretically relevant constructs that have either not as yet been identified or if identified have not been specified correctly within the equation system. If such systematic variance is correlated, then the equations are related to one another through their error terms. Put another way, the regression equations are only seemingly unrelated to one another. The unknown but systematic variance represents lost information in the course of calculating the regression weights for variables in other equations in the system. The consequences associated with ignoring this lost information can be quite devastating when estimating the parameters of the model.

In 1962, Zellner proposed the development of an efficient method for estimating the parameters of seemingly unrelated regressions (Zellner, 1962). In this paper, Zellner pointed out that classical equations can achieve efficient estimates only under specific conditions. In his solution to this problem, Zellner utilized a generalized least squares procedure rather than ordinary least squares (Judge, Hill, Griffiths, Lutkepohl and Lee, 1982; Chapters 10-11).

In generalized least squares, the regression weights are estimated using information from the error matrix constructed from the regression equations that are proposed for the explanatory system. In ordinary least squares, the error matrix is assumed to be an identity matrix. In generalized least squares, on the other hand, the error matrix is simply a non scalar covariance matrix.

If there is systematic error in the matrix of residuals, it is possible to examine the correlations of the error terms to identify

where this systematic variance lies in the systems of equations. Usually the source of this error stems either from the omission of relevant explanatory variables from the system or from the misspecification of variables in the equations as written. In any event, the equations are then only seemingly unrelated or in Zellner's terms are disturbance related. If the investigator has identified the variables that are important to the explanations of the phenomenon in which he or she is interested, it is often possible to rewrite the equations of the regression system so that a better fit is achieved between the predicted model and the data that were actually obtained. The rule of thumb that is used in the examination of the residuals matrix of intercorrelations is to identify any equations whose error correlations exceed .25. Rewrite the equation with the variable that was omitted and see if the fit of the resulting model is improved. This process can cease when the error correlation matrix is basically an identity matrix.

The computer program that was used for the equations in this dissertation was the Statistical Analysis System's Regression Program (PROC SYSREG). The program automatically calculates the regression weights for all the equations simultaneously and constructs an error correlation matrix from the residuals. The procedures that were followed in this study are described in the following chapter.

CHAPTER 5

RESULTS

The investigator proceeded to analyze the first set of models derived from the explanatory variables in the block diagrams as well as from the results of the statistical analyses conducted earlier. For this final analysis the error matrix for all models, the model F Ratios and the individual beta weights for each variable in a model were reviewed. If these measures indicated that a particular model was misspecified it was rewritten until a more satisfactory one was constructed. The following tables compare the first set of models with the final set. An explanation of the significance of each final model is also provided. Accompanying each table is a figure that illustrates the directional relationship for significant variables in each final model.

For the variable Feelings about a Hypothetical Move (HYPOMOV) four variables; Perception of Management (NMANGPA), Villa Borinquen Meeting Family Goals (NMETGOAL), Having Worked on a Tenant Project (NWRKTENP) and Use of Pedestrian Open Space (PEDSPACE) produced a successful first model. Analysis of the error matrix for this model indicated, however, that the addition of Satisfaction with Housing (HOUSSATF) and Perception of Danger in Jersey City (NDNGERJC) might more completely explain HYPOMOV. These two variables were added for the final analysis. We found as a result of these additions that they produced a more significant model F Ratio of 18.96 and an R of .77 when compared to a model F Ratio of 18.72 and an R of .69 for the first test.

TABLE 17

The First and Final Model Test for the Dependent Variable:
Feelings about a Hypothetical Move from Villa Borinquen (HYPOMOV)

MODEL:	EQ1	SSE	46.700834	F RATIO	18.72
DEP VAR:	HYPOMOV	DFE	81	PROB F	0.0001
		MSE	0.576554	R-SQUARE	0.4803
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.050717	0.082022	0.6183	0.5381
NMANGPA	1	-0.400402	0.087844	-4.5581	0.0001
NMETGOAL	1	0.433168	0.085894	5.0430	0.0001
NWRKTENP	1	0.154378	0.080705	1.9129	0.0593
PEDSPACE	1	-0.211716	0.088394	-2.3951	0.0189
MODEL:	EQ1	SSE	33.222519	F RATIO	18.96
DEP VAR:	HYPOMOV	DFE	78	PROB F	0.0001
		MSE	0.425930	R-SQUARE	0.5933
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.072759	0.071642	1.0166	0.3130
NMETGOAL	1	0.273093	0.080717	3.3834	0.0011
HOUSATF	1	-0.346102	0.095906	-3.6088	0.0005
NDNGERJC	1	-0.139232	0.080481	-1.7300	0.0876
NMANGPA	1	-0.176828	0.086599	-2.2419	0.0445
PEDSPACE	1	-0.244291	0.076356	-3.1994	0.0025

An analysis of the beta weights demonstrated that those who felt that Villa Borinquen residency had met a family goal, were satisfied with the housing, felt that Villa Borinquen made downtown Jersey City a better place to reside, believed they had a say in management policy-making, and used pedestrian/open space were those who would be saddened

by a hypothetical move. The relationship between HYPOMOV and NMANGPA confirms the hypothesis which predicts a positive relationship between these two variables.

It is apparent from a review of the final model that HYPOMOV is more accurately explained by intervening variables, among these Housing Satisfaction being one of the most significant. Non-architectural variables such as Perception of Management Policies and Villa Borinquen Residency Meeting Family Goals were also crucial variables explaining HYPOMOV. The dynamics of the housing itself and not pre-existing conditions, as evidenced by the absence of exogenous variables, play the dominant role here. This would support the idea of sponsors and architects.

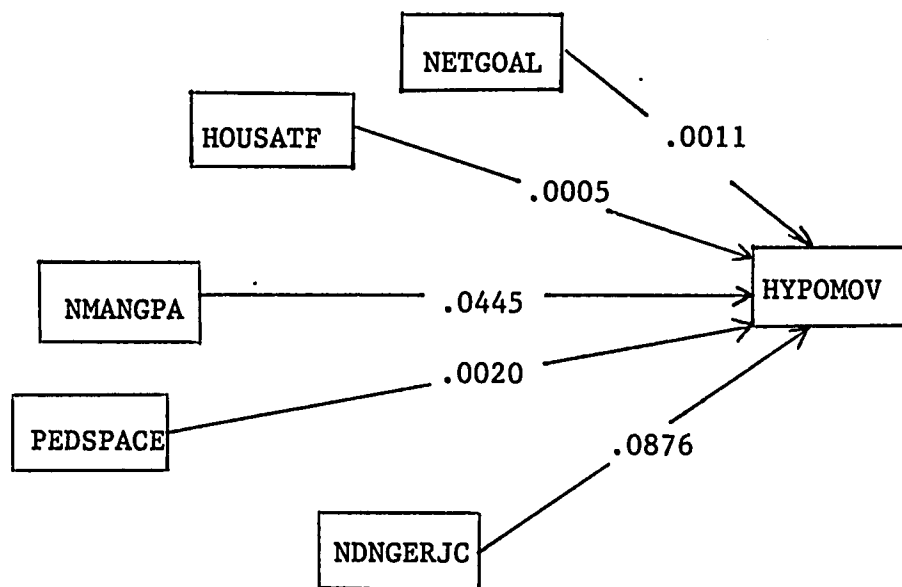


Figure 13

Observed Causal Relationship between Dependent Variable "Feeling About a Hypothetical Move" (HYPOMOV) and its Explanatory Variables

TABLE 18

The First and Final Model for the Dependent Variable:
Resident's Desire to Remain in Jersey City (NJCDSIRE)

MODEL:	EQ2	SSE	50.795017	F RATIO	12.50
DEP VAR:	NJCDSIRE	DFE	81	PROB F	0.0001
		MSE	0.627099	R-SQUARE	0.3817
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.045815	0.086026	0.5326	0.5958
TELVBRES	1	-0.128995	0.111436	-1.1576	0.2504
NVBJCBTR	1	0.092014	0.092003	1.0001	0.3202
HOUSATF	1	-0.326141	0.109562	-2.9768	0.0038
NWRKTENP	1	0.316101	0.085078	3.7154	0.0004
MODEL:	EQ2	SSE	51.004911	F RATIO	11.72
DEP VAR:	NJCDSIRE	DFE	80	PROB F	0.0001
		MSE	0.637561	R-SQUARE	0.3696
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.043724	0.087815	0.4979	0.6199
HOUSATF	1	-0.415293	0.095746	-4.3375	0.0001
NWRKTENP	1	0.334771	0.086693	3.8616	0.0002
INCOME	1	0.188010	0.104078	1.7296	0.0875

Table 18 compares the first and last system regression for the endpoint endogenous variable, Residents Desire to Remain in Jersey City (NJCDSIRE). In the first model test we observe a total model F Ratio of 12.5 and an R of .61. When considered in the systems equation two of the explanatory variables, Telling Others about Villa Borinquen Residency (TELVBRES) and Villa Borinquen Making Jersey City a Better

Place to Reside (NVBJCBTR) had unacceptable beta weights (.2504) and (.3202).

They were, however, significant in the Maximum R square Improvement which did not consider variables in the context of the whole. Analysis of the error matrix for the final test moved us to include the variable Income which was found to have a significant effect. These changes resulted in a model F Ratio of 11.7 and an R of .61.

NJCDSIRE was explained in part by housing satisfaction as was HYPOMOV, the other attitude variable. Those whose Villa Borinquen residency affected their desire to stay in Jersey City were very satisfied with the housing, worked on tenant projects and, counter to the expected direction, were the lower income residents of the development. As with the outcome variable, HYPOMOV, this variable's relationship to satisfaction with the housing and participation is in the hypothesized direction. In the case of the variable, Income, it may be higher income residents who see themselves as having many more options and therefore, their commitment to Villa Borinquen of Jersey City is less than those with lower incomes. Clearly the architectural features of Villa Borinquen influenced residents' attitudes toward the development. It should be noted that with variables such as Having Worked on a Tenant Project, one of the participation variables and Income, one of the exogenous variables, we have a rather complex explanatory model which includes factors brought to the housing by residents as well as experiences within the housing itself.

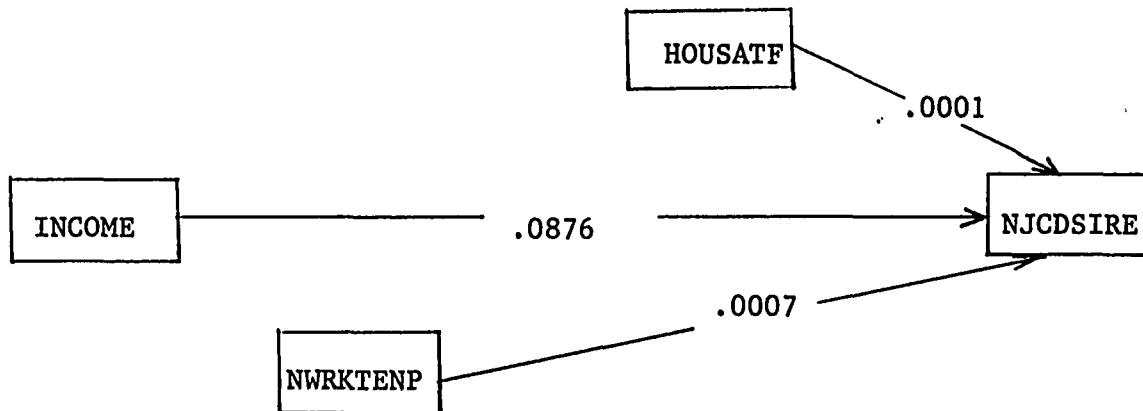


Figure 14

Observed Causal Relationship between Dependent Variable "Desire to Remain in Jersey City" (NJCDSIRE) and its Explanatory Variables

TABLE 19

The First and Final Model Test for the Dependent Variable:
Villa Borinquen Making Jersey City a Better Place to Reside (NVBJCBTR)

MODEL:		EQ3	SSE	47.192354	F RATIO	13.56
DEP VAR:		NVBJCBTR	DFE	79	PROB F	0.0001
		MSE	0.597372	R-SQUARE	0.5074	
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T	
INTERCEPT	1	-0.024219	0.084641	-0.2861	0.7755	
TELVBRES	1	-0.171858	0.099749	-1.7229	0.0888	
NDNGERHD	1	-0.146160	0.090299	-1.6186	0.1095	
NMETGOAL	1	0.420202	0.097171	4.3244	0.0001	
NMANG PA	1	-0.153525	0.091309	-1.6814	0.0966	
NOTHRORG	1	0.201352	0.088842	2.2664	0.0262	
INCOME	1	0.447368	0.090564	4.9398	0.0001	

MODEL:		EQ3	SSE	47.149922	F RATIO	13.02
DEP VAR:		NVBJCBTR	DFE	78	PROB F	0.0001
		MSE	0.604486	R-SQUARE	0.5003	
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T	
INTERCEPT	1	-0.021661	0.085689	-0.2528	0.8011	
TELVBRES	1	-0.174845	0.100973	-1.7316	0.0873	
NDNGERHD	1	-0.152296	0.093741	-1.6246	0.1083	
NMETGOAL	1	0.419237	0.097816	4.2866	0.0001	
NMANG PA	1	-0.154135	0.091880	-1.6776	0.0974	
NOTHRORG	1	0.201428	0.089370	2.2539	0.0270	
INCOME	1	0.448534	0.091208	4.9177	0.0001	

For the commitment variable, Villa Borinquen Making Jersey City a Better Place to Reside (NVBJCBTR), it was found that respondent's income was a highly significant explanatory variable. This was also the case with the other commitment variable, Desire to Remain in Jersey City. Feeling that Villa Borinquen made Jersey City a better place in which to reside was a function of being proud of Villa Borinquen residency, feeling that residency had met a family goal, having a say in management policies and engaging in other Villa Borinquen activities.

These residents were also the lower income residents of the development. Except for the relationship found between the socio-economic variables, INCOME and NVBKCBTR, the other relationships were in the anticipated directions. It can be said, therefore, that income level, a factor not under the influence of architects, planner, or sponsors, plays a crucial part in commitment to housing and neighborhood. It is also evident that if the housing is not perceived to meet family goals respondents are not likely to believe Jersey City is a better place to reside.

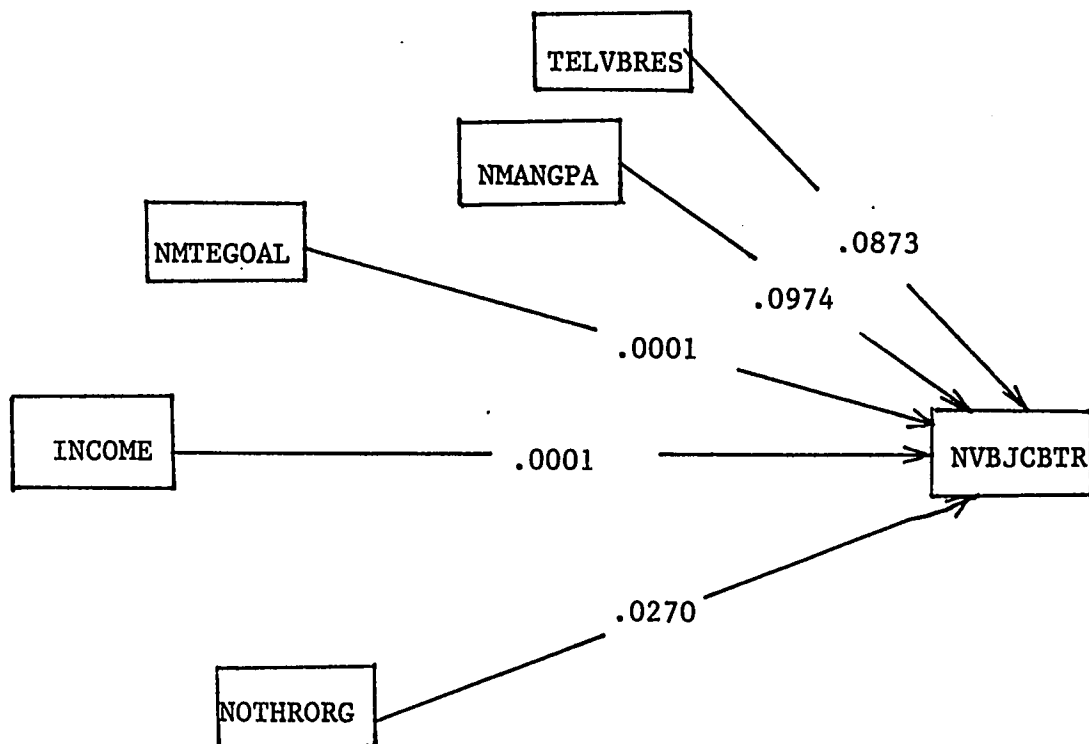


Figure 15

Observed Causal Relationships between Dependent Variable "Villa Borinquen Making Jersey City a Better Place to Reside" (NVBJCBTR) and its Explanatory Variables

As can be seen in Table 20, the variable, Villa Borinquen Residency Meeting Family Goals (NMETGOAL) underwent significant change in explanatory variables between the first and final analyses. In the first model, Satisfaction with Housing (HOUSTAF), with a beta weight of .334 and Attending Tenant Meeting (NATENDTM) with a beta of .0124 were the significant predictors. Based on the Maximum R Square Improvement for NMETGOAL, the variables, Perception of Management Policies (NMANPGA) and Household Income (INCOME) were included but did not attain significance. A model F Ratio of 8.29 and an R of .5388 were obtained. By eliminating the two insignificant variables and including others which were congruent with the hypotheses as well as the analysis of the error matrix, NMETGOAL was explained by (HOUSATF .001) Participation in Activities Outside Villa Borinquen (PARTOUT, .001); Working on a Tenant Project (NWRKTENP, .001); Use of Plaza Space (UPLAZASP, .0326); and (NATENDTM .001). The F Ratio for the model improved to 14.08 as did the R which improved to .6864.

Those who were satisfied with the housing, participated in activities outside of Villa Borinquen, used plaza spaces but did not attend tenant meetings nor participate in tenant projects were the ones who felt Villa Borinquen residency has met a family goal. These last findings are counter to the hypothesized relationship of this outcome variable to participation.

It is very interesting to note that for the attitude variable, Villa Borinquen Residency Meeting Family Goals, there were three participation variables identified as explanatory variables. Evidently being active in housing activities and programs is as important a determinant of this variable as is the quality of the housing. The problem is that the findings are in the direction one would not expect, that is, lack of participation leads to the attitude that Villa Borinquen residency meets

TABLE 20

The First and Final Model Test for the Dependent Variable:
Villa Borinquen Residency Meeting Family Goals (NMETGOAL)

MODEL:	EQ4	SSE	59.464229	F RATIO	3.29
		DFE	81	PROB F	0.0001
DEP VAR:	NMETGOAL	MSE	0.734126	R-SQUARE	0.2904
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.068193	0.094427	0.7222	0.4723
NMANGPA	1	-0.022387	0.108606	-0.2061	0.8372
HOUSATF	1	-0.343563	0.113750	-3.0203	0.0034
NATENDTM	1	-0.259912	0.101591	-2.5584	0.0124
INCOME	1	-0.107671	0.095406	-1.1286	0.2624

MODEL:	EQ4	SSE	44.168275	F RATIO	14.08
		DFE	79	PROB F	0.0001
DEP VAR:	NMETGOAL	MSE	0.559092	R-SQUARE	0.4712
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.031451	0.082977	0.3790	0.7057
HOUSATF	1	-0.299857	0.090255	-3.3223	0.0014
PARTOUT	1	-0.273949	0.089881	-3.0813	0.0028
NWRKTENP	1	-0.582539	0.112726	-5.1676	0.0001
UPLAZASP	1	-0.196174	0.090191	-2.1751	0.0326
NATENDIM	1	-0.586120	0.114001	-5.1414	0.0001

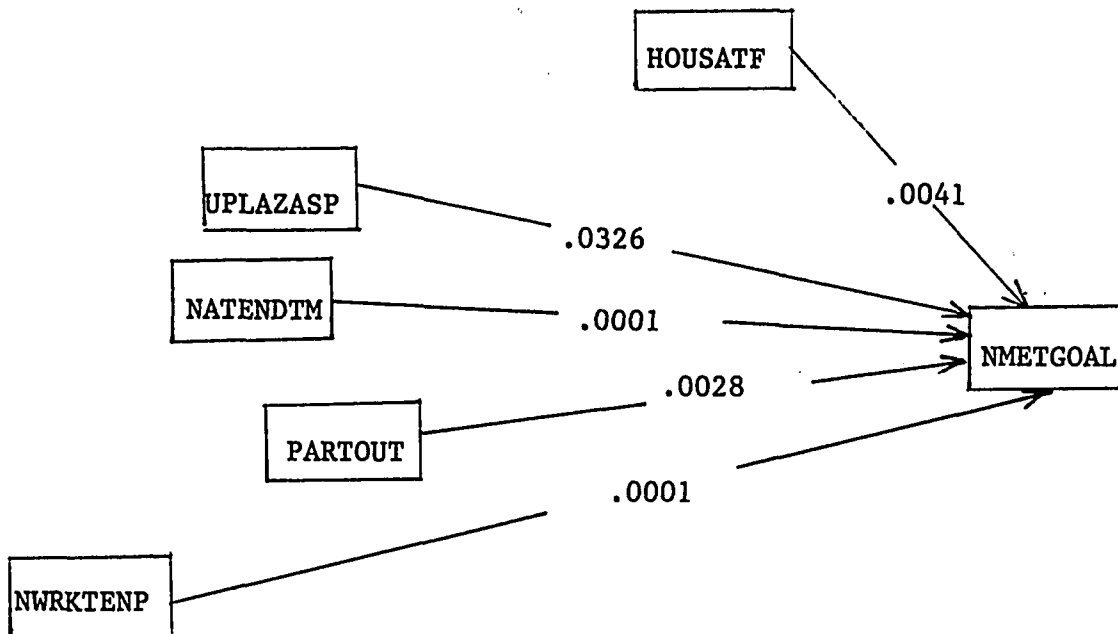


Figure 16

Observed Causal Relationship between Dependent Variable "Villa Borinquen Meeting Family Goals (NMETGOAL) and its Explanatory Variables

a family goal. One could argue that generally tenants go to meetings to remove problems but that, in this housing, attending meetings led to a greater realization of the problems that existed.

TABLE 21

The First and Final Model Test for the Dependent Variable:
Feelings About Telling Others of Villa Borinquen
Residency (TELVBRES)

MODEL:	EQ5	SSE	44.751151	F RATIO	20.47
		DFE	81	PROB F	0.0001
DEP VAR:	TELVBRES	MSE	0.552483	R-SQUARE	0.5026
		PARAMETER	STANDARD		
VARIABLE	DF	ESTIMATE	ERROR	T RATIO	PROB T
INTERCEPT	1	-0.067710	0.080444	-0.8417	0.4024
HOUSATF	1	0.573724	0.083338	6.8843	0.0001
NDNGERHD	1	0.225114	0.084541	2.6628	0.0093
NDTMRORS	1	-0.118134	0.081273	-1.4536	0.1499
SIDESP	1	0.268507	0.079973	3.3575	0.0012

MODEL:	EQ5	SSE	40.744089	F RATIO	14.71
		DFE	78	PROB F	0.0001
DEP VAR:	TELVBRES	MSE	0.522360	R-SQUARE	0.5308
		PARAMETER	STANDARD		
VARIABLE	DF	ESTIMATE	ERROR	T RATIO	PROB T
INTERCEPT	1	-0.055343	0.079605	-0.6952	0.4890
HOUSATF	1	0.579656	0.087405	3.6319	0.0001
NDNGERHD	1	0.198056	0.086048	2.3017	0.0240
SIDESP	1	0.287643	0.077109	3.7303	0.0004
ED	1	0.195228	0.089802	2.1740	0.0327
INCOME	1	-0.125724	0.088894	-1.4143	0.1613
NPRIHOJQ	1	0.194077	0.086926	2.2327	0.0284

In the above table we find that Telling Others About Villa Borinquen Residency (TELVBRES) was explained by Satisfaction with Housing (HOUSATF, 0.001); Perception of Danger in Villa Borinquen Relative to Other Housing Developments (NDNGERHD, .0093); and Use of Sidewalk Space (SIDESP, .0012); the model F Ratio obtained was 20.47 and the R was .7089. In the final model test TELVBRES is more completely explained by

the following five variables: HOUSATF (.0001); NDNGERHD (.0240); SIDESP (.0004); EDUCATION (ED, .0327); and Residents Perception of Prior Housing Quality Relative to Villa Borinquen (NPRIHOJQ, .0284). Although Income was included, it attained relatively marginal significance. The model F Ratio was 14.71 somewhat lower than the first; however, this may have been the result of the larger number of variables included in the test. The R, however, improved to .7285.

As expected, pride in Villa Borinquen residency was the result of satisfaction with the housing, feeling that the development was safer than others in Jersey City, use of sidewalk spaces and the belief that their housing was better than prior housing. These residents were also the least educated ones.

The attitude variable, Telling Others About Villa Borinquen Residency, was explained by Satisfaction with Housing. This was the case with the two other attitude variables, HYPOMOV and NMETGOAL. One can say, therefore, with a certain degree of confidence that satisfaction with architectural features plays a crucial part in residents' attitudes.

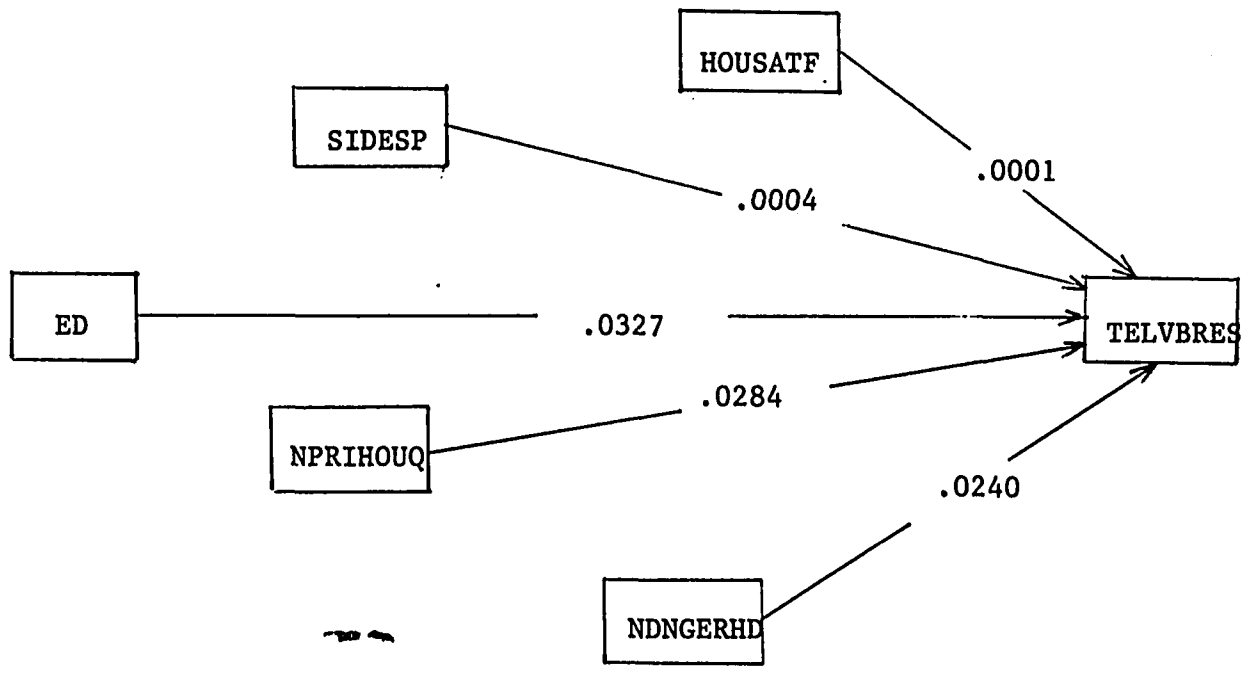


Figure 17

Observed Causal Relationship between Dependent Variable "Telling Others About Villa Borinquen Residency" (TELBRES) and its Explanatory Variables

TABLE 22

The First and Final Model Test for the Dependent Variable:
Satisfaction with Housing (HOUSATF)

MODEL:	EQ6	SSE	56.282890	F RATIO	13.51
		DFE	82	PROB F	0.0001
DEP VAR:	HOUSATF	MSE	0.686377	R-SQUARE	0.3307
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.049645	0.093870	0.5289	0.5983
NMANGPA	1	0.462771	0.094315	4.9066	0.0001
NDNGERJC	1	0.307827	0.097802	3.1474	0.0023
NOFAMLIV	1	0.052714	0.098907	0.5330	0.5955

MODEL:	EQ6	SSE	40.450867	F RATIO	20.23
		DFE	80	PROB F	0.0001
DEP VAR:	HOUSATF	MSE	0.505636	R-SQUARE	0.5329
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.042917	0.078271	0.5483	0.5858
NATENDTM	1	0.207428	0.080697	2.5705	0.0120
NMANGPA	1	0.419136	0.081259	5.1580	0.0081
NDNGERJC	1	0.285356	0.083559	3.4153	0.0018
DWELTYPE	1	-0.341143	0.078429	-4.3508	0.0001

For the variable, Satisfaction with Housing (HOUSATF), the significant explanatory variables in the first test were Perception of Management Policies (NMANGPA, .001) and Perception of Danger in Jersey City (NDNGERJC, .0023). Number of Family/Friends Living in Villa Borinquen (NOFAMLIV) was included but was not significant, having obtained a probability value of .5955.

The F Ratio for the model was 13.51 and the R was .5750. In the final test, NOFAMLIV was dropped and other variables included so that Attending Tenant Meetings (NATENDTM, .0120); NMANGPA (.001); NDNGERJC (.0002); and Dwelling Unit Type (DWELTYPE, .001) became the significant variables. This revised model had an F Ratio of 20.23 and an R of .7091.

For the variable Satisfaction with Housing, one of the two most significant explanatory variables was Dwelling Unit Type. The second most was Perception of Management Policies. Belief that one had a say in management policies, that Villa Borinquen was a safer place to reside than the rest of downtown Jersey City, no attendance at tenant meetings and lower density or townhouse residency produced satisfaction with the housing. Counter to hypothesized relationships, these residents were less likely to attend tenant meetings. It is possible that, having no complaints or troubles with Villa Borinquen, they felt no need to attend such meetings. What is also significant about these findings is that we have, on the one hand, an architectural, physical factor and a social-political factor having significant weight in determining satisfaction. This finding demonstrates to the researcher the complex nature of satisfaction.

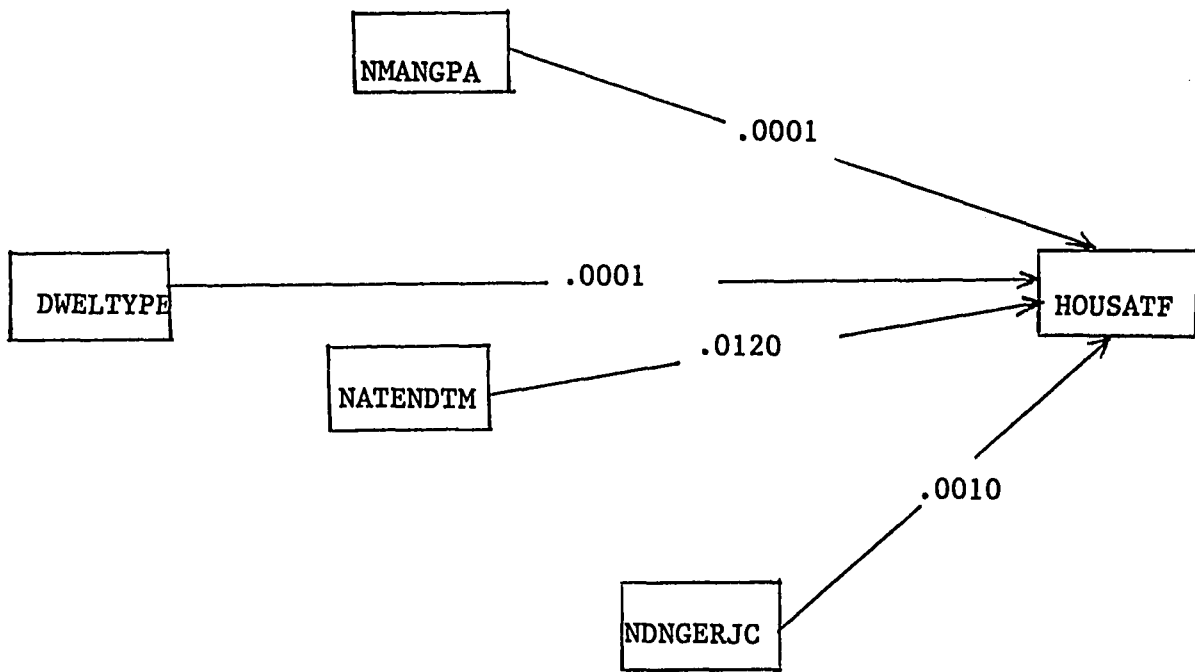


Figure 18

Observed Causal Relationship between Dependent Variable "Housing Satisfaction" (HOUSATF) and its Explanatory Variables

TABLE 23

The First and Final Model Test for the Dependent Variable:
Perception of Danger in Villa Borinquen Relative
to the Rest of Jersey City (NDNGERJC)

MODEL:	EQ7		SSE	53.253000	F RATIO	19.52
			DFE	83	PROB F	0.0001
DEP VAR:	NDNGERJC		MSE	0.641602	R-SQUARE	0.3199
VARIABLE	DF	PARAMETER	STANDARD		T RATIO	PROB T
		ESTIMATE	ERROR			
INTERCEPT	1	0.052706	0.086822	0.6071	0.5455	
NDNGERHD	1	0.514124	0.091094	5.6439	0.0001	
AGE	1	0.141897	0.089994	1.5767	0.1187	
MODEL:	EQ7		SSE	51.700839	F RATIO	17.90
			DFE	83	PROB F	0.0001
DEP VAR:	HOUSATF		MSE	0.632498	R-SQUARE	0.3039
VARIABLE	DF	PARAMETER	STANDARD		T RATIO	PROB T
		ESTIMATE	ERROR			
INTERCEPT	1	0.055290	0.086369	0.6402	0.5239	
NDNGERHD	1	0.511753	0.092687	5.5216	0.0001	
ED	1	-0.182480	0.087619	-2.0826	0.0404	

In the first test, Danger in Villa Borinquen Relative to the Rest of Jersey City (NDNGERJC) was explained by Danger in Villa Borinquen Relative to Other Housing Developments (NDNGERHD, .0001). Age was included in the model because the literature would lead one to do so; however, it was not a significant factor. In the final test, Age was dropped and NDNGERJC was explained by two variables; NDNGERHD (.001) and ED (.0404). The F Ratios were 19.52 and 17.9 respectively. The R's were .5655 and .5512.

Residents who perceived Villa Borinquen to be safer than other housing developments and had attained higher levels of educational achievements were the ones who believed Villa Borinquen was a safer place to live than the rest of downtown Jersey City. These obtained

relationships confirmed hypotheses pertaining to relative safety of the housing.

Perception of Danger Relative to the Rest of Downtown Jersey City was tied to Perception of Danger Relative to Other Housing Developments. It was, however, interesting to find that Education also emerged as an explanatory variable. This could be interpreted to mean that the more educated the respondent the greater the likelihood that perception of danger would be based on more accurate knowledge of the incidence of crime in Jersey City. In this regard Education may serve as a surrogate and afford more access to public information and perception of Jersey City.

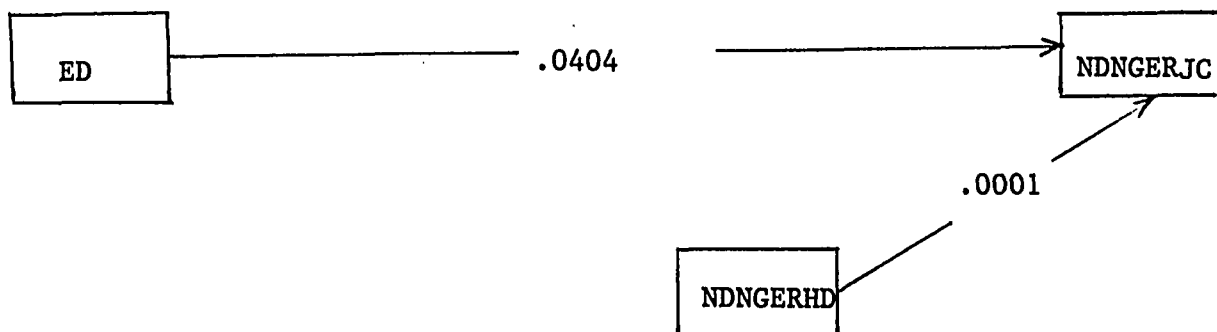


Figure 19

Observed Causal Relationship between Dependent Variable "Perception of Danger in Villa Borinquen Relative to the Rest of Jersey City" (NDNGERJC) and its Explanatory Variables

TABLE 24

The First and Final Model Test for the Dependent Variable:
Having Worked on a Tenant Project (NWRKTENP)

MODEL:	EQ8		SSE	47.075278	F RATIO	11.76
			DFE	79	PROB F	0.0001
DEP VAR:	HOUSATF		MSE	0.595890	R-SQUARE	0.4717
VARIABLE	DF	PARAMETER	ESTIMATE	STANDARD	T RATIO	PROB T
				ERROR		
INTERCEPT	1		-0.072931	0.084989	-0.8581	0.3934
PARTORT	1		0.094280	0.084495	1.1158	0.2679
NMANGPA	1		0.176594	0.087706	2.0135	0.0475
NATENDTM	1		-0.610008	0.094495	-6.4555	0.0001
UPLAZASP	1		-0.158672	0.093415	-1.6986	0.6933
DWELTYPE	1		0.062075	0.099045	0.6267	0.5326
INCOME	1		-0.046751	0.103579	-0.4514	0.6530

MODEL:	EQ8		SSE	42.707839	F RATIO	21.55
			DFE	80	PROB F	0.0001
DEP VAR:	HOUSATF		MSE	0.533848	R-SQUARE	0.5187
VARIABLE	DF	PARAMETER	ESTIMATE	STANDARD	T RATIO	PROB T
				ERROR		
INTERCEPT	1		-0.054044	0.080079	-0.6749	0.5017
NMANGPA	1		0.171983	0.083127	2.0689	0.0418
NATENDIM	1		-0.596813	0.085954	-6.9434	0.0001
UPLAZASP	1		-0.184131	0.085882	-2.1440	0.0351
PARTOUT	1		-0.270438	0.082461	-3.2795	0.0015

For the variable Working on a Tenant Project (NWRKTENP) the explanatory variables in the first model test were Perception of Management Policies (NMANGPA, .0475); Attending Tenant Meetings (NATENDTM, .001); and Use of Plaza Space (UPLAZASP, .0933). Participation Orientation (PARTORT, .2679); Dwelling Unit Type (.5326); and Income (INCOME, .6530) were included but were not found to be significant. The model F Ratio was 11.76 and the R was .6868. PARTORT and INCOME were excluded in the final test and Participation in Organizations Outside of Villa Borinquen (PARTORT) was added.

These changes resulted in NWRKTENP being explained by NMANGPA (.0418); NATENDTM (.001); UPLAZASP (.0351) and PARTORT (.0015). The total model F Ratio improved to 21.55 and the R improved to .7202.

With regard to this, the first of the participation variables, a number of interesting relationships were obtained. Those who did not attend tenant meetings, nor felt they had a say in management policies but did participate in activities outside of Villa Borinquen and used the plaza spaces were those who worked on tenant projects.

From a review of the explanatory variables for Working on a Tenant Project, it is evident that such participation is related to having participated in other activities or using plaza open space. It would appear that having participated in some activity is a precursor to further activity in other housing projects. Conspicuous in its absence is Orientation to Participate; that is, working on a tenant project may be more a function of the immediate needs in the situation. It is also evident that Perception of Management Policies influences participation in an unanticipated direction. What may be occurring is that participation in tenant projects, with little or no satisfactory outcomes, may have been frustrating leading to eventual feelings that tenants have no control over management policies. It is equally plausible to assume that participation in tenant projects may have been the result of dissatisfaction.

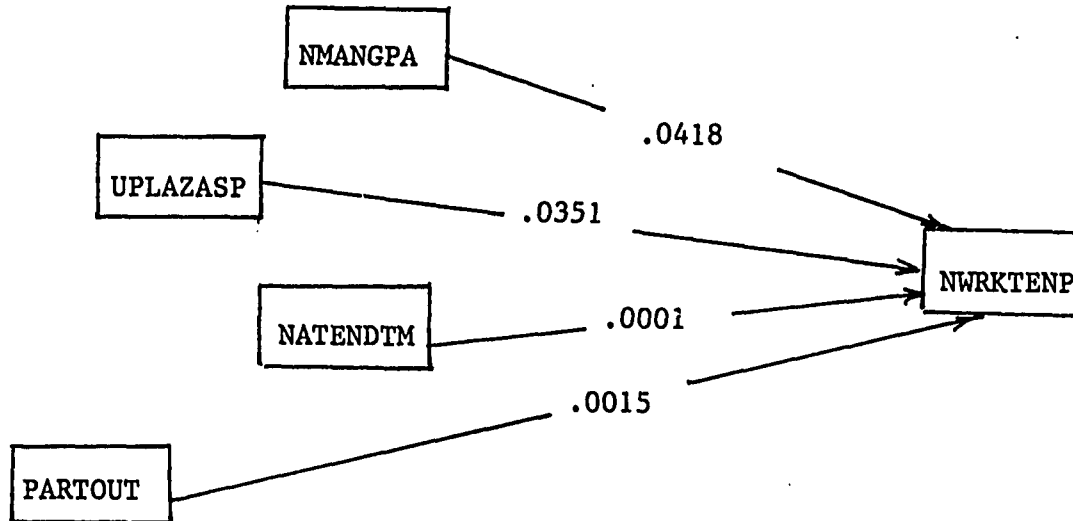


Figure 20

Observed Causal Relationship between Dependent Variable "Having Worked on a Tenant Project" (NWRKTENP) and its Explanatory Variables

TABLE 25

The First and Final Model Test for the Dependent Variable:
Belonging to Other Villa Borinquen Organizations (NOTHRORG)

MODEL:	EQ9	SSE	63.934441	F RATIO	5.81
		DFE	79	PROB F	0.0001
DEP VAR:	NOTHRORG	MSE	0.809297	R-SQUARE	0.3062
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.040001	0.098976	-0.4042	0.6872
PARTORT	1	0.042430	0.098993	0.4286	0.6694
NMANGPA	1	-0.078274	0.101472	-0.7714	0.4428
NATENDTM	1	-0.438067	0.110032	-3.9813	0.0002
SIDESP	1	-0.033779	0.103304	-0.3270	0.7445
DWELTYPE	1	0.138597	0.120524	1.1500	0.2536
INCOME	1	-0.125218	0.116822	-1.0719	0.2870

MODEL:	EQ9	SSE	57.857996	F RATIO	11.78
		DFE	81	PROB F	0.0001
DEP VAR:	NOTHRORG	MSE	0.723225	R-SQUARE	0.3706
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.029355	0.093652	-0.3134	0.7548
NATENDTM	1	-0.334546	0.120371	-2.7793	0.0068
NWRKTENP	1	0.318818	0.119781	2.6614	0.0094
UPLAZASP	1	0.241745	0.100865	2.3967	0.0189
DWELTYPE	1	0.148076	0.095441	1.5516	0.1247

In Table 25, we see that out of the six variables in the first test of the variable Belonging to Other Villa Borinquen Organizations (NOTHRORG) the only obtained explanatory variable was Attending Tenant Meetings (NATENDTM, .002). By eliminating Participation Orientation (PARTORT), Perception of Management Policies (NMANGPA), Use of Sidewalk Space (SIDESP), and INCOME in the last analysis and including Having Worked on a Tenant Project (NWRKTENP), and Use of Open/Plaza Space (UPLAZASP), we produced an improved model with an F Ratio of 11.78, compared to 5.81 and an R of .6087 compared to .5533.

Similarly interesting findings were obtained with this dependent variable. Belonging to Other Villa Borinquen Organizations was the result of not attending tenant meetings, not using plaza spaces but of working on tenant projects. These residents did not use plaza spaces. It would appear that tenant meetings were not conducive to participation; an observation which will be more fully described in the Discussion.

TABLE 26

The First and Final Model Test for the Dependent Variable:
Frequency of Attendance at Tenant Meetings (NATENDTM)

MODEL:	EQ10		SSE	40.450867	F RATIO	9.27
			DFE	80	PROB F	0.0001
DEP VAR:	NATENDTM		MSE	0.505636	R-SQUARE	0.3669
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T	
INTERCEPT	1	-0.162636	0.091986	-1.7680	0.0809	
PARTORT	1	-0.304781	0.086542	-3.5218	0.0007	
NMANGPA	1	0.277102	0.098387	2.8164	0.0061	
SIDESP	1	0.148047	0.090365	1.6383	0.1053	
NOFAMLIIV	1	0.468386	0.102109	4.5871	0.0001	
AGE	1	0.092258	0.102179	0.9029	0.3693	

MODEL:	EQ10		SSE	51.497524	F RATIO	5.76
			DFE	79	PROB F	0.0001
DEP VAR:	NATENDTM		MSE	0.778450	R-SQUARE	0.2672
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T	
INTERCEPT	1	-0.048354	0.095993	-0.5037	0.6159	
PARTORT	1	-0.266331	0.092564	-2.8773	0.0052	
NMANSPA	1	0.294702	0.105060	2.8051	0.0063	
SIDESP	1	0.216688	0.094222	2.1936	0.0312	
UPLAZASP	1	0.230727	0.102955	2.2411	0.0278	
ED	1	0.220944	0.108076	2.0443	0.0443	

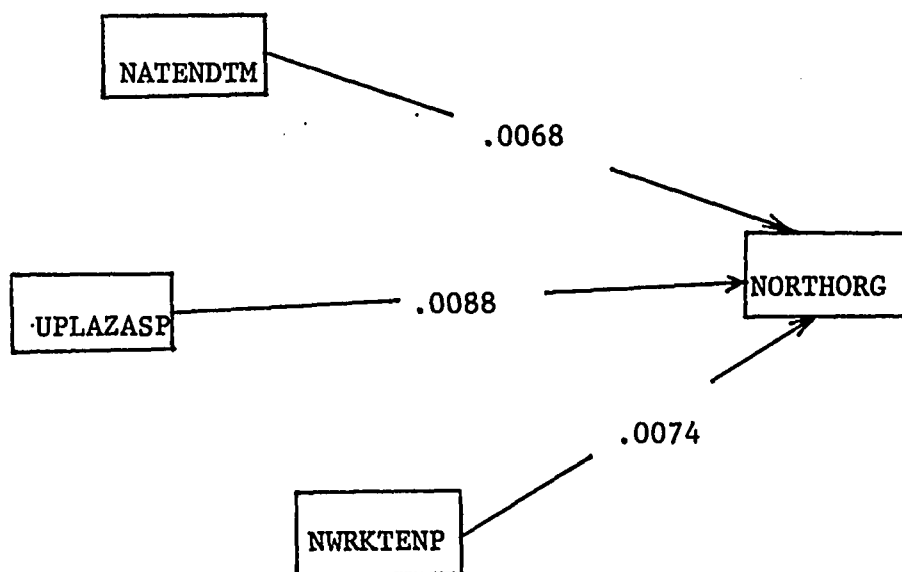


Figure 21

Observed Causal Relationship between Dependent Variable "Participation in Other Villa Borinquen Organizations" (NORTHORG) and its Explanatory Variables

For the Variable Attending Tenant Meetings (NATENDTM) the following were initially the significant explanatory variables, Participation Orientation (.007), Perception of Management Policies (NMANGPA, .0061), and Number of Family and Friends Living in Villa Borinquen (NOFAMLIV, .0001). The model F Ratio was 9.27 and the R was .6057. In the final analysis NOFAMLIV was eliminated as was AGE (.3693). Use of Plaza Space (UPLAZASP) and Education were added. As can be observed the Model F Ratio of 5.76 was somewhat lower than the first tests as was the .5169 R value; however, five variable model offers a more complete explanation of NATENDTM.

Here again we find evidence supporting the notion that tenant meetings may have dampened positive feelings about Villa Borinquen. Those residents who believed they had no say in management policies, were less educated, less likely to use sidewalk and plaza spaces were those who attended tenant meetings. The relationships among these variable lead one to conclude that tenant meetings were frustrating experiences, in that tenant consciousness could have been raised while they understood the limited role they could play in influencing policy. It is also possible that the way questionnaire items relating to participation in tenant actions were phrased, tenants who did not see a problem in Villa Borinquen would not attend tenant meetings. The effect of situational factors such as impact of attendance at tenant meetings on commitment and attitudes are described in the Discussion Chapter.

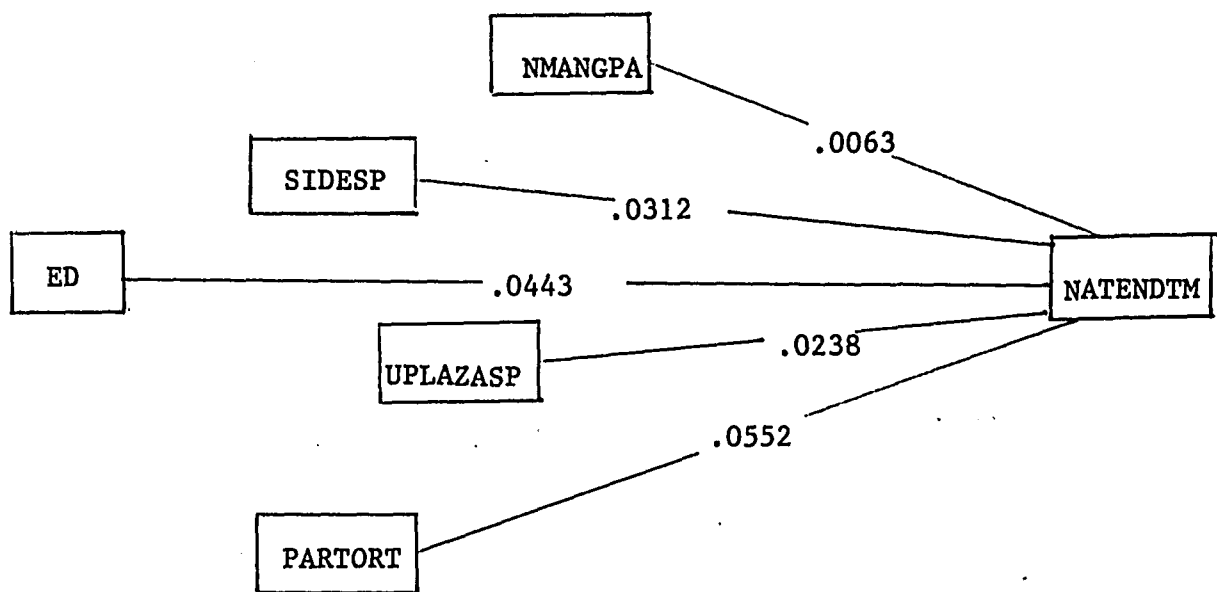


Figure 22

Observed Causal Relationship between Dependent Variable "Attendance at Tenant Meetings" (NATENDTM) and its Explanatory Variables

TABLE 27

The First and Final Model Test for the Dependent Variable:
Perception of Management Policies (NMANGPA)

MODEL:	EQ11	SSE	66.519083	F RATIO	5.03
		DFE	81	PROB F	0.0001
DEP VAR:	NMANGPA	MSE	0.821223	R-SQUARE	0.1990
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.027463	0.102433	0.2681	0.7893
NOFAMLIV	1	-0.154773	0.107605	-1.4383	0.1542
DWELTYPE	1	-0.131660	0.105849	-1.2438	0.2171
KEEPHOUS	1	-0.192543	0.104605	-1.8407	0.0693
AGE	1	0.343868	0.111268	3.0904	0.0027

MODEL:	EQ11	SSE	57.490493	F RATIO	11.61
		DFE	81	PROB F	0.0001
DEP VAR:	NMANGPA	MSE	0.709759	R-SQUARE	0.3007
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.084542	0.091983	0.0759	0.9397
KEEPHOUS	1	-0.128336	0.096203	-1.3340	0.1859
AGE	1	0.392785	0.094892	4.1393	0.0001
NPRIHOUQ	1	0.376083	0.095693	3.9301	0.0002

As can be seen above in Table 27 Age (.0027) and Respondent Keeping House (KEEPHOUS, .0693) were the significant predictors of Perception of Management Policies (NMANGPA) in the first analysis. Dwelling Unit Type (DWELTYPE, .2171), and Number of Family and Friends Living in Villa Borinquen (NOFAMLIV, .1542) were included but found to be insignificant. In the last model these two variables were eliminated and the variable, Perception of Prior Housing Quality (NPRIHOUQ) was added. As can be seen as a result of these alterations, KEEPHOUS (.1859) became an insignificant variable; however, Age (.001) and NPRIHOUQ (.002) were found to be significant. The last model F Ratio of 11.61 was better than

the F Ratio of 5.03 in the first model and the R of .5483 for the last model was an improvement over the R of .4460 in the first model.

Being an elder resident of the development and perceiving that the present housing was of better quality than the prior housing resulted in a belief that one had a say in management policies. This group could be those who have very little option in their housing choices.

It would appear that residents' perception of management is not necessarily a function of pre-existing conditions which residents brought to Villa Borinquen, namely the quality of prior housing and their age. The error matrix showed that older residents were more positive toward management than were younger residents.

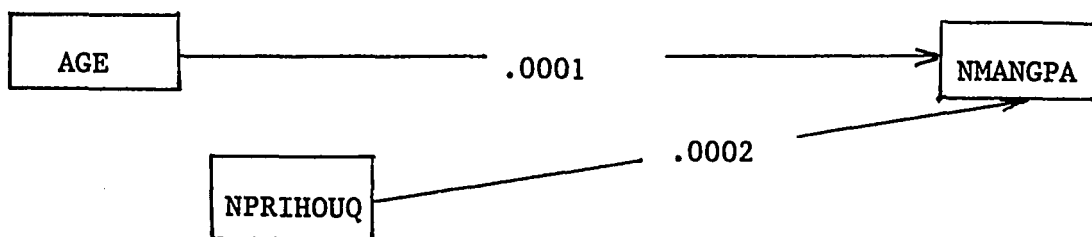


Figure 23

Observed Causal Relationship between Dependent Variable "Perception of Management" (NMANGPA) and its Explanatory Variables

TABLE 28

The First and Final Model Test for the Dependent Variable:
Participation in Organizations Outside of Villa Borinquen (PARTOUT)

MODEL:	EQ12	SSE	61.585026	F RATIO	7.84
		DFE	81	PROB F	0.0001
DEP VAR:	PARTOUT	MSE	0.760309	R-SQUARE	0.2792
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.074673	0.095691	0.7803	0.4375
PARTORT	1	-0.278755	0.097656	-2.8544	0.0055
NWRKTENP	1	-0.226817	0.097875	-2.3174	0.0230
AGE 1		-0.109187	0.100883	-1.0823	0.2823
INCOME1		0.231962	0.099545	2.3302	0.0223

MODEL:	EQ12	SSE	59.231880	F RATIO	11.54
		DFE	81	PROB F	0.0001
DEP VAR:	PARTOUT	MSE	0.731258	R-SQUARE	0.2995
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.089810	0.094054	0.9549	0.3425
NOTHORG	1	-0.298455	0.093986	-3.1755	0.0021
PARTORT	1	-0.262055	0.091864	-2.8526	0.0055
INCOME	1	0.209188	0.098395	2.1260	0.0365

The dependent variable, Participation in Organizations Outside of Villa Borinquen (PARTOUT) was explained in the first model by the variables, Participation Orientation (PARTORT, .0055); Working on a Tenant Project (NWRKTENP, .023); and INCOME (.0223). It had an F Ratio of 7.84 and an R of .5283. In the final test NWRKTENP was dropped as was AGE, which did not reach significance and the variable Belonging to Other Villa Borinquen Organizations (NOTHORG) was added. In this test all three variables NOTHORG (.0021); PARTORT (.0055); and INCOME (.0365) were found to satisfactorily explain PARTOUT. The F Ratio was 11.54 and the R was .5472.

The matrix demonstrated that those residents who were oriented to participate, belonged to other Villa Borinquen organizations, and had higher incomes were the ones who participated in activities outside of Villa Borinquen.

It was not surprising to find that an orientation to participate was a significant explanatory variable for the variable, Participation in Organizations Outside of Villa Borinquen. It would likely be this orientation that determined participation in formal social settings. Here also the investigator would argue that possessing this orientation made participation easier. With regard to income, it could be argued that having a higher income the more likelihood that one would belong to formal social or professional structures such as job unions. In both instances these determinants were independent of the experiences of living in Villa Borinquen.

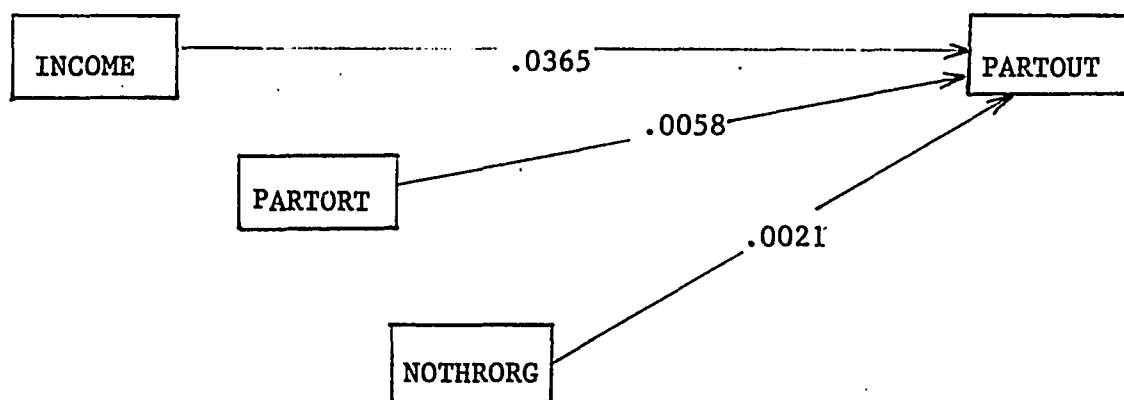


Figure 24

Observed Causal Relationship between Dependent Variable "Participation Outside of Villa Borinquen" (PARTOUT) and its Explanatory Variables

TABLE 29

The First and Final Model for the Dependent Variable:
Participation Orientation (PARTORT)

MODEL:	EQ13	SSE	82.417067	F RATIO	2.45
		DFE	81	PROB F	0.0527
DEP VAR:	PARTORT	MSE	1.017495	R-SQUARE	0.1079
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.091967	0.110560	0.8318	0.4080
INCOME	1	-0.246600	0.117195	-2.1042	0.0385
WORKING	1	0.244979	0.138235	1.7722	0.0801
KEEPHOUS	1	0.286738	0.141739	2.0230	0.0464
AGE	1	-0.171073	0.115150	-1.4857	0.1413
MODEL:	EQ13	SSE	1.721112	F RATIO	3.11
		DFE	81	PROB F	0.0303
DEP VAR:	PARTORT	MSE	1.008903	R-SQUARE	0.1034
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.084636	0.110376	0.7668	0.4454
INCOME	1	-0.240625	0.115819	-2.0776	0.0469
WORKING	1	0.384943	0.140284	2.1737	0.0326
KEEPHOUS	1	0.362537	0.141361	2.5646	0.0122

As can be seen in Table 29, the variable, Participation Orientation (PARTORT), had as significant predictors the variables, INCOME (.0385); Respondent Working (WORKING, .0801); and Respondent Keeping House (KEEPHOUS, .0464), in a model with a 2.45 F Ratio and an R of .3284. The variable, Age, was eliminated in the final test and PARTORT was significantly predicted by the remaining variables, INCOME (.0409); WORKING (.0216) and KEEPHOUS (.0122) in a model with an F Ratio of 3.11 and an R of .3215. In terms of the direction of the relationships it was observed that residents who were oriented to participate were those with higher incomes, who kept house and were also working.

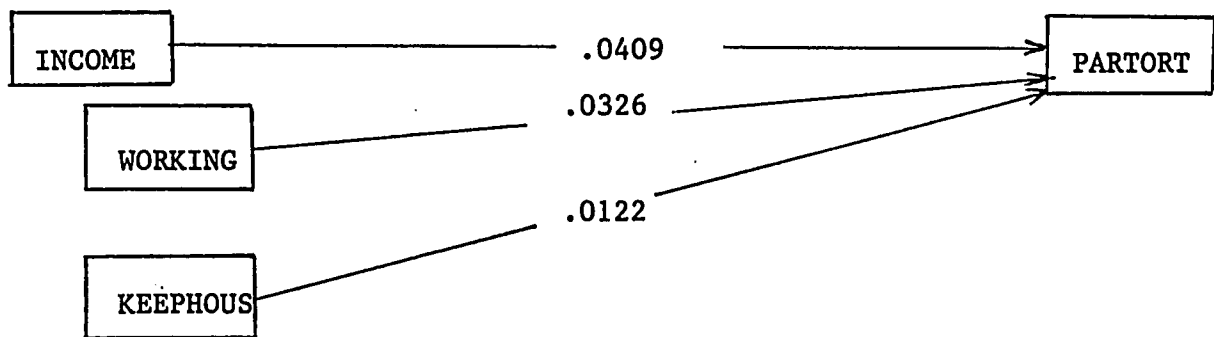


Figure 25

Observed Causal Relationship between Dependent Variable "Participation Orientation (PARTORT) and its Explanatory Variables

The significance of this model is that PARTORT, a variable which could be viewed as an exogenous variable, can be explained by other exogenous variables and is therefore not a function of the internal dynamics of the housing.

TABLE 30

The First and Final Model Test for the Dependent Variable:
Use of Pedestrian/Open Space (PEDSPACE)

MODEL: EQ14		SSE	60.288931	F RATIO	5.55
DEP VAR: PEDSPACE		DFE	81	PROB F	0.0005
		MSE	0.744308	R-SQUARE	0.2152
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.026432	0.093760	0.2819	0.7787
UPLAZASP	1	0.043490	0.100128	0.4343	0.6652
SIDESP	1	0.333268	0.097329	3.4242	0.0010
DWELTYPE	1	0.235729	0.103271	2.2826	0.0251
ED	1	-0.243404	0.100523	-2.4214	0.0177

MODEL: EQ14		SSE	30.374221	F RATIO	7.31
DEP VAR: PEDSPACE		DFE	81	PROB F	0.0003
		MSE	0.745361	R-SQUARE	0.2132
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.028788	0.094355	0.3051	0.7611
SIDESP	1	0.340906	0.295861	3.5562	0.0006
DWELTYPE	1	0.241246	0.102618	2.3569	0.0212
ED	1	-0.249279	0.099388	-2.5081	0.0141

The variable, Use of Pedestrian/Open Space (PEDSPACE), had as its first set of explanatory variables, Use of Sidewalk Space (SIDESP, .0010); Dwelling Unit Type (DWELTYPE, .0251); and Respondent's Level of Educational Attainment (ED, .0177). Use of Plaza Space (UPLAZASP) was insignificant in this first set and therefore dropped in the last test in which PEDSPACE was explained by SIDESP (.0006); DWELTYPE

(.0212); and ED (.0141). The final model F Ratio was 7.31 compared to a first test Ratio of 5.5 and an R of .4617 compared to .4638.

In this, the first of the use of space variables, we find that Use of Pedestrian/Open Space is partly explained by Use of Sidewalk Space. The error matrix shows that use of one is more likely to lead to use of the other. The architects designed these spaces with this in mind and in this regard they have apparently been successful. The relationship between Dwelling Unit Type and Use of Pedestrian/Open Space demonstrated that townhouse residents were less likely to use these spaces than other residents. This differential use could partly be explained by the fact that townhouse units had direct access to their own patios thereby making the more public spaces less attractive. For other residents, such as garden apartment or high-rise dwellers, who had no immediate access to open spaces, the pedestrian/open areas may have served a social or recreational function and therefore, were more likely to be used by them.

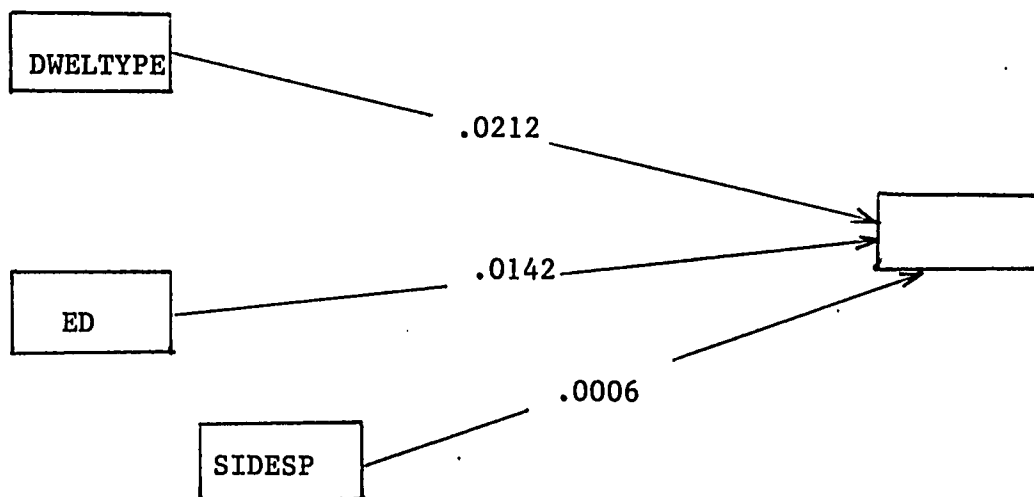


Figure 26

Observed Causal Relationship between Dependent Variable "Use of Pedestrian/Open Space (PEDSPACE) and its Explanatory Variables

TABLE 31

The First and Final Model Test for the Dependent Variable:
Use of Urban Plaza Space (UPLAZASP)

MODEL: EQ15		SSE	75.298736	F RATIO	2.18
		DFE	83	PROB F	0.1190
DEP VAR: UPLAZASP		MSE	0.907214	R-SQUARE	0.0500
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.021165	0.102836	-0.2058	0.8374
SIDESP	1	0.135852	0.100300	1.3545	0.1793
ED	1	-0.189104	0.106193	-1.7808	0.0786
MODEL: EQ15		SSE	74.297949	F RATIO	5.63
		DFE	83	PROB F	0.0199
DEP VAR: UPLAZASP		MSE	0.894282	R-SQUARE	0.0636
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.087414	0.103616	0.0837	0.9335
INCOME	1	0.246932	0.104624	-2.3738	0.0199

Use of Plaza Space (UPLAZASP) had as its only significant first test explanatory variable, Respondent's Level of Educational Attainment (ED, .0786) with a model F Ratio of 2.18 and an R of .2236. In its last test ED was replaced by Income and Use of Sidewalk Space (SIDESP) which had a probability of .1793 and was also dropped. As a result of these changes, income (.0199) became the significant explanatory variable and an F Ratio of 5.63 and an R .2521 were obtained.

The plaza spaces were intended to offer another kind of design feature for social interaction. The table demonstrates that the one variable, Income, which emerged as an explanatory variable was negatively correlated to it, i.e. lower income residents were the users of plaza spaces. Perhaps higher income residents had no need for such spaces since these residents were also more likely to live in townhouses where

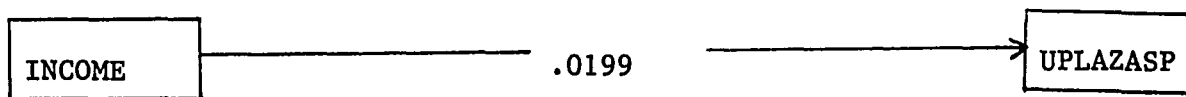


Figure 27

Observed Causal Relationship between Dependent Variable "Use of Plaza Space" (UPLAZASP) and its Explanatory Variable

other patio spaces were available to them. It could also be said that the architects' and sponsors' images and designs for differential space usage did not necessarily reflect the needs of tenants.

TABLE 32

The First and Final Model Test for the Dependent Variable:
Use of Sidewalk Space (SIDESP)

MODEL: EQ16		SSE	75.172699	F RATIO	6.25
		DFE	82	PROB F	0.0008
DEP VAR: SIDESP		MSE	0.916740	R-SQUARE	0.1861
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.087501	0.108587	-0.8058	0.4227
NOFAMLIV	1	0.283920	0.109120	2.6111	0.0107
DWELTYPE	1	-0.317879	0.123005	-2.5843	0.0115
INCOME	1	0.804778	0.123703	0.0650	0.9483

MODEL: EQ16		SSE	75.153146	F RATIO	9.38
		DFE	82	PROB F	0.0002
DEP VAR: SIDESP		MSE	0.916502	R-SQUARE	0.1862
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.085308	0.108169	-0.7867	0.4326
NOFAMLIV	1	0.265972	0.109246	2.6178	0.0105
DWELTYPE	1	-0.322004	0.104448	-3.0829	0.0028

For the variable, Use of Sidewalk Space (SIDESP) two variables in the first model test, Number of Family and Friends Living in Villa Borinquen (NOFAMLIV, .0107); and Dwelling Unit Type (DWELTYPE, .0115) were the significant explanatory factors in a model with an F Ratio of 6.25 and an R of .4313. While the variable, INCOME, was included, it as not significant. It was dropped in the last model test and the probabilities for NOFAMLIV and DWELTYPE improved to .0105 and .0028

respectively. The model F Ratio also improved to 9.38 as did the R to .4315.

For this dependent variable the findings are similar to those of Use of Pedestrian/Open Space in that townhouse dwellers were the users of these spaces. Again, the proximity to these spaces of the townhouse dwellers as well as the children present in these units clearly influenced this outcome. If other types of residents are expected to use spaces such as these, architects should look for alternatives to the common area access usually provided in garden apartment or high-rise designs. There may evolve, for those with immediate access, a territorial sense about the spaces which may diminish the use others may put them to. It would also be anticipated that the Number of Family and Friends Living in Villa Borinquen would predict the Use of Sidewalk Spaces, as the more such individuals reside together, the greater the likelihood of their interacting in any number of spaces.

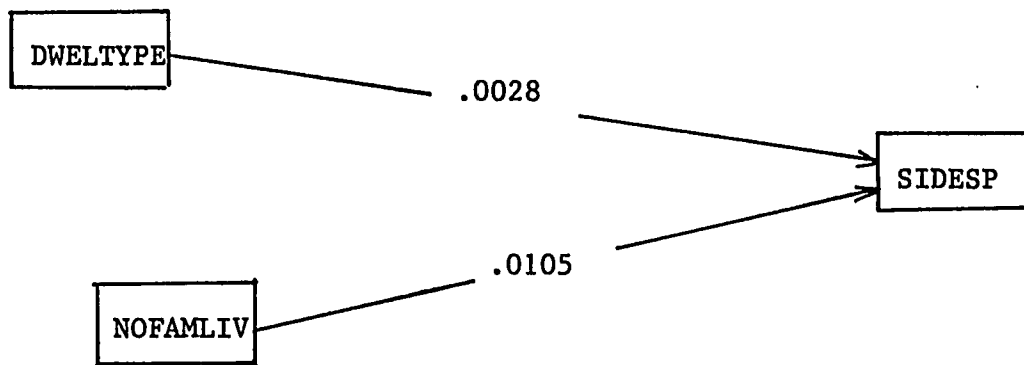


Figure 28

Observed Causal Relationships between Dependent Variable "Use of Sidewalk Space" (SIDESP) and its Explanatory Variables

TABLE 33

The First and Final Model for the Dependent Variable:
Income (INCOME)

MODEL: EQ17		SSE	67.452817	F RATIO	9.54
		DFE	83	PROB F	0.0002
DEP VAR: INCOME		MSE	0.812685	R-SQUARE	0.1869
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.117243	0.097677	1.2003	0.2334
ED	1	0.375496	0.100446	3.7383	0.0003
WORKING	1	0.164315	0.098082	1.6753	0.0976
MODEL: EQ17		SSE	54.258324	F RATIO	21.43
		DFE	82	PROB F	0.0001
DEP VAR: INCOME		MSE	0.661687	R-SQUARE	0.3433
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	0.077172	0.088893	0.6682	0.3878
ED	1	0.272456	0.093457	2.9153	0.0046
DWELTYPE	1	-0.440754	0.091698	-4.8666	0.0001

In the case of the variable, INCOME, we find that both Education (ED, .0003); and Respondent Working (WORKING, .0976) were significant explanatory variables in a first model test with an F Ratio of 9.54 and an R of .4323. In the final test WORKING was replaced by Respondent's Dwelling Unit Type (DWELTYPE) and we find that both ED (.0046) and DWELTYPE (.0001) serve as significant explanatory variables in an improved model with an F. Ratio of 21.43 and an R of .5859.

Certainly as one examines socio-economic endpoint exogenous variables such as INCOME one should anticipate findings similar to those readily found in the literature. In this case, for example, it would have been surprising not to have found Income determined by Education. One would also have expected to find that Dwelling Unit Type predicted

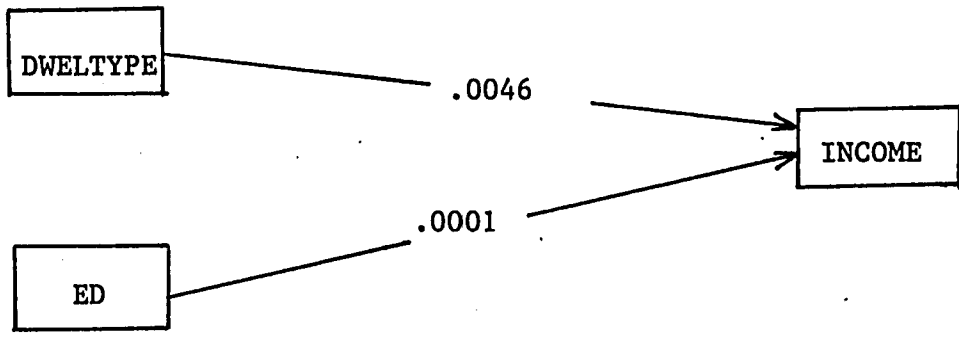


Figure 29

Observed Causal Relationships between Dependent Variable "INCOME" and its Explanatory Variables

Income. Being the largest of the units and therefore the most expensive, it was not surprising to find townhouse households to have higher incomes than high-rise residents.

TABLE 34

The First and Final Model for the Dependent Variable:
Education (ED)

MODEL:	EQ18	SSE	58.745091	F RATIO	16.71
		DFE	83	PROB F	0.0001
DEP VAR:	ED	MSE	0.707772	R-SQUARE	0.2870
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.014823	0.091537	-0.1619	0.8718
AGE	1	-0.484490	0.098461	-4.9206	0.0001
DWELTYPE	1	-0.117993	0.096514	-1.2225	0.2250
MODEL:	EQ18	SSE	59.714463	F RATIO	31.33
		DFE	83	PROB F	0.0001
DEP VAR:	ED	MSE	0.661687	R-SQUARE	0.3433
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.726703	0.092359	-0.0786	0.9380
AGE	1	-0.524064	0.093621	-5.5977	0.0001

Table 34 shows that for the variable, Respondent's Education (ED) in a first test, two variable model Respondent's Age (AGE, .0001) was the only statistically significant explanatory variable. Dwelling Unit Type (DWELTYPE) had a beta weight of .2250. The model F Ratio was 16.71 and the R value was .5357. In the final test, DWELTYPE was dropped and the now one variable explanatory model had an improved F Ratio of 31.37 with an R of .5235.

The error matrix demonstrated an inverse relationship between a respondent's age and education, i.e. the more educated residents were the younger ones. This finding is not surprising given that younger

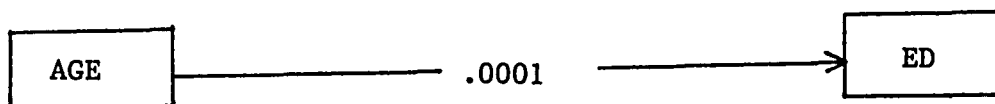


Figure 30

Observed Causal Relationship between Dependent Variable "EDUCATION" (ED) and its Explanatory Variable

residents were more likely to have spent most of their lives in the United States where mandatory education has had a long history. Many of the older residents from Puerto Rico, for example, never completed secondary school.

TABLE 35

The First and Final Model for the Dependent Variable:
Respondent Keeping House (KEEPHOUS)

MODEL: EQ19		SSE	47.255726	F RATIO	18.91
		DFE	82	PROB F	0.0001
DEP VAR: KEEPHOUSE		MSE	0.576289	R-SQUARE	0.4090
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.121220	0.082703	-1.4657	0.1465
SEX	1	-0.583965	0.083740	6.9736	0.0001
AGE	1	0.034043	0.090730	0.3798	0.7085
DWELTYPE	1	-0.180590	0.098903	-2.0739	0.0413

MODEL: EQ19		SSE	43.888225	F RATIO	21.99
		DFE	81	PROB F	0.0001
DEP VAR: KEEPHOUS		MSE	0.541830	R-SQUARE	0.4489
VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T RATIO	PROB T
INTERCEPT	1	-0.109678	0.080531	-1.3619	0.1770
SEX	1	0.613410	0.080769	7.5946	0.0001
ED	1	-0.164775	0.085353	-1.9305	0.0570
DWELTYPE	1	-0.213333	0.083046	-2.5689	0.0120

Finally, Table 35 demonstrates that the dependent variable, Respondent Keeping House (KEEPHOUS) had two significant first test explanatory variables; Respondent's Sex (SEX, .0001) and Dwelling Unit Type (DWELTYPE, .0413). Age was not found to be a significant variable. In the final test AGE was substituted by Education (ED) and these three were all found to be significant explanatory variables SEX, (.0001); ED (.0570); and DWELTYPE (.0120). The model F. Ratio improved from 18.91 in

the first test to 21.99 in the final. The R value also improved from .6395 to .6700.

It was surprising to find that those identifying themselves as keeping house were more likely to be males living in the high-rise and tended to have less formal education. This may be partly explained by the fact that a sizable number of high-rise units were rented by older single men.

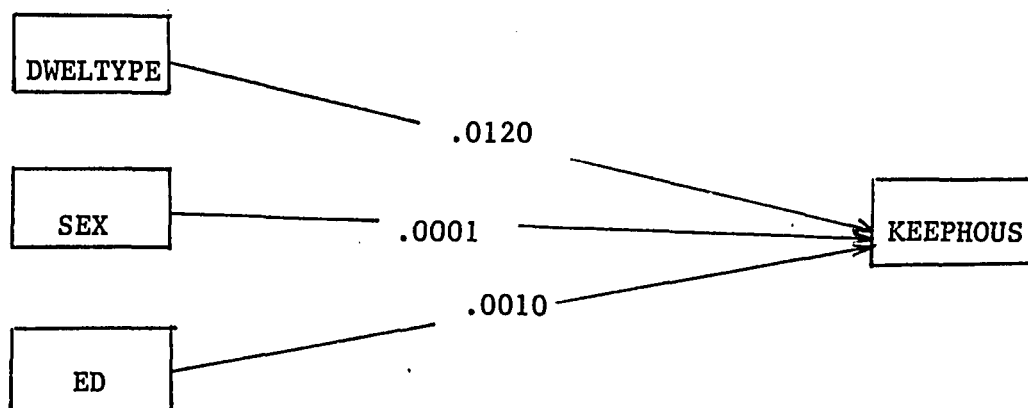


Figure 31

Observed Causal Relationship between Dependent Variable "Keeping House" (KEEPHOUS) and its Explanatory Variables

DISCUSSION

In this section the investigator will describe the significance and implications of the major findings of the study. These aspects will be developed by relating their significance to the theoretical suppositions of the study and their relevance to housing policy in general.

Any observations one could make would certainly lead one to conclude that Villa Borinquen is indeed a unique approach to housing low income families. The literature is replete with examples of housing environments that failed because they repeated the mistakes of earlier planning, design and implementation strategies. The more traditional approaches to low income housing focused on meeting the most minimal physical needs of residents and as a result forced families into high density high rise developments which paid virtually no attention to social, psychological or cultural factors of housing.

During the 1970's there were some attempts to break with housing norms and established practices, few of the attempts however were realized. Taino Towers in New York City would have clearly been the grandest in scale but costly delays undermined much of the original concept and it is now not much more than a traditional high rise development with only a few of the original planned social and community-oriented features.

Villa Borinquen then, is an atypical, and for this reason, significant case study of housing that endeavors to integrate the various forces that shape a housing environment. It is unique in design,

specifically the blending of townhouse, garden apartment and high rise units. Together these three housing unit types have created a medium density, generally low rise development. The architects were also sensitive to the need to provide a variety of public spaces as well as the relationship of these spaces within the project. For example, special attention was given to the relationship of stoops to sidewalks and walkways. The various design features were intended to create a village atmosphere as well as foster a feeling of community.

While architecturally unique, Villa Borinquen was also a significant departure from similar housing environments in the role local community groups and residents played as participants in the conceptual, design and daily life of the housing. The delimited image of the downtown Jersey City area made it easier to involve local community groups in these processes. The pivotal role played by PACO, the highly visible community service agency of the area, enabled the project to maintain a very local emphasis. The project was also carried out during a period when community agencies, community groups and residents wielded significant power in influencing the appropriation and expenditure of federal and state monies for urban renewal. As co-sponsors of Villa Borinquen, PACO insisted that the community have a role in determining the look and style of Villa Borinquen. As representative of the largely low income and principally Hispanic residents of downtown the agency was successful in obtaining this participation as well as identifying families that would relocate to the housing once built. The community in turn saw PACO as an extension of itself. For their part the architects too believed in this collaborative venture and as a result of these converging beliefs, a participatory planning process

emerged as a viable tool to integrate the physical, social and psychological elements into this unique project. As already mentioned, Villa Borinquen was principally conceived by a local Hispanic agency. This agency enlisted the advice and support of the Hispanic community and its leaders throughout the development of the project. The name Villa Borinquen was chosen to symbolize the impact and strength of the Puerto Rican community in Jersey City, and the majority of the residents in the project are Puerto Rican. The overwhelming response to quality of the housing transcended ethnicity, age, income, dwelling unit type or any other variable that could possibly be used to differentiate types of residents. On major issues such as rent increases and use of public facilities, there were consistent and fairly unanimous responses. However, beyond these points, Villa Borinquen was made up of many different communities, young, elderly, families with children, young single adults, just to name a few. The Puerto Rican community of Villa Borinquen demonstrated as much variability on issues as any other group would have been expected to evidence. There were differences of opinion, for example, on the type of youth activities that should be provided, or on what activities should be permitted in the secured open spaces. At one tenant meeting various factions argued the merits of having representation at an upcoming Puerto Rican Day Parade. The naive assumption that there would be monolithic attitudes among the Hispanic residents was not borne out by this investigation. The issue of mainland versus "island bound" Puerto Ricans also continues to be of interest, especially as it relates to various attitudes about quality of life, commitment to neighborhood and housing satisfaction; it deserves ongoing study. Future studies might explore the diversity of

attitudes and perceptions that exist within the Hispanic community to enable a more realistic response to its varied needs.

A setting as complex as this, with so many factors influencing residents' satisfaction, well-being and commitment, not to mention their influence upon each other, required a disaggregated model of investigation. The research strategy employed did in fact allow for increasingly complex variable interrelationships to be explored and analyzed. And most significantly the strategy had as its basic premise the assumption that the variables were operating in a completely interdependent system. Such a disaggregated model was essential for an emerging understanding of the roles played by the physical, social, community and psychological factors operating at Villa Borinquen.

Another observation on the research strategy and general hypothesis of the study was that the investigator assumed that psychological well-being was grounded in this complex system of interrelationships and not merely a function of factors internal to the individual. Traditional notions of well-being rarely took into consideration the role of external forces and when they did these forces were usually seen as only social. Efforts to incorporate physical or architectural forces or other external environmental concepts into an understanding of well-being are relatively recent.

Conceived as a case study and undertaken within a particular time period one must appreciate the "phasic" nature of the findings at Villa Borinquen and of housing and its impacts in general. What we have, in essence, is a "snapshot" of life in the housing and its residents; a period in its development in which certain conditions, attitudes and perceptions existed but should not be assumed to remain constant. Up to the time of the investigation one can think of Villa Borinquen as

having gone through two distinct phases of conceptualization, construction and initial occupancy. This phase was characterized by community excitement and participation by all sectors. During this stage interest was at its peak and Villa Borinquen was the focus of much attention. The second phase is one in which public interest has waned, the novelty of residing in Villa Borinquen has diminished, and the housing has settled into a more traditional role of providing shelter and eventually takes its place among other features and housing of the neighborhood and city.

It is assumed that a study of Villa Borinquen during this second phase in which Villa Borinquen is not unlike other housing in which the findings of the study are more readily applicable to other housing environments.

The research strategy employed and the results obtained clearly demonstrate the complex nature of the dynamics of the setting. It was clear to the investigator that the systematic exploration of a complex network of interdependent variable is possible using the generalized least square procedure (Zellner, 1962). This procedure resulted in increasingly parsimonious explanatory models of the relationships among the variables of the study. The continuous redefinition, evaluation and respecification of the models provided a satisfactory method for bridging the complexities of the environment and the rigorous research method imposed on the data. The approach was designed to challenge the investigator's assumptions about the setting by testing regression equations regarding the accuracy of the models. Other less satisfying methods could have been employed to test various relationships without a set of predictive models as guides. The approach employed in this

dissertation was then heuristically more satisfying because of its theory testing properties. The relationship between variables will now be discussed and interpreted.

Commitment Variables: Feelings About a Hypothetical Move
and Desire to Remain in New Jersey

The data indicated that those residents who would be saddened by a hypothetical move from Villa Borinquen were also those who believed living in the housing had met a family goal, and who were satisfied with the physical features of their units. They also believed that Villa Borinquen made Jersey City a safer place in which to reside and finally, believed they had a say in management policies. The finding that the extent to which housing met family goals had an influence on housing commitment is consistent with findings based on literature described in the Introduction. The finding that the quality of the design features of the setting also played a role in housing commitment corroborates the view of the sponsors and architects that the better the quality of the housing the greater the likelihood that residents would desire to remain in Villa Borinquen. The sponsors' believe that participation would play a role in residents' commitment to the housing was only partially corroborated. One might hypothesize that residents satisfied with the housing simply felt no need to participate. Or perhaps residents who had already made a decision to move might have psychologically distanced themselves from Villa Borinquen. In essence a decision to move is first made and the appropriate affective state is developed after the decision has been made.

For the second commitment variable it was found that those for whom residency in Villa Borinquen affected their desire to remain in Jersey City also were satisfied with the housing, had worked on a tenant project and had higher incomes. There was an anticipation on the part of sponsors and architects that satisfaction with the housing would radiate out to positive feelings about the rest of the city and this was demonstrated. A similar assumption about its effects on participation was not however borne out. The influence of income on the desire to remain could, as has already been mentioned, be a function of higher income residents' understanding that the economic climate of the city was improving. At the time the interviews were conducted the first wave of new, more affluent individuals were purchasing houses and restoring old brownstones in what was to soon become a significant gentrification process. In fact, in two instances known to the investigator residents of Villa Borinquen purchased brownstones in the area not only for living but also for their potential investment values.

Community Impacts of Villa Borinquen: Villa Borinquen
Making Jersey City a Better Place to Reside and
Longer in Villa Borinquen Relative to the Rest of Jersey City

In the area of community impacts we find a clear indication that the planners and architects of the development were correct in their belief that Villa Borinquen would have a positive effect on residents. Residents who felt that Villa Borinquen made Jersey City a better place to reside were also proud to tell relatives about their residency in the development, felt that the housing met family goals, believed it to be safer than other housing developments, believed they had a say in

management policies, and belonged to other Villa Borinquen organizations. These residents were also of the opinion that Villa Borinquen was a safer place in which to live compared to the rest of Jersey City. These were the kinds of outcomes that the sponsoring agency, PACO, hoped would emerge and that led the architects to select the housing design they did. This also shows why a multi-dimensional approach to housing is significant. Support for the ideas of the sponsors and architects were found mostly in the least educated and lower income residents. These were the residents for whom Villa Borinquen represented a significant improvement in their lives and as a result led to more positive feelings about the community. This finding also demonstrates that for populations "at risk" the beneficial impact of housing radiating out into other aspects of life such as perceived safety are indeed significant and cannot be taken for granted. The impact of such housing does significantly affect the quality of life. One must recall that for a significant proportion of the households, prior housing quality was indeed quite poor and in their hierarchy of needs obtaining decent quality housing is paramount. It is not far-fetched to assume that having obtained such housing families could devote time and energy to other goals.

Family Impacts: Feelings About Telling Others of Villa Borinquen Meeting Family Goals, and Housing Satisfaction

In the area of family impacts the sponsors and architects believed they could have some influence and they were partially successful. Those who felt their residency had met family goals and were proud about telling others of their residency were very satisfied with the housing. These residents were also users of such spaces as plazas and

sidewalks. Residents who felt pride in telling others of their residency also believed Villa Borinquen to be safer than other housing developments and those who were satisfied with the housing believed it to be safer than the rest of Jersey City. On the other hand, the relationship between various participation variables and family impacts were not those anticipated. It can generally be said that positive family goals came at the expense of participation, i.e., when family goals were met there was no participation in housing activities. Those who felt Villa Borinquen residency had met a family goal were also more likely to participate in activities outside of the housing. There were, this researcher believes, historical or situational reasons for this anomaly. One very simple explanation could be that those who were generally happy with the housing, their needs and goals having been met, felt no need to attend tenant meetings nor participate in tenant projects. Such residents were typified by the older residents who believed they had a say in management policies and townhouse residents who belonged to Villa Borinquen organizations other than the tenant association. Situational factors and their effect on residents' attitudes and behaviors are more fully described later in the chapter.

Participation: Measured by Attendance at Tenant Meetings,
Having Worked on a Tenant Project, Belonging to Other
Villa Borinquen Organizations, Participating in Activities
Outside of Villa Borinquen and Participation in Orientation

The anomalies described under family impacts of Villa Borinquen are also evident when one reviews the relationship among participation variables. The significance of situational factors are equally as valid in explaining these anomalies.

For example, the finding that those not oriented toward participation did in fact, attend tenant meetings is explainable by the possibility that there were ongoing tenant concerns which prompted participation, regardless of initial propensities to participate. To the extent that these concerns were addressed, residents who attended these meetings felt they had a say in management. It was observed that residents who felt they had a say in management policies were older and had lower incomes. It is likely that the housing needs of these residents may have been more easily met than those of others in the development. Also, their concepts of influencing management might have been different from other tenants.

Highly significant was the finding that those who had worked on a tenant project reported having no say in management policies and did not attend tenant meetings. These findings also tend to support the conclusion that participation in tenant meetings did not produce desired outcomes or that the expectations of the involved tenants were higher and more demanding. As already mentioned these meetings often centered on complaints about management policies. Tenant projects may have focused on non-management directed activities and could have therefore been viewed as "safe" activities, that is, activities which did not require tenant management interaction. Interestingly, residents who reported participation in tenant projects also reported participation outside of the development signaling perhaps a general desire to participate on their part. These participation findings could have been the result of the temporal nature of the wording of the questionnaire item relating to participation. If the study had been conducted at an earlier period in Villa Borinquen's history, the findings might have been the reverse.

As one would expect, those who participated outside of Villa Borinquen belonged to other Villa Borinquen organizations. Such participation is explainable via the finding that these residents were also oriented toward participation. It was also observed that these residents represented higher income households. The finding that income is related to participation orientation which in turn related to participation both within the setting as well as on a more general level is not surprising and similar findings are found throughout the literature.

Those residents who belonged to other Villa Borinquen organizations, however, did not attend tenant meetings. These residents did report participation in tenant projects such as organizing youth activities, helping senior citizens with shopping, and involvement in tenant patrols. As many organizations and projects were youth-centered, it was not surprising that these tenants were also townhouse residents, since townhouses were for families with children. Use of plaza space was also associated with participation in other organizations. As these spaces served a social function this relationship is logical. Apparently at this stage in the housing people were beginning to select what they would and would not participate in.

Finally, we found that residents who were oriented to participate reported higher incomes, were working, and not keeping house. These relationships are fairly straightforward and represent individuals who occupy much of their time in social situations outside of the housing.

In general the findings for the participation variables illustrate the significance of daily situational forces such as rent increases and other management decisions. These situational forces clearly affect family well-being, perception of management and type and quality of

interaction with other residents in various housing activities. These situational pressures could not have been anticipated by the sponsors of the project and yet they permeate much of the social environment of Villa Borinquen.

Use of Space: Pedestrian/Open Space
Plaza Space and Sidewalk Space

The low rise, medium density, and unique architectural style of the development were intended to foster use of planned outdoor spaces. The fact that the spaces were used differentially by different types of residents is another indication that factors other than these design features were influencing usage. For example, the most public spaces, plaza spaces, were used by lower income residents. These were the older residents of the developments and the plaza spaces undoubtedly serves as convenient gathering sites.

As described in the introduction each townhouse had a stoop with direct access to the sidewalk. This design feature was intended to create a sense of territory and surveillance potential. It is not surprising therefore to find that townhouse residents were more likely to use these sidewalk spaces given the territorial and almost personal setting the stoop/sidewalk combination created. It is assumed that the casual and unfamiliar resident would feel out of place here.

The pedestrian/open spaces were the highly specialized areas of paths and grassy plots provided in the interior of each housing quadrant. Since those most likely to use these spaces were sidewalk space users, those with family and friends living in the development and high rise residents it would seem that these spaces engendered a

diversity of users. Informal observations of usage by the investigator indicated interesting differences in how these spaces were used by different groups. Town house residents, for example, had patios extending into these spaces and their use tended to be more personal, familial and longer lasting, e.g., picnicking. Non-townhouse residents tended to be older residents whose primary activity was passive sitting perhaps conversing with another resident. This later usage was also of shorter duration. There appeared therefore to be qualitative differences in how these areas were used.

Similarly, the urban plaza spaces were more likely to be used by lower income residents. These residents were more likely to be non-townhouse dwellers and the plaza spaces provided the most immediately accessible outdoor spaces to these residents.

In discussion with the architects, they envisioned a more communal use of these planned outdoor spaces than the data indicate. The perception of these spaces as "belonging" to certain groups of residents ran counter to the expectations.

Community Structure Characteristics: The Role of
Situational Factors as Measured by Resident Perceptions of
Management Policies and Participation

Of all the intervening variables, Perception of Management Policies affected more of the endpoint endogenous variables as evidenced not only by its presence in the system regression analyses, but also its significant correlation with all the endpoint endogenous variables in the correlation matrix. Perception of Management Policies was also a significant explanatory variable for Housing Satisfaction. Perception of Management Policies was also a key intervening variable from

the expectation of the sponsors as well as the literature. It was therefore quite surprising to find only one variable as a predictor for it. The importance of this variable to so many aspects of Villa Borinquen cannot be overlooked and requires examination. As mentioned earlier, few residents complained about the architectural and design features of Villa Borinquen. There was, however, a mounting concern and dissatisfaction with rent increases and other policies proposed by management. The investigator first became aware of this dissatisfaction at the first tenant meeting observed, during which rent increases were the major agenda item. At the meeting, a number of tenants expressed their frustration at not being able to persuade management to change its plans and at the association's inability to affect any changes. Their frustration was evident in the comments of the president of the tenant association in his interview with this investigator:

This [Villa Borinquen] is not what we thought it was going to be. We really thought we would have some say in what would take place here. But the reality is that there isn't much we can do . . . Management really has the power.

This reaction might have been anticipated in that a conflict in perceived power of tenants versus their actual power was surfacing and which can be explained as follows. Throughout the early stages of design, construction, and initial residency, tenant expectations were raised by those responsible for Villa Borinquen; namely, the sponsors, local government officials, and the architects. There was a detailed orientation package and program that described residents' rights and responsibilities and which also served to emphasize their participatory role. All in all, they were producing an air of expectation, heightened awareness and responsibility in the tenants. It was simply a matter of time, however, before the reality of relative powerlessness

of tenants would surface. The sponsors hired, for example, an independent management agency to make fiscal decisions to insure necessary cash flow. As these decisions affected rents many residents were hostile to the agency and the power it wielded. Ultimately, tenants could have no authoritative say in significant housing issues, as this housing was rented, largely subsidized and governed by federal and state housing regulations. These limitations were not apparently raised with the community when Villa Borinquen was being planned. At the time there was excitement and enthusiasm about the project and its potential, albeit though exaggerated, for personal, family and neighborhood change. It should, therefore, come as no surprise when reviewing the correlation matrix that those who felt they had no power over management also expressed unfavorable attitudes about themselves and their families in this housing as well as a lack of commitment to Jersey City.

On the other hand, with regard to attitudes and commitment to Jersey City, participation in housing or other activities tended to have a favorable effect. One can assume that those who were active had a sense that their participation was an expression of belief that they could make a difference in the quality of life at Villa Borinquen.

These results would support the notion that being active or participating is an important aspect of psychological well-being. This would seem, however, to be in contradiction to the earlier observations about the frustrations of participating in a tenant organization and not having an impact on management policies. It may very well be that there exist two types of participants; on the one hand, those naturally oriented to participate and on the other, those who, because of social issues become motivated to participate. The former may include indivi-

duals who participate regardless of the outcome of the activity, the latter represent individuals who respond to a goal and having achieved it, disengage, or being frustrated in the attempt decide to no longer participate. The investigator witnessed both types at Villa Borinquen. The tenant leader who was quoted earlier resigned his post and left the tenant association out of frustration. His expectations were high because of what he believed were genuine possibilities for tenant decision making. On the other hand, the association secretary who had the same goals, which were not met, remained in the association despite her frustration. The relationship between kind of participation, expectation, and the behaviors that result from the interplay of these variables is an interesting one worthy of further investigation. Their relationship becomes extremely relevant where housing for low income groups is being planned. The balance between quality of housing, the solicitation of involvement of local groups and the heightened awareness on the part of these groups is indeed a delicate one. The question of at what point does participation raise expectations beyond the level of realistic fulfillment was never addressed at Villa Borinquen.

Herein lies the dilemma for the developer or architect. Citizen participation and involvement do not stop functioning once a project is physically completed. One should not expect the citizenry to play a role in the realization of a concept and then assume that the participants will not also be interested in the ongoing evolution of the project or to take interest in only some aspects of the project and not others. The skills and awareness that were developed create more knowledgeable residents who may request greater responsibility and involvement in the future than tenants not involved in planning. Of

course, participation can take many different forms and be exercised at many different degrees. What might be defined as participation by the planner might not be by the citizens. The sponsors of Villa Borinquen opted for more direct involvement than was required to fulfill their design objectives. What they perhaps did not anticipate was the continued interest of the residents in the more significant aspects of the daily operations and policy making of Villa Borinquen. The earlier research of Meyerson (1969; Harwick and Harwick 1974) concluded that such participation is important if housing of this type is to succeed. What such research may have overlooked is that such participation may also create unrealistic resident expectations.

Apparently in this case we found that younger, more disaffected residents who felt they did not have a say in management policies were less likely to attend tenant meetings, were less satisfied with the housing, were less sad about leaving Villa Borinquen, felt that Villa Borinquen did not make Jersey City a better place to live. These individuals were, however, more likely to report that they had worked on a tenant project (rather than a management related project). Conversely, older residents were more likely to feel they had a say in management policies. If someone felt they had a say in these policies they would be more likely to attend tenant meetings.

Summary and Implications

In reviewing the many results of this investigation, one finds corroboration of research findings described in the literature review of the Introduction. This literature generally conceptualized psychological well-being and tenant satisfaction as multi-faceted con-

structs in which neither design nor social factors alone determined the success of a particular approach to housing. The works of Bechtel (1973), Angrist (1974), and Onibokum (1976) specifically demonstrated that tenant satisfaction and well-being could only be understood when they were disaggregated. Further, this study supports the findings of Ahlbrandt and Brophy (1976) who found that among various factors, perception of management played a pivotal role in satisfaction and well-being.

Evidently, there is merit in a disaggregated model approach when studying the complex causal relationships among design, social and cultural variables extant in urban settings. The disaggregated model permits the researcher to analyze multiple relationships which eventually can lead to a more thorough understanding of the dynamics of housing environments. As a result of these analyses there emerged a gradually evolving, self-correcting and finally more precise representation of the relationships. The multiple regression analyses provided an opportunity to understand how these relationships function not in isolation but as a part of a larger interdependent system. This more closely resembles how these complex settings function in real life.

The findings also underscore the sequential developmental changes occurring in the environment. It is evident that Villa Borinquen has changed and that as it matures it will continue to change. In its early stage residents appeared unanimous in their favorable attitude toward the housing. As time passed there emerged differing attitudes on the part of various groups of tenants. This was especially the case in its relationship to the city as a whole as measured by residents' commitment and desire to stay in Jersey City. The phasic nature of the housings' development was perhaps not anticipated nor foreseen by the

sponsors who probably hoped that initial attitudes would persist indefinitely. However, as residents' experiences varied, their perceptions were certainly destined to reflect these experiences. Future planners must realize that the likelihood of changing attitudes and expectations is great. The degree to which the community participates in the housing process will influence their attitudes, behavior and expectations and these in turn will influence their commitment to housing and neighborhood.

The role of participation in attitudes, commitment and satisfaction is a very fluid one that must be examined within the context of everyday experiences and outcomes of participation.

In this study a link appeared between tenant participation and attitudes, commitment, expectations and satisfaction. At one level participation led to more participation as was the case when participation in tenant projects led to participation in other housing activities. This finding was not surprising. However, participation in a significant arena and test of tenant power, the tenant association was problematic. For some this level of participation was frustrating and led to a turning away from other forms of participation. Housing sponsors, planning for settings in which low income tenants are the predominant residents, must be conscious of how these factors affect one another. Creating heightened expectations and mechanisms for participation without them also having significant power and authority may eventually turn tenants away from future involvement. On the other hand, not providing the mechanisms and possibilities of participation will certainly not engender a feeling of involvement. Probably fostering participation within the framework of reality in which families

find themselves may be the best approach to the issue. It would also appear best to allow forms of participation, whatever they might be, to evolve naturally and gradually over time. This way they will evolve as a response to existing opportunities and not to expectation that may or may not have firm grounding.

Residents differed sharply on a number of issues relating to the housing. What the sponsors failed to realize was that Villa Borinquen is simply one element that eventually takes a role relative to others in the environment. At the time of its development, construction and early habitation Villa Borinquen was a central and driving issue in Jersey City. Over the last five or six years it has receded as a dominant issue -- as indeed it should have. Other, more recent developments in downtown Jersey City have ascended and require the attention of residents, city and state officials. Urban revitalization, gentrification, a general real estate boom, and rapid commercial development now occupy the minds of people in Jersey City. Villa Borinquen has taken its place as an element of the environment and in this regard it has matured. The setting is too diverse, too multi-faceted for any one feature to remain dominant. Urban environments are constantly evolving; changing direction as time and other forces exert pressure on them to adapt.

There are a number of lessons to be learned and implications to be drawn from the findings of this study. Clearly a housing development by itself does not shape behavior, attitudes or commitment. These outcomes are the results of an interplay of factors including characteristics residents bring to the housing, the quality of the housing itself, as well as the everyday events and conditions encountered. Good quality housing is certainly an important feature in the lives of

the citizenry of Jersey City; however, just as housing satisfaction should not be viewed as an end goal, quality housing should not be the only goal of the community. Such housing is a vehicle which permits other less tangible things to develop, such as commitment and favorable attitudes and perceptions about the quality of one's life.

The essential question that must be asked of any housing project is how well does it meet the physical needs and nurture the social-psychological well-being of residents. Saegert (1985) phrased this issue in the following manner:

The non-trivial questions about housing center on the relationship between acquiring, changing, maintaining and otherwise living in housing and the more general process of living. (p. 25)

In one important regard Villa Borinquen has been an undeniable success; it is good quality housing that to this day remains sound and attractive. Whether the community of people who have benefited from residing here believe they have progressed toward reaching their life goals remains to be seen and is something that Villa Borinquen could, of course, only contribute to partly. The lives of the residents are shaped by too many other factors as well to assume that Villa Borinquen plays the most important role. The sponsors of Villa Borinquen believed that Villa Borinquen was the answer to the physical, social and political travails of downtown Jersey City. Their experience with the development have them to a more inclusive view of the forces that help resolve the problems of such a complex social environment.

REFERENCES

- Ahlbrandt, R. and Brophy, P. "Management: An Important Element of the Housing Environment." *Environment and Behavior*, 1976, 8, 505-526.
- Andrews, P., M. Christie, and R. Martin, "Squatters and the Evolution of a Lifestyle." *Architectural Design*, 1973, 43, 16-25.
- Angrist, S.S. "Dimensions of Well-Being in Public Housing Families." *Environment and Behavior*, 1974, 6, 495-515.
- Bachelard, G. The Poetics of Space. Boston: Beacon Press, 1969.
- Bechtel, R.B. "The Public Housing Environment: A Few Surprises." *Proceedings of the Environmental Design Research Association Conference IV*, 1973.
- Beshers, J. Urban Social Structure. New York: The Free Press, 1962.
- Betjaman, J. Collected Poems. London, Tavistock, 1957.
- Bott, E. Family and Social Network. London, Tavistock, 1957.
- Boyd, D. "Selected Social Characteristics and Multi-Family Living Environments." Unpublished report, Environmental Research Foundation, Topeka, Kansas.
- Broady, M. Planning For People. London: National Council of Social Services, 1968.
- Caplow, T. and R. Foreman. "Neighborhood Interaction in a Homogeneous Community." *American Sociological Review*, 1950, 15, 357-366.
- Chavis, D. "Sense of Community in the Urban Environment: Benefits for Individual Neighborhood Development." Unpublished dissertation, Department of Psychology, George Peabody College of Vanderbilt University, Nashville, Tennessee, 1984.
- Clark, S.D. The Suburban Society. Toronto: University of Toronto Press, 1966.
- Cooper, C. "The House as Symbol of the Self." In J. Lang, C. Burnette, W. Moleski, and D. Vachon (eds.). *Designing for Human Behavior*. Stroudsburg, PA: Dowden, Hutchinson & Ross, 1974, pp. 130-146.
- Dean, J. "Housing Design and Family Values." in W.L.G. Wheaton, et al. (eds.). Urban Housing New York: The Free Press, 1966.

- Denis, M. Puerto Rico: A Socio-Historical Interpretation. New York: Vintage Books, 1972.
- Dennis, N. "Mass Housing and the Reformers Myth." Planning Outlook, 1966, 6, 7-13.
- Deutsch, M. and M.E. Collins. Interracial Housing: A Psychological Evaluation of a Social Experiment. Minneapolis: University of Minnesota Press, 1973.
- Downs, A. "Moving Toward Realistic Housing Goals." In K. Gordon (ed.). Agenda for the Nation. Washington, D.C.: Brookings Institute, 1968.
- Duhl, Leonard (ed.). The Urban Condition. New York: Simon and Schuster, 1963.
- Farris, R.E.L. and H.W. Dunham. Mental Disorders in Urban Areas. Chicago: University of Chicago Press, 1939.
- Festinger, L., S. Schacter, and K. Bach. Social Pressures in Informal Groups. New York: Harper, 1950.
- Foote, N.N., Abu-Jugbod, M.M. Foley, and L. Winni. Housing Choices and Housing Constraints. New York: McGraw-Hill, 1960.
- Francis, M. "Community Design." Journal of Architectural Education, 1983, 14-19.
- Fried, M. "Grieving for A Lost Home." In L.J. Duhl (ed.). The Urban Condition. New York: Basic Books, 1963.
- Fried, M. and P. Gleicher. "Some Sources of Residential Satisfaction in an Urban Slum." Journal of the American Institute of Planners, 1961, 27, 305-315.
- Gans, H.J. The Urban Villagers. New York: The Free Press, 1962.
- Gans, H.J. People and Plans. London: Pelican Books, 1972.
- Goodman, R. After the Planners. London: Pelican Books, 1972.
- Hall, E.T., and G. Wekerle. "High Rise Living: Can One Design Serve Both Young and Old?" Ekistics, 1972, 33, 186-191.
- Hardwick, W.G., and D.F. Hardwick. "Civil Government: Corporate, Consultative, or Participatory?" In D. Ley (ed.). Community Participation and the Social Order of the City. Vancouver, B.C.: Geographical Series, 1974, 19, 89-96.
- Harris, F.R., and J.V. Lindsey. The State of the Cities. New York: Praeger, 1972.

- Hinshaw, M. and K. Allot. "Environmental Preferences of Future Housing Consumers." *Journal of the American Institute of Planners*, 1972, 38, 102-107.
- Hollingshead, A.B., and F.C. Redlich. Social Class and Mental Illness. New York: Wiley, 1958.
- Hollingshead, A.B., and L.H. Rogler. "Attitudes Toward Slums and Public Housing in Puerto Rico." In L.J. Duhl (ed.). The Urban Condition. New York: Basic Books, 1963.
- Ittelson, W.H., H.M. Proshansky, L.G. Rivlin, and G.H. Winkel. An Introduction to Environmental Psychology. New York: Holt, Rinehart & Winston, 1974.
- Jacobs, J. Death and Life of Great American Cities. New York: Random House, 1961.
- Jahoda, M. and P. West. "Race Relations in Public Housing." *Journal of the American Institute of Planners*, 1957, 7, 132-139.
- Janeway, M. Man's World, Women's Place. New York: Dell Books, 1971.
- Kantrowitz, M. "Has Environmental Behavior Research Made a Difference?" Environment and Behavior, 1985, 17, 25-36.
- Kasadra, J. and M. Janowitz. "Community Attachment in Mass Society." *American Sociological Review*, 1974, 39, 328-339.
- Keller, S. The Urban Neighborhood: A Sociological Perspective. New York: Random House, 1968.
- Kerlinger, F. Foundations of Behavioral Research. New York: Holt, Rinehart, and Winston, 1973.
- Kumove, L. "A Preliminary Study of the Social Implications of High Density Living Conditions." Toronto Social Planning Council of Metropolitan Toronto, 1966.
- Kuper, L. (ed.). Living in Towns. London: Cresset Press, 1953.
- Ladd, F. "Black Youths View Their Environments." *Journal of the American Institute of Planners*, 1972, 2, 108-115.
- Lantz, H.R. "Population Density and Psychiatric Diagnosis." *Sociology and Social Research*, 1953, 37, 322-327.
- Lewis, O. La Vida. New York: Random House, 1966.
- Loring, W.C. "Housing and Social Disorganization." *Social Problems*, 1956, 3, 160-168.
- Mangin, W. "Latin American Squatter Settlements." *Latin American Research Review*, 1967, 2, 65-98.

- Mangin, W., and J.C. Turner. "The Barriada Movement." *Progressive Architecture*, 1968, 49, 154-162.
- Merton, R.K. "The Social Psychology of Housing." In W. Dennis (ed.). Current Trends in Social Psychology. Pittsburgh: University of Pittsburgh Press, 1948.
- Myerson, M. "Ethical Issues Involved in Changing the Physical Environment." In *the Ethics of Change*, 1969, Toronto: Canadian Broadcasting Corporation, 31-42.
- Michelson, W. "Most People Don't Want What Architects Want." *Trans-Action*, 1968, 5, 37-43.
- Michelson, W. Man and His Urban Environment: A Sociological Approach. Reading, MA: Addison-Wesley, 1970.
- Newman, O. Defensible Space. New York: Macmillan, 1972.
- Onibokum, A. "Social System Correlates of Residential Satisfaction." *Environment and Behavior*, 1976, 8, 323-344.
- Partisan Planning, "East Harlem Pilot Block." June 1972, 4, 6.
- Pedhauzer, E. Multiple Regression in Behavioral Research. New York: Holt, Rinehart and Winston, 1982.
- Plant, J.S. "Some Psychiatric Effects of Crowded Living Environments." *American Journal of Psychiatry*, 1930, 9, 849-860.
- Porteous, J.D. Environment and Behavior: Planning and Everyday Urban Life. Reading, MA: Addison-Wesley, 1977.
- Proshansky, H., W.H. Ittelson, and L.G. Rivlin. "Freedom of Choice and Behavior in a Physical Setting." In Proshansky, H. et al. (eds.). Environmental Psychology: Man and His Physical Setting. New York: Holt, Rinehart and Winston, 1970, 173-183.
- Rainwater, L. "Fear and House as Haven in the Lower Class." *Journal of the American Institute of Planners*, 1966, 32, 23-31.
- Rainwater, L. Behind Ghetto Walls: Black Family Life in a Federal Slum. Chicago, Aldine, 1970.
- Rand, G. "Children's Images of Houses." IN W.J. Mitchell (ed.). *Environmental Design: Research and Practice*. Los Angeles: University of California/EDRA 3, 1972.
- Rapoport, A. House, Form and Culture. Englewood Cliffs, NJ: Prentice Hall, 1969.
- Ryan, E. "Personal Identity in an Urban Slum." In L.J. Duhl (ed.). The Urban Condition. New York: Simon and Schuster, 1963, 135-150.

- Saegert, S. "Crowding: Behavioral Constraints and Cognitive Overload." In W.F.E. Preiser (ed.). *Environmental Design Research*, Vol. 2, Stroudsburg, PA: Dowden, Hutchinson and Ross, 1973.
- Saegert, S. "Environmental Psychology and the World Beyond the Myth." G. Stanley Hall Lecture in Environmental Psychology. American Psychological Association Annual Meetings, Los Angeles, California, August, 1985.
- Safa, H.L. The Urban Poor of Puerto Rico: A Study in Development and Inequality. New York: Holt, Rinehart and Winston, 1974.
- Saturday Review. "The New Urban Pioneers: Homesteading in the Slums." July, 1977.
- Schaffer, F. The New Town Story. London: Paladin Books, 1970.
- Schorr, A.L. Slums and Social Insecurity. Washington, DC: U.S. Department of Health, Education, and Welfare, 1963.
- Searles, H.F. The Non-Human Environment in Normal Development and in Schizophrenia. New York: International Universities Press, 1960.
- Seda-Bonilla, E. Requiem por una Cultura. Rio Piedras: Editorial Edil, 1970.
- Seligman, D. "The Enduring Slum." In Editors of Fortune, *The Exploding Metropolis*, Garden City, 1957, 92-114.
- Skurka, A. "The Home." *New York Times Magazine*, September 29, 1974.
- Smith, P.J. and J.G. Hayter. "The Function of Inner City High Rise Apartments in Relationship to Family Life Cycle and Residential Mobility." Paper presented at the International Geographical Union, New Zealand Regional Conference, 1974.
- Solomon, A. Housing the Urban Poor: A Critical Evaluation of Federal Housing Policy. Cambridge, MA: MIT Press, 1974.
- Suttles, G. The Social Order of the Slum. Chicago: University of Chicago Press, 1968.
- Swan, J.A. "Environmental Education." *Environment and Behavior*, 3, 1971, 223-229.
- Turner, J.C. and R. Fichter. Freedom to Build. New York: Macmillan, 1972.
- Turner, J.C. "Barriers and Channels for Housing Development in Developing Countries." *Journal of the American Institute of Planners*, 1967, 33, 167-181.
- Van Huych, A.P. and K.C. Rosser. "An Environmental Approach to Low Income Housing." *International Development Review*, 1966, 8, 15-18.

- Wandersman, A., and Giamartino, G. "Community and Individual Difference Characteristics of Influences on Initial Participation." *American Journal of Community Psychology*, 1980, 8, 217-228.
- Ward,, P. Self-Help Housing: A Critique. London: Mansell Publishing Limited, 1982.
- Wener, R., Frazier, W., and Farbstein, J. New Space for Women. Boulder, CO: Westview Press, 1980.
- Wheeler, J.O. "Residential Location by Occupational Status." *Urban Studies*, 1968, 5, 24-32.
- Whyte, W. The Organization Man. Garden City: Doubleday, 1956.
- Wilner, D. and R.P. Walkley. "Effects of Housing on Health and Performance." In L. Duhl (ed.). The Urban Condition. New York: Simon and Schuster, 1963, 215-228.
- Yancey, W.L. "Architecture, Interaction, and Social Control: The Case of a Large Scale Public Housing Project." In J. Helmer and W.A. Eddington (eds.). Urbanman. New York: The Free Press, 1973. 107-122.
- Yashioka, G.A. and R. Athanasiou. "The Effects of Site Plan on Social Status Variables on Distance to Friends' Homes." *Environment and Behavior*, 1973, 5, 43-65.
- Young, M. and P. Wilmott. Family and Kinship in East London. London: Pelican Books, 1957.