THE EFFECTS OF TENANT POPULATION SIZE ON LOW-INCOME PUBLIC HOUSING RESIDENTS

by

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ABSTRACT

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by

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The present study examined the effect of tenant population size on resident relations, perceptions, and experiences in low-income public housing structures. One hundred and eighty structured interviews were conducted with the female heads of families with children under eighteen years of age living at home. Three samples, of sixty respondents each, were choosen from high- (30-story towers), medium- (14-story buildings), and low-rise (3-story walk-ups) building types housing tenant densities of approximately 400, 110, and 10 families per building, respectively.

Building comparisons revealed that residents of the high- and medium-rise buildings were significantly more likely to report excessive rates of contact with known and unknown others in shared building spaces, greater tenant anonymity and feelings of crowding in the building, less privacy, safety, and tenant control in semi-private building areas, weaker cohesion among building residents, and generally lower resident commitment to tenant safety and building

protection than low-rise residents. In addition, residents of the medium-rise buildings reported feelings of residential and life alienation.

It is suggested that residential conditions of unpredictability and tenant anonymity, generated by excessive social encounters in shared residential spaces and exposure to more social information of adaptive significance than can be handled cognitively, account for these findings among the large tenant populations of the high- and medium-density buildings.

Recommendations are made that future lower-income housing be low-density and low-rise in design, and that only the most socially and economically stable low-income families be housed in existing medium- and high-density residential structures.

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D.P.M.

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Chapter I

INTRODUCTION

Urban centers throughout the country are experiencing the abandonment and mass clearance of aging low-income housing structures. Presently the Federal government seems committed to redevelopment of these areas and the replacement of gutted and decayed tenements with low-density, low-rise, walk-up housing. However, if construction costs suggest that it is more advantageous financially to rebuild at higher densities, necessitating medium-rise and possibly high-rise building types, no strong body of evidence exists to argue for or against housing low-income families at the large tenant population sizes characteristic of these structures.

The present investigation will examine the residential experiences, perceptions, and relationships of tenant populations housed at three distinct levels of residential structure, or building, density. The overload theoretical orientation, which has been used in studies of university dormitories to explain the effects of high density living environments, will guide the formulation of hypotheses regarding residential conditions within high-rise (30-story towers), medium-rise (14-story buildings), and low-rise (3-story walk-ups) building types.

In this chapter the overload theoretical perspective will be discussed, followed by a review of previous studies of residential structure density. The chapter will conclude with

a brief description of the sites to be studied, and the presentation of specific hypotheses to be tested.

THE OVERLOAD THEORY OF HIGH DENSITY LIVING

Urban sociologists George Simmel and Louis Wirth were among the first to theorize about the consequences of high density living. Simmel (1905) stated that the intensification of nervous stimulation following continuous contacts with innumerable others would force city dwellers to develop psychic defenses which would lessen the discrimination of, and emotional sensitivity to, external stimuli. Simmel predicted that the adaptive devaluation of transactions in the objective world would eventually generate a concommitant sense of personal worthlessness.

Similarly, Wirth (1938) suggested that urban social relations were marked by reserve and indifference to immunize urbanites against the potential claims and expectations arising out of daily face to face contact with large numbers of others. He theorized that the impersonal and anonymous nature of urban social encounters would destroy the sense of participation in an intimate group which, in turn, would create a social void among city dwellers and a sense of anomie.

More recently, Milgram (1970) has adopted the concept of overload to explain the psychological experience of continuous contact with large numbers of others:

> This term, drawn from systems analysis, refers to a system's inability to process inputs from the environment because there are too many inputs for the system to cope with, or because successive inputs come so fast that input A cannot be processed when input B is presented. When overload is present, adaptations occur. The system must set priorities and make choices. "A" may be processed first while "B" is kept in abeyance, or one input may be sacrificed altogether. (Milgram 1970:2)

The urban resident is bombarded daily with informational inputs in excess of the limited processing capacity of the human brain. Once overload has occurred, the process of regaining psychic equilibrium and maintaining incoming stimuli at a manageable level involves blocking the reception (ignoring) of certain inputs altogether or filtering the number and/or intensity of incoming inputs.

As Milgram suggests, these selective discriminations of informational inputs, while adapting city dwellers to the overload conditions resulting from unmanageable amounts of social stimuli, also lead to the gradual adoption of norms of social and moral noninvolvement, impersonality and aloofness characteristic of urban social relations. The overloaded city resident begins to discriminantly disregard the needs and demands of others not directly related to his own personal interests. These adaptations act to simultaneously protect and alienate the individual from his social environment.

Saegert (1976, 1977a) has distinguished a number of types of overload based on the attentional demands of the

situation. Two of these — social and information overload — relate particularly to high density living conditions. Saegert provides the following definitions of these concepts:

> social overload - ... arises from high density conditions when the number of potential or actual social interactions that involve or impinge on a person is so great that it taxes his/her attentional capacity. Not only is this sort of social interaction unavoidable, but it creates unpredictability in the environment. Social overload may imply involuntary interaction or loss of control over encounters but its manifestations may also be more subtle. (Saegert 1977a:7)
>
> information overload - ... a surfeit of cues in an environment that have adaptive significance for the inhabitant. (Saegert 1976:219)
> Constant, long-term exposure to more information about important social and physical aspects of the environment than can be processed would be expected to affect personality development as well as the form and quality of social relations. (Saegert 1976:220)

Rapaport (1975) also feels that the effects of exposure to high density living environments are related to attentional demands and the ability to process informational inputs. As interactions increase so does the amount of incoming stimuli and information to be processed. Rapaport explains that it is the inability to handle incoming information that results in evaluation of social interaction rates as unwanted or uncontrollable and gives rise to feelings of crowding. He defines crowding as the affectively negative perception of excessive density or the subjective experience of sensory and social overload.

In summary, then, the theoretical perspective utilizing the notion of overload yields the proposition that high den-

sity living conditions generate excessive rates of social interaction (real or potential) and sensory stimulation which, because of the limited information processing capacity of the human brain, results in social and information overload or cognitive overstimulation. Coping strategies of emotional detachment and moral and social noninvolvement may aid adaptation to these conditions. The cost, however, may be feelings of alienation and personal anomie.

The overload theory emphasizes the cognitive consequences and psychological and behavioral adaptations resulting from excessive interaction or high social density. In contrast, theories of spatial density (number of persons per unit area) effects are primarily concerned with the frustrations of behavioral constraint, competition for scarce resources, and preclusion of privacy arising out of limited amounts of space per person.

Finally, the overload perspective defines feelings of crowding as a perceptual experience resulting from exposure to high social density environments, or the negative subjective response to personally undesirable levels of social interaction. Crowding in this theoretical context does <u>not</u> refer to an objective measure of within dwelling unit spatial density (number of persons per room) as the term has been used in many empirical studies of household density.

A number of independent factors have been shown to mediate the effects of exposure to excessive rates of interaction.

These intervening variables will be reviewed below.

Factors Mediating Overload Experiences in High Social Density Living Environments

Because overload theory stresses the role of excessive social contact, whether actual or potential, a simple quantitative statement of large population size per unit area is not enough to predict the consequences of exposure to living environments of high social density. A number of additional variables, social and physical, by virtue of their influence on frequency, intensity, and quality of interpersonal interactions, must be considered when studying experiences in residential settings. These variables include the relationship of interacting others to one another, the relative "escapability" of the high density environment, the primacy of the environment as a life space, and the design features of the setting.

Empirical studies have shown that the relationship of interacting others to one another (family, friends, neighbors, strangers, etc.), and the level of social organization these relationships create in the setting, influence the potential negative effects of excessive social interaction in high density residential settings. For example, investigations of the extreme housing densities of Hong Kong (Schmitt, 1963; Mitchell, 1971) have failed to find a relationship between household densities and rates of social disorganization, emotional strain, and pathology.

These researchers have suggested that unavoidable interaction with large numbers of people seem to be tolerated more easily if the others are one's kinsmen. When doubling-up of unrelated households occurs within dwelling units, however, the forced interaction among non-relatives tends to increase levels of emotional illness and hostility (Mitchell, 1971).

Similarly, when students living in dormitories which promoted high frequencies of unwanted social contact between residents were allowed to have close friends move into nearby rooms on their floor, they no longer reported the negative experiences of unavoidable interpersonal encounters (Valins and Baum, 1973; Baum, Valins and Harpin, 1975).

The results of these studies suggest that when high interaction rates involve known, trusted, and supportive others, whose behavior is relatively predictable, the great attentional and information processing demands associated with intensive interpersonal encounters may be reduced. In such situations overload experiences may not occur, and when they do, the supportive nature of cohesive kin and friendship networks may also ameliorate the potentially alienating effects of psychological or behavioral withdrawal.

It would be expected then, that high rates of actual or potential interaction with others that one has reason to distrust, or be fearful of, and whose behavior is considered very unpredictable, would increase the negative consequences of high density environments. Any elements within the situation that increase uncertainty of inter-

action and reduce the benign nature of encounters, should increase attentional demands and information processing and thereby the likelihood of overload experiences (Rapaport, 1975; Saegert, 1977b).

Another factor influencing the likely consequences of excessive social encounters in high density environments is the amount of time the person is subjected to the situation without means of escape. Prison studies (D'Atri, 1975; Paulus, Cox, McCain, and Chandler, 1975; McCain, Cox and Paulus, 1976) have shown that there are significant negative consequences related to excessive social density. Reported density effects have included negative affective responses to the physical environment, crowding reports, high blood pressure counts, and increased illness complaints, all of which were significantly related to social density measures (number of individuals in an inmate's housing unit) and not to spatial density measures (number of square feet per inmate in a housing unit).

Mitchell (1971) suggests that the effects of forced interaction with non-relatives in the households he studied in Hong Kong, were intensified for individuals living in high-rise apartment buildings. Easy escape from interaction by retreating outdoors was not an available coping mechanism for high-rise household members.

Schoor (1966) believes that the effects of high external social density (interaction beyond the dwelling unit)

are particularly significant for lower-income groups who lack the financial resources and opportunities for temporary escape to less dense settings.

Clearly, then, length of exposure and the unavailability of escape alternatives would be expected to increase the intensity and resulting effects of exposure to excessive involuntary social contact.

The primacy of the environment as a life space is a major factor to be considered in predicting the consequences of high social density settings (Stokols, 1976). Primary environments are those in which an individual spends a great deal of time, relates to others on a personal basis, and engages in a wide range of personally important activities. Examples of such environments are residential, classroom, and work settings. Transportation, recreation, and commercial settings are secondary environments in which one's encounters with others are relatively transitory, anonymous, and inconsequential.

Based on Stokol's distinctions between primary and secondary life settings, excessive social interaction in primary environments would be much more likely to result in behavioral or subjective consequences necessitating active adaptive coping strategies.

Most importantly, any study of high density environments must consider the nature and amount of interaction fostered or inhibited by the design features of the environment (Desor,

1972; Rapaport, 1975). The architectural organization and layout (fences, walls, buildings, floor levels, locked doors, etc.) of man-made environments determine the rates and directional flow of social stimulation and information within the setting by placing physical barriers and boundaries between and around particular groups of individuals. Settings containing equal numbers of persons within equivalent amounts of space may generate entirely different crowding perceptions when the physical environment limits or facilitates actual or potential interpersonal contact. It has been suggested by Michelson (1970) that the importance of density lies in the degree of separation of individuals from one another.

Michelson (1970) has distinguished three types of density based on the spatial dimensions of the setting and the different sets of individuals brought into contact (or separated from one another) within the setting:

> internal density - the number of persons per dwelling unit. This type of density reflects interactions among household members within the dwelling unit.
>
> residential structure density - the number of persons per building. This density represents interactions between building residents within shared semi-private building spaces. Such spaces would include hallways, elevators, stairwells, lobbies, and immediate outdoor building areas.
>
> external density - the number of persons per unit space within a given area of residential land. This density reflects interactions beyond the dwelling unit within the neighborhood and community. Persons per census tract has been used most often to represent external density.

The present investigation is concerned with the effects of various levels of residential structure density.

PREVIOUS RESEARCH OF RESIDENTIAL STRUCTURE DENSITY

The limited amount of research on residential structure density includes two ex post facto survey studies relating census measures of residential structure density to indicators of social pathology, an investigation of the relationship between crime rate and number of units or families per building, and two studies comparing various college dormitory densities and designs.

Statistically controlling class and ethnicity, Galle, et al (1972) related components of community population density to five measures of social pathology (standard mortality ratio, general fertility rate, public assistance rate, juvenile delinquency, and admissions to mental hospitals). They found that the second most important community density component in determining rates of social pathology with the exception of rate of admission to mental hospitals, was the number of housing units per residential structure. The most important determinants of pathology were measures of internal (dwelling unit) density.

Gillis (1974) examined the relationships between internal, residential structure, and external density and rates of public assistance and juvenile deliquency. However,

again controlling ethnicity and socioeconomic status, he found that the residential structure density measure (proportion of multiple dwellings) was the only density measure which related significantly to both dependent variables.

While both of these studies demonstrate a positive relationship between residential structure density and social pathology rates, they are contradictory as to the relative importance of this density component in accounting for rates of pathology. More importantly, these studies, as with all ex post facto census tract surveys, do not give any indication of the factors that mediate density-pathology relationships. The usefulness of both studies is questionable.

Newman (1973) investigated the relationship between crime rate and building height (or, more appropriately, residential structure density). Examining the crime records for one hundred New York City public housing developments, he found that as building height increased, and concurrently the number of units or families per entrance or the residential structure density, so did the rate of crimes per thousand population. Newman offers the following explanation for the observed relationship:

> The investigation of the relationship between building height and crime was begun with the basic hypothesis that a positive correlation exists between the two; that as building height increases, so does crime. Recognizing the fact that height alone was not the reason for such a connection, we took into account the various

> other factors that usually attend high buildings: a larger number of apartment units and people using a single lobby, entry, and elevators, with resulting anonymity; more interior public space hidden from view and so on. (Newman, 1973:27)

As Newman has suggested, it would be expected that the information overload occasioned by excessive social contact generated by the large tenant populations which characterize high-rise buildings, would result in conditions of residential anonymity. The inability to make tenant-intruder discriminations would naturally inhibit residents attempts to actively prevent crime.

Baum and his research associates (Valins and Baum, 1973; Baum, Valins, and Harpin, 1975) have conducted a series of investigations comparing the nature of resident interactions affected by the interior designs of two university dormitory settings. In suite-design dormitories housing students in four or six-person living units residents were required to share lounge and bathroom areas with three to five others, while double-loaded corridor design dormitories, housing students in seventeen double-occupancy rooms, required residents to share common areas with thirty-three others.

Although both settings accomodated comparable numbers of residents in equivalent amounts of space on each floor, interview data revealed that the quality of resident experiences in the two dormitories was quite different. Corridor residents reported excessive frequencies of unwanted encoun-

ters with friends as well as strangers. They felt that there were too many residents on their floor, that their dormitories were crowded, that they had little control over events on their floor, and reported that they tried to avoid other floor residents.

In comparison, the suite residents who were not exposed to high frequencies of social contact in the shared residential spaces of their dorms, were less likely to report unwanted interaction, did not feel that their dorms were crowded, and were generally satisfied with their residential social experiences.

Additional data collected in laboratory settings revealed the generalization of coping mechanisms of avoidance behavior and social withdrawal by the overloaded corridor residents, to social situations beyond the residential environment.

Student interviews and unobtrusive measures of helping behavior were used in another dormitory study examing the relationship between residential structure density and social behavior (Bickman, et al., 1973). Comparisons were made between resident behavior and responses in dormitories housing 528.5 students (high-density condition), 165.9 students (medium-density condition), and 58.4 students (low-density condition).

Residents of the high-density dormitory demonstrated significantly less helping behavior than students of the

medium- and low-density conditions on two unobstrusive measures. Student interviews revealed that high-density residents saw fellow residents as significantly more unfriendly and impersonal, and had a lower sense of trust of fellow residents and of strangers wandering through the dormitory.

Interview responses also showed that as dormitory density increased students were less likely to help other residents or take responsibility for the safety and upkeep of the residential environment. Higher-density dorm students were significantly less likely to question a stranger wandering through the dormitory, to take responsibility for the upkeep of the physical residential environment (they were less likely to report a broken window in the dorm, and pick up litter in the hall) or to do a favor for a fellow resident by allowing them to put a friend up in their room while they were away.

Based on research that has demonstrated increased likelihood of helping behavior (altruistic actions) when group cohesion and identification with the victim is high (Friedrichs, 1960; Feldman, 1968; Midlarsky, 1968; Hornstein et al. 1971), and Milgram's (1970) conceptualization of overload, the researchers concluded that confrontation with so many others (excessive stimulation) in the high-density dorms leads to the depersonalization of fellow residents and consequently less concern and involvement with others in

the dormitory.

Interestingly, the investigators found no difference in desire to move to other student housing based on dormitory density — an issue which will be considered in a later chapter. Also there were no differences between the three density conditions in estimates of time spent in the dorm, spent in the room, spent alone, or spent with others.

THE PRESENT INVESTIGATION

The dormitory studies of Baum and his associates have demonstrated that frequent involuntary interactions are associated with withdrawal and avoidance coping strategies within the residential environment and possibly social settings elsewhere. An excessive number of uncontrollable encounters within the residential environment also led to student perceptions of crowding in their dormitory.

The dormitory density study of Bickman and his research team has shown increased impersonal and unfriendly resident relations, less cooperative behavior, greater distrust of fellow residents and strangers in the dorm, and less concern for the upkeep and safety of the residential environment, as the number of students housed in a dormity increases.

The present study will attempt to extend these findings to residential environments in which excessive unavoidable social encounters are maximally likely to negatively affect resident relations and the psychological well-being of inha-

bitants. The settings to be examined and compared are low-income public housing residential structures housing tenant populations of approximately 400 families, 110 families, and 10 families per building.

As the review below of the mediating variables discussed earlier will show, the consequences of excessive unavoidable encounters in shared building spaces would be expected to be far more devastating for these low-income populations than the student groups previously studied.

The Mediating Variables

Returning to the variables shown to mediate the experiences of high social density (primacy of the environment, escape opportunities, the quality of interpersonal relations), each acts to exacerbate the negative consequences of excessive social stimulation in this setting.

Primacy of the environment. The residential environment beyond the apartment is a primary life setting for lower-income people. Numerous studies have demonstrated the strong sense of attachment of the urban working- and lower-classes to their immediate neighborhood the dependence of these lower economic groups on this area for daily living in terms of social contact, recreation, local stores and facilities, and trusted others, and their "territorial" demarcation of this physical space as their own (Bott, 1971; Young and Wilmott, 1959; Fried and Gleicher, 1961; Gans, 1962; Fried, 1963; Caplovitz, 1967;

Suttles, 1968; Brower, 1975; Brower and Williamson, 1974; Cooper, 1975).

Opportunities for escape. In addition, the limited economic resources of the urban poor greatly reduce opportunities for real escape from the stressful living conditions generated by poverty and deprivation.

In contrast the greater economic independence, specialized occupations, and segmental roles of the urban middle-class have lessened the importance of the immediate outer residential environment as a primary life space for these city residents (Fried and Gleicher, 1961; Webber and Webber, 1963; Schorr, 1966; Keller, 1968; Suttles, 1972). The social contacts of this economic group are drawn from areas throughout the city, physical distances are easily negotiated, and preferred places are often quite idiosyncratic (Fried and Gleicher, 1961). Their sense of belongingness to the residential environment does not usually extend beyond the dwelling unit. The middle-class orientation to the surrounding neighborhood is the very antithesis of the localism of the working- and lower-class.

Quality of interpersonal relations within the settings. It has been suggested that while the prime concern of both the working- and lower-classes is to establish the home environment as a place of shelter and security from a threatening outside world, the accomplishment of this goal is quite tenuous and incomplete among the urban poor (Rainwater

1966, 1970). Neighbor relations have been frequently described as unstable and fragile. Encounters with unknown others within the immediate residential environment beyond the apartment are particularly marked by distrust, suspicion, and fear (Rainwater 1966, 1970; Brower, 1975; Brower and Williamson, 1974; Moore, 1969).

In addition, as residents of public housing projects are drawn from long waiting lists and assigned to developments relatively randomly, it is rare for any social bonds to exist between residents before moving in.

Design features of the setting. Three building types representing three levels of residential structure density will be examined in this study: 30-story high-rises (high density condition), 14-story towers (medium density condition), and 3-story walk-ups (low density condition).

The high-rises house either 348 or 420 families per building entrance, with either 12, 14, or 15 families residing on each floor. Average family size in these buildings is 3.5 persons. The 14-story towers house either 110 or 112 families per entrance, 8 families per floor, with an approximate average family size of 3.8 persons. Either 9 or 12 families reside in each 3-story walk-up, with either 3 or 4 families living on each floor. Approximate average family size in these building is 5.5 persons.

Residents are potentially brought into contact with

approximately 1,218 to 1,420 others in the shared residential spaces (hallways, elevators, lobby areas, and immediate outdoor building space or bench area) of the high-rise buildings; approximately 422 others in these semi-private building spaces of the 14-story towers, and approximately 50 to 66 others in the equivalent building spaces of the 3-story walk-ups.

Building design features and tenant populations will be discussed in further detail in the following chapter.

Predicted Consequences of Large Tenant Populations

Drawing on the overload theoretical perspective of high density living and the findings of Baum and of Bickman the following consequences of the large tenant populations (or high residential structure density) of the high- and medium-rise buildings have been formulated and will be tested in the present investigation.

> Hypothesis 1. Large tenant populations generate excessive social encounters in shared building spaces, which in turn, affect tenant perceptions of crowding and privacy in the building.
>
> Hypothesis 2. Large tenant populations expose residents to more social information of adaptive significance than can be cognitively processed (information overload), resulting in contact with others in building spaces who frequently are not recognized or known well enough to greet.

Social encounters within the low-income residential environment are already charged with great uncertainty, apprehension, and watchfulness. Excessive social encounters, and the concomitant necessity to attend to considerable amounts of social information required to evaluate the motives and intensions of others so as to quide one's own behavioral decisions, can only worsen the sense of the unpredictable nature of social encounters in the residential environment. In addition, excessive unavoidable encounters and resulting information overload create conditions of general tenant anonymity.

> Hypothesis 3. Residential conditions of high unpredictability and tenant anonymity (making resident-intruder discrimination impossible) further weaken the fragile degree of tenant control over, and sense of security in, shared building spaces.
>
> Hypothesis 4. Residential conditions of unpredictability and tenant anonymity, by inhibiting familiarity and stable interpersonal relationships, discourage cohesive tenant relations within the building. Instead, tenant relations tend to be impersonal, unfriendly, and marked by inter-resident conflict.

The anonymous and public nature of shared residential spaces, and the absence of cohesive inter-resident ties in the high- and medium-rise buildings, will be associated with increased tenant reports of lack of commitment to building upkeep and tenant safety. The adoption of behavioral strategies of non-involvement by tenants in these buildings, however, is not

simply a matter of callousness, irresponsibility, or lack of concern. The anonymity and frequency of contacts in shared building areas cause residents to see the residential environment beyond the apartment as public space and not as an extention of their homes. The responsibility for upkeep of these spaces, then, is left to assigned maintenance personnel.

Tenant noninvolvement in terms of intervention in acts of violence and vandalism in shared building spaces, is largely related to the absence of a cohesive residential group. In buildings which allow the development of cohesive residential groups, tenants develop an increased sense of efficacy by drawing on the strength of the group and the knowledge that there will be someone to assist them if conflict develops as a result of their intervention.

> Hypothesis 5. The absence of cohesive residential groups, and the anonymous and public character of shared residential spaces, will be related to tenant adoption of behavioral strategies of noninvolvement in terms of building upkeep and tenant safety.
>
> Hypothesis 6. The general unfriendliness of tenants and the problematic nature of inter-resident relations will be associated with avoidance of social contact in shared residential spaces. In addition, tenant anonymity may inhibit the development of close friendships and neighbor alliances of mutual aid within the building.
>
> Hypothesis 7. Resident behavioral patterns of social avoidance and withdrawal may generalize to relationships beyond the building inside and outside of the project. Or the importance of involvement in social relationships and activities beyond the building may be intensified to compensate for

their absence in the building.

Hypothesis 8. The negative consequences of large tenant populations predicted in Hypotheses 1-6 will be associated with tenant reports of dissatisfaction with and alienation from the residential environment.

Hypothesis 9. Because of the central importance of the residential environment in the lives of low-income people, feelings of residential alienation may generalize to residents' sense of life alienation and efficacy in larger community matters.

Physical Isolation in Large Multiple-Story Buildings

To explore the possible isolating effects of apartment dwelling within the high- and medium-rise buildings, a number of additional variables were included in the present study.

Studies of large multiple-story buildings have suggested that apartments in these buildings are distally, visually, and aurally isolated from ground level (Jephcott, 1971). This sense of isolation from the ground and outdoors is further intensified by the inconvenience of long elevator waits and numerous elevator breakdowns (Jepfcott, 1971; Greater London Council, 1968). While some work has found that apartment dwelling in these buildings (Department of the Environment, 1970), especially on upper floors, provides residents with a good deal of privacy, the degree of privacy provided can lead to feelings of loneliness and isolation (Fanning, 1967).

Hypothesis 10. The visual, aural, and distal isolation from ground level of apartments in the high- and medium-rise buildings, and the inconveniences of elevator travel, may affect residents' sense of privacy, control over, and safety in their apartments, and reported time spent in their apartments.

The method used to test these hypotheses will be presented in the following chapter.

Chapter II

METHOD

Structured interviews were conducted with 180 female heads of household living in high-, medium-, and low-rise building types housing tenant densities of approximately 400, 110, and 10 families per building, respectively. Respondents were residents of three low-income housing projects operated by the New York City Housing Authority.

This chapter includes a brief discussion of the rationale behind subject and site selection, a discription of sites and residents, and a discription of the content and administration of the structured interview.

THE SETTINGS

Subject and Site Selection

Low-income households with children eighteen years of age or younger living at home, were selected as the target population in examining the effects of residential density. The low-income family was choosen because of the psychological importance of the residential environment in the lives of this group, as emphasized by the literature review in the previous chapter. Only female heads of household were interviewed due to the absence of a male head in many of the homes, and also because it was felt that the female head would have a greater involvement in the everyday management of the home and tenant relationships in the housing

development.

The decision to interview families living in public housing projects was based on a number of factors. First, all public housing developments managed by the New York City Housing Authority are operated under the same set of policies and regulations. In addition, project security is uniformly provided, with housing police officers assigned to each development by the Housing Authority.

Second, tenant assignment by the Housing Authority is relatively random. While applicants may express a preference in project assignment, and can refuse the first two assignments, both the Housing Authority's massive waiting list and the lower-income housing shortage in New York City, make tenant selection of project the exception rather than the rule. Other than the placement of larger families in apartments containing additional bedrooms, assignment of tenants to apartment, building and floor level is essentially random.

Finally, the Housing Authority maintains strict standards as to apartment design and amenities to be included within each unit. Public housing units are among the best apartments provided the City's lower-income families.

Thus sample selection of respondents from public housing projects offered the distinct advantages of uniform management and security policies, random tenant assignment, and consistently high apartment design standards across sites. Thereby, these variables were removed as uncontrolled

sources of variance within the research design.

In making the actual selection of sites, two major criteria were set: sites would be chosen which would allow the investigation of the independent variable over a range of conditions, and maximized the control of sources of variance other than building density.

Based on data supplied by the New York City Housing Authority, a compromise was reached in meeting these criteria. Three housing projects whcse tenant populations were typical of other low-income housing developments in the city were selected.

Two of the projects consisted of a mix of 14-story towers and 3-story walk-ups, housing tenant populations of 110 and 112 families and 9 to 12 families per building, respectively. The choice of these projects offered a balanced experimental design based on building density across settings.

However, it was felt that a third level of the independent variable should be included in the research design to further explore the effects of various building densities. Therefore, a third project was selected containing 30-story high-rises, housing tenant populations of 348 and 420 families per building.

While there are no other public housing developments containing comparable building densities in the city, and although the addition of this project may have complicated

the interpretation of findings because of potential sources of variance due to its site characteristics, the development's inclusion in the study was guided by the importance of exploring a broad range of building densities. In addition, including this housing development in the research design assists the assessment of the strength of building density effects regardless of site qualities or tenant population characteristics.

The problem of locating sites which offer a range of experimental conditions and at the same time allow for control of all sources of variation other than the variable in question, is rarely perfectly solved in "real world" research. Upon leaving the laboratory the researcher must make concessions in selecting comparison settings. In the case of this investigation, it was decided that building density was the crucial variable to be considered in site selection and that some variance between housing developments could be tolerated in regard to project and tenant characteristics.

In summary, the present research design controls the effects of housing development site characteristics in interpreting significant medium-rise — low-rise differences on dependent measures. Only site characteristics of the high-rise housing development which differ from both developments from which the medium- and low-rise buildings are drawn, will be considered in interpreting results of high-rise — medium-rise and high-rise — low-rise building comparisons.

The particular tenant population and project characteristics of the three housing developments will be discussed in the following sections.

Setting 1.

The project. Setting 1, to be referred to as Manhattan project, is a low-income, federally subsidized, public housing development operated by the New York City Housing Authority.

Although the project is technically part of Central Harlem, it is geographically buffered from the largely dilapidated or structurally substandard housing of the surrounding Harlem community. Situated in the uppernorthern corner of Harlem, the projects western boundary is shaped by the sharply rising inclines of Highbridge Park. Immediately to the east is Eighth Avenue, the Harlem River Drive and Harlem River, and adjacent to the north another public housing project. Only through its sourthern boundary, West 155th Street, can one walk into Central Harlem.

Transportation to other parts of Manhattan and New York City, however, is very convenient. Buses run alongside the project on Eighth Avenue and two major subway lines stop at a station below the project on Eighth Avenue.

As a general crime rate measure, every two years the Housing Authority compiles an index of the number of complaints per 1,000 population reported for each of its projects.[1] The crime index for the Manhattan project was 32.9 complaints per 1,000 population in 1976. The average crime

[1]The index includes any incident in which a Housing Authority Police Officer has been involved and ranges from felonies to violations of Housing Authority regulations.

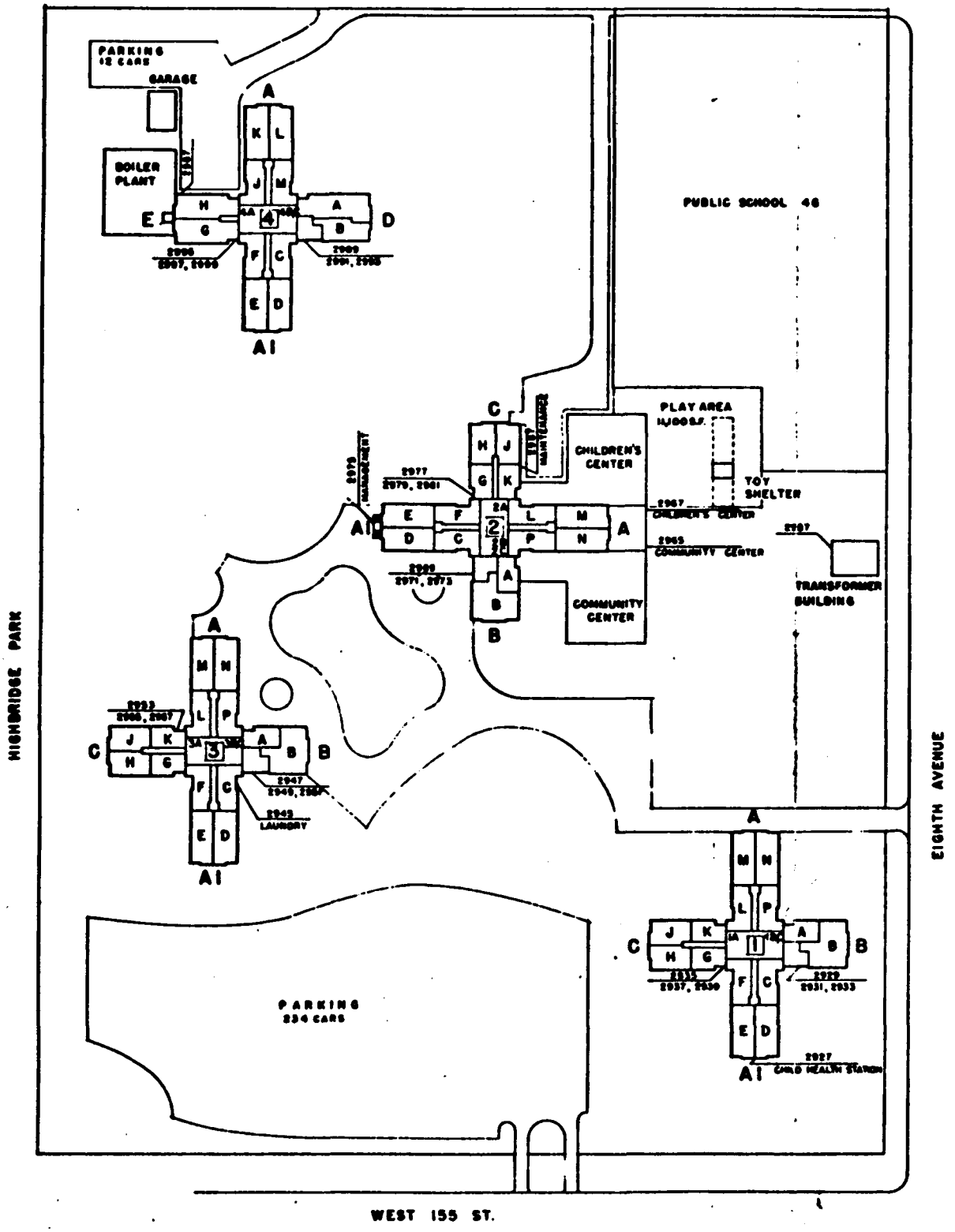
index in 1976 for all New York City Housing Authority projects was 23.8.

The Manhattan project (see Figure 1 for site plan) is the largest and most recent low-income development in the district. It lies on a 15.2 acre super-block and is comprised of four 30-story high-rise towers. The four buildings occupy 12.7 percent of the total project area which, besides interior paths, also includes facilities for a community center and children's center, an outdoor ampitheatre located in the center of the project, and a large parking area. Bench areas are located beside each building.

There are a total of 1,608 apartment units ranging in size from efficiency to seven rooms. The majority of the units contain four or five rooms, 38 percent and 29 percent, respectively. The efficiency and three-room apartments are reserved for elderly tenants while the larger apartments are assigned according to family size.

Each building is "artificially" divided into two sections: one section including floors two through sixteen (there are no apartments on the main floor) and the other floors seventeen through thirty. Both sections have their own address, entrance, mailbox area, lobby, and elevator area (one bank of three elevators for each section stopping only at the floors of the section it services) on the main floor of the building. However, besides mailbox and elevator use, the building is effectively treated by tenants as

Figure 1: Manhattan Project Site Plan



one: tenants in each building use the entrance and lobby area closest to the main path and can just pass through one elevator area into the next.

The only other design difference between upper (floors 17-30) and lower (floors 2-16) building sections exists in three of the four buildings. The upper sections in these buildings include fifteen apartments per floor ranging in size from efficiency to six rooms, while the lower sections include the same distribution of apartment sizes except there is no efficiency apartment and, therefore, only fourteen apartments per floor.

The three buildings described above each house 420 families, 210 per upper and lower building section, and either fourteen or fifteen families per floor. The fourth building, however, houses 348 families. twelve families per each floor.

Corridor design is similar across all four buildings. Apartments on each floor open on to one of four wings, with all units sharing the same elevators and incinerator on their floor. No design features demarcate or limit access from one wing of the hallway to another.

The residents. The tenant population of the Manhattan project consists of 5,698 persons, giving the project an external density of 374 persons per acre. In terms of tenant characteristics, the majority of families are black (83.0 percent); the average family size is 3.5 persons; 23.6 percent of the families are on welfare; 30.0 percent of the households are

one-parent families with minors under 18, and in 27.1 percent of the households the head is over sixty-two years of age (this is the best estimate of number of elderly households). Persons 62 years and older make up 9.9 percent of the tenant population, and 54.6 percent of the population are minors under twenty-one years of age with households averaging 1.9 minors per family. The average gross income of families is approximately $7,907, and the average number of years families have lived in the project is 7.7 (See Table 1).

Setting 2

The project. Setting 2 will be referred to as the Brooklyn project. Located in the Brownsville section of Central Brooklyn, it too is a low-income public housing project operated by the New York City Housing Authority and subsidized by the Federal government.

The Brooklyn project has been occupied since 1953 and is situated on three blocks of a strip of superblocks comprised of low-income public housing developments. To the Brooklyn project's west and north lie six other housing projects while adjacent to its eastern and southern borders lie blocks and blocks of largely abandoned, decayed and crumbling three-story frame dwellings and four-story tenements. The Brownsville section of Brooklyn is one of the City's worst poverty areas.

Table 1

Project and Tenant Characteristics for Manhattan, Brooklyn and Bronx Projects[a]

	Manhattan	Brooklyn	Bronx
Project Characteristics			
Number of apartments	1,608	1,603	2,039
Average number of rooms per apartment	4.78	4.62	4.75
Number of residential buildings	4	31	68
Number of stories	30	3-14	3-14
Population	5,698	5,462	6,933
Project Area (acres)	15.2	22.3	48.9
Density (persons/acres)	374	244	141
Crime index complaints per 1000 population in 1976	32.9	39.8	19.5
Tenant Characteristics			
Number of families	1,608	1,578	2,027
Percentage black	83.0	88.6	62.5
Percentage Puerto Rican	14.0	9.8	18.4
Percentage white	.8	1.0	18.1
Percentage other	2.2	.6	1.0
Average family size	3.5	3.5	3.4
Percentage of minors under 21	54.6	56.2	55.6
Average number per family	1.9	1.9	1.9
Average gross income	$7,907	$6,957	$6,487
Percentage households with head 62 years and over	27.1	10.2	18.6
Percentage population 62 years and over	9.9	3.8	7.2
Percentage welfare families	23.6	40.7	38.6
Percentage one-parent families with minors under 18	30.0	47.0	42.7
Average number of years in residence	7.7	11.3	10.4

[a]The Manhattan and Brooklyn project data was compiled by the New York City Housing Authority in January, 1977; the Bronx project data in January, 1976. Therefore, data presented was compiled closest to the dates of the interview waves in each project.

Transportation to and from the area is relatively good with stations for two subway lines located within a few blocks of the project. The crime index for the project in 1976 was 39.8 complaints per 1,000 population.

The Brooklyn project is comprised of a mix of low- and medium- rise building types situated over three adjacent superblocks (see Figure 2). The building mix includes thirteen 14-story towers and eighteen 3-story walk-ups.[2] The thirty-one buildings occupy 16.6 acres of the 22.3 acres of total project area.

On the northern-most and middle blocks, the grounds design (low fences and grass areas) creates building clusters of one 14-story and two 3-story buildings. The main entrance of the 14-story building faces the entrances of the two low-rise buildings and the three buildings share the same front outdoor space and bench areas immediately adjacent to their entrances. The remaining medium-rise buildings and low-rise buildings have their own front outdoor bench areas and are not arranged in a clustered manner.

Centrally located on each of the three blocks is some type of recreational area: a concrete softball field is located on the northern-most block, a children's play area

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[2] Each 3-story walk-up is connected to another 3-story walk-up, and although each pair appears on the site plan (Figure 2) as one residential structure, each structure is actually two separate buildings with no means of inter-building access other than main entrances.

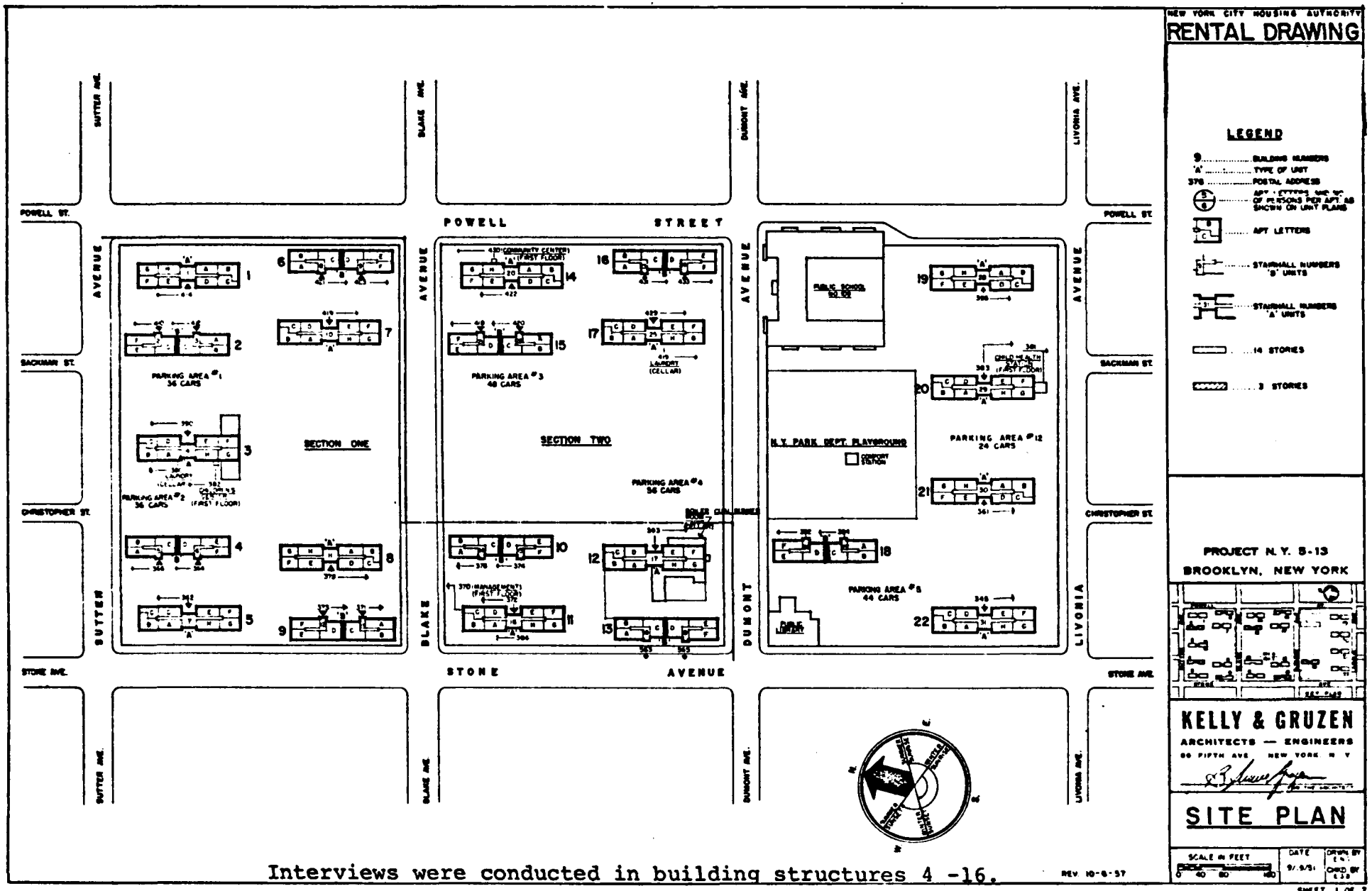

Figure 2: The Brooklyn Project Site Plan

Interviews were conducted in building structures 4 -16.

Note: The 14-story building designed for the elderly is located on the site designated Public School 109.
Buildings 2,4,6,9,10,13,15,16, and 18 are three story structures comprised of two low-rise buildings.

and small amphitheatre on the middle block, and on the southern-most block is a Parks Department playground. Interior paths, parking areas, and one 14-story building designed for the elderly occupy the remainder of the project area. The building designed for elderly public housing residents was built in 1964 and is treated by the New York City Housing Authority as a separate development and therefore is not included in project and tenant characteristic data for the Brooklyn project in Table 1.

The Brooklyn project also includes a children's center and a community center which are located in place of apartment units on the first floors of two of the 14-story buildings.

The medium rise buildings, or 14-story towers, each house 112 families, eight families per floor. Apartments on each floor are arranged along a double-loaded corridor and floor levels are reached by an elevator located in the middle of the corridor. In the lobby are tenants mailboxes and two elevators, one elevator servicing the even floors of the building and the other odd numbered floors. There are six 4-room apartments, one 3-room apartment, and one 5-room apartment on each floor of these buildings.

The low-rise buildings, or 3-story walk-ups, each house nine families, three families on each floor. Floor levels are reached by interior stairways and the three apartments on each landing are located within an interior corridor

separated from the stairway by a metal fire door. Residents' mailboxes are located in the lobby beside the building entrance. There are two five-room and one six-room apartments on each floor. Because apartment assignment is based on family size, families in the low rise buildings tend to be one or two members larger than most of the families living in the medium-rises.

The residents. There are 5,462 tenants living in the Brooklyn project giving the development an external density of 244 persons per acre. Families are predominately black (88.6 percent) and the average family size is 3.5 persons. The average gross family income is $6,957; the proportion of welfare families living in the project is 40.7 percent; 47.0 percent of the households with minors are one-parent families; 10.2 percent of the project's household heads are 62 years or older with the elderly making up 3.8 percent of the tenant population, and the average length of residence of families is 11.3 years. Minors under twenty-one make up 56.2 percent of the project population with households averaging 1.9 minors per family.

Setting 3

The project. Setting 3, or the Bronx project, is located in the northeast section of the borough of the Bronx. First occupied in 1953, the project is a federally subsidized low-income housing development operated by the New York City

Housing Authority.

The area surrounding the Bronx project is predominately a working- and lower-middle class community. To the project's north, south and west lie private one-family and two-family frame and row houses; to its west a low-rise middle-income public housing development, and adjacent to its northeastern border is a large undeveloped natural park operated by the Parks Department.

In terms of transportation from the project to other parts of the borough and city, besides being located in a two-fare zone, bus and elevated subway transportation in the area are good. The crime index was 19.5 complaints per 1,000 population in 1976.

The Bronx project, like the Brooklyn project, is comprised of a mix of 14-story and 3-story buildings[3] (see Figure 3). The project includes a total area of 48.9 acres with the fifty-six low-rise buildings and twelve medium-rises covering 16.2 percent of the total project area.

The project is situated on two huge superblocks which in addition to the buildings, includes interior drives, paths, parking areas, and small playgrounds. On the southern superblock is a large Parks Department playground and a Community Center building which also includes a children's center.

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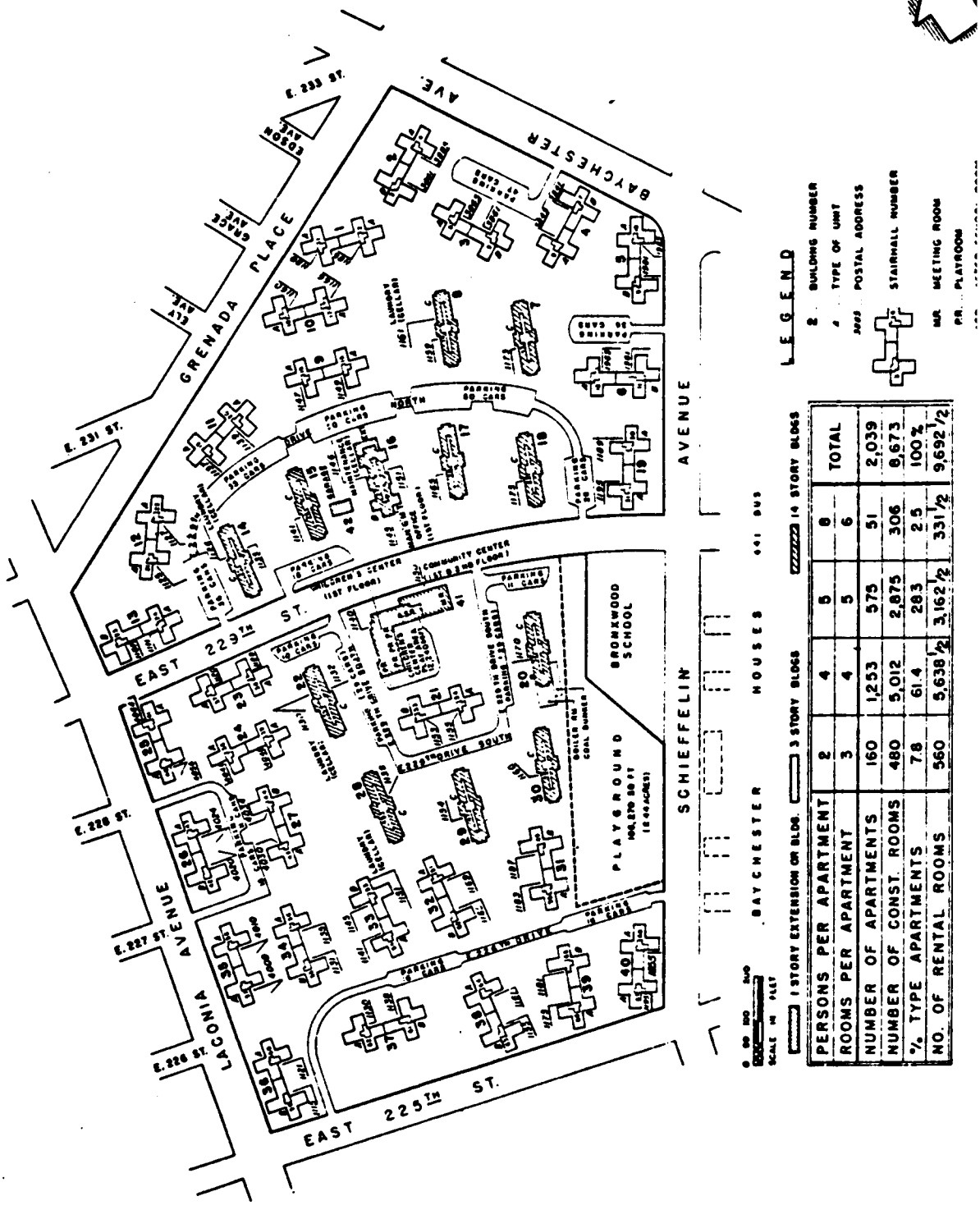
[3] Each 3-story walk-up is connected to another 3-story walk-up, and although each pair appears on the site plan (Figure 3) as one residential structure, each structure is actually two separate buildings with no means of inter-building access other than main entrances.

Figure 3: Bronx Project Site Plan



	2	4	5	8	TOTAL
PERSONS PER APARTMENT	3	4	5	6	
ROOMS PER APARTMENT	160	1,253	575	51	2,039
NUMBER OF APARTMENTS	480	5,012	2,875	306	8,673
NUMBER OF CONST. ROOMS	7.8	61.4	283	2.5	100%
% TYPE APARTMENTS	560	5,638½	3,162½	331½	9,692½
NO. OF RENTAL ROOMS					

Interviews were conducted in building structures 6,7,8,9, and 19.
Note: Shaded buildings are medium (14-story) rises.
Unshaded buildings are 3-story structures comprised of two low-rise buildings.

One hundred and ten families live in each of the 14-story medium-rise buildings. There are eight apartments arranged along double-loaded corridors on each floor except on the ground where there are only six units. Located in the building lobby are resident mailboxes and two elevators, one elevator servicing even-floor apartments and one odd-floor apartments.

All of the units in the 14-story buildings are four-room apartments except in one medium-rise building reserved for elderly residents where there are a total of 156 three-room apartments.

The low-rise 3-story walkups house twelve families, four families per floor. The apartments on each floor are reached by an interior staircase which is separated from the cluster of four apartments on each landing by a glass fire wall and door. Residents' mailboxes are located in the lobby.

All the apartments in the low-rise buildings contain five rooms with the exception of one 4-room apartment on the first floor of these buildings. Again, as in the Brooklyn project, average family size tends to be slightly larger in the low-rise buildings due to the assignment of apartments based on family size.

Bench areas and children's play equipment are located adjacent to the entrances of all the buildings in the project.

The residents. The Bronx project has a tenant population of 6,933 and an external density of 144 persons per acre. Of the project's 2,027 families 62.5 percent are black, 18.4 percent are Puerto Rican, and 18.1 percent are white (65.0 percent of whom are elderly households with heads 62 years of age or older). The average family size is 3.4 persons; the average family income is $6,487; the proportion of families on welfare is 38.6 percent; 42.7 percent of the households are one-parent families with minors under 18; in 18.6 of the households the head is 62 years of age or older; and the elderly comprise 7.2 percent of the tenant population. The average length of residence is 10.4 years and minors under 21 make up 55.6 percent of the tenant population with households averaging 1.9 minors per family.

Project Similarities and Differences

In summary, comparing the project and tenant characteristics of the projects (see Table 1) the similarities across all three developments include: the total number of apartment units per project, the average number of rooms per unit, the size of the tenant population, average family size, percentage of minors under 21, and the average number of minors under 21 per family.

A number of differences exist between projects also. The Manhattan project is a high-rise development and unlike Brooklyn and Bronx projects, does not contain a mix of building types. The Manhattan project has a much smaller total

project area and much larger external density than the Bronx project whose total area is approximately three times greater and external density almost three times lower than the Manhattan project. The average gross family income of the Manhattan project is approximately $1,000 higher than this figure for the Brooklyn and Bronx projects. The project also has a lower percentage of welfare families and one-parent families than the other developments, and a higher percentage of households with the head 62 years older. Finally, the Manhattan project seems to have the lowest average length of residence, however, in terms of the number of years the project has been operating, the Manhattan project has the largest proportion of tenants who have lived in the development since it was first opened.

The Brooklyn project has the smallest percentage of Puerto Rican residents and a much lower percentage of households with the head 62 years of age or older than the other projects. The smaller proportion of elderly residents reported in the Brooklyn project data is due to the housing of the elderly in one-building developments whose tenant information is not included in the Brooklyn data in Table 1.

Lastly, the Bronx project has by far the largest total project area and the lowest external density. The project also has the largest population of white residents, most of whom are elderly, and a much lower crime index than the other two developments.

As indicated previously, exact matching of housing projects on all tenant population and physical characteristics was not possible. However, since the medium- and low-rise building samples were drawn from both the Brooklyn and Bronx projects, the possibility of attributing medium- and low-rise building type differences to site characteristics can be minimized if not dismissed entirely. Only high-rise versus medium-rise and high-rise versus low-rise building type differences migh be attributed to site characteristics on which the Manhattan project differs from both the Brooklyn and Bronx projects. Again, however, the crucial variable in this study was felt to be building density, and any possible effects due to uncontrolled variation in project and tenant characteristics would be minimal in comparison.

PROCEDURE

Sample Selection

One hundred and eighty structured interviews, sixty in each housing project, were conducted with the female heads of households containing minors under eighteen. Systematic random sampling was applied in selecting respondents, that is, respondents were randomly interviewed from particular buildings and floors. In each project building samples were based on the representativeness of their tenants to the project population of households with minors under 18, and the building's similarity in terms of location and design

to the other buildings in the project sample. Floors in the sample buildings were then selected to insure that uniform numbers of residents were interviewed across all possible floor levels within each building type in the project. The actual building and floor sample and selection rationale for each project will be discussed below.

Interviews were conducted in the Manhattan project during February and March 1977. One resident was randomly selected from each of the even numbered upper floors (floors 17-30) and each of the odd numbered lower floors (floors 2-16) in two of the buildings, with the reverse floor pattern choice applied in the other two buildings. If it was not possible to obtain an interview on a particular floor, either because of refusals or no response, after two attempts, a resident was interviewed on the floor above or below alternately. The final sample of sixty residents, fifteen per building, seven or eight per upper or lower building section, uniformly included all floor levels.

The interview wave in the Brooklyn project took place during November and December, 1976. Tenants were interviewed in five of the medium-rise buildings and fourteen of the low-rises (see Figure 2 for building location). All of the buildings are arranged in the clustered fashion discussed previously, with the exception of one of the medium-rises and two of the low-rises. A total of sixty interviews were conducted, thirty in each building type, and again uni-

form sampling of floor levels was achieved within both building types.

The interviews at the Bronx project were the first to be conducted. They took place over July and August of 1975. The research was in its earliest phase and at the time it was felt that a small sample of medium- and low-rise buildings in one section of the project would be necessary to minimize the possible variance due to building location. Therefore, the sixty interviews were conducted in only two medium-rise buildings and six low-rise buildings, all of which were located in the same area of the project and equal distances from neighborhood stores, the management office, the housing police station and the nearest neighborhood police precinct. Thirty interviews were split equally between the two medium-rises, one per floor in each building (a second tenant was interviewed on one floor in each building), and five tenants were interviewed in each low-rise, either one or two residents per floor.

The final sample totalled 180 female heads of households: sixty respondents per housing development, or sixty respondents per high-, medium, and low-rise building type.

The Structured Interviews: Administration

A day or two prior to conducting the interviews in a particular building, letters in English and Spanish were slipped under apartment doors notifying residents that mem-

bers of the City University Graduate Center would be interviewing tenants in the building. The letter explained that the interviews dealt with tenants' feelings about their buildings and that we were interested in the effects of building design and housing project planning. The letter made it clear that tenant participation was voluntary, that all information would be entirely confidential and that, other than having given us permission to conduct the survey, we had no connection with the Housing Authority. Tenants were also informed that the interview would take approximately a half an hour and that residents would be paid $3.00 for their participation.

Interviews took place in the tenant's apartment. Six interviewers, consisting of teams on one female and one male, knocked randomly at apartment doors on the particular floors in the buildings choosen for the sample. Interviewers identified themselves informing residents that they wished to speak to the female head of household and, referring to the letter slipped under the apartment door, asked whether she was interested in being interviewed. If the female head of household was not at home, or she expressed an interest but did not have the time at the moment, interviewers returned at a time the tenant felt would be more convenient. Actual refusal rate was approximately 55 percent.[4]

Upon beginning the interview, the tenant was told that she would be asked to respond to many questions by picking an answer along a six-point scale. The respondent was then

shown the first scale and the interviewer, indicating each point along the scale, read the responses written below each point on the scale to be used in answering the first question. The first question was then read and the resident was asked to indicate her answer on the scale. If it was necessary the interviewer again explained the response procedure, if not, the interview continued onward. No major difficulties were encountered with questions using scalar responses. Tenants understood the technique and many seemed to enjoy it.

The female member of the team conducted the interview while the male recorded the tenant's responses verbatim. It was believed that the respondents would find it easier to develop rapport with a female interviewer and that the interview would flow more naturally if the interviewer was able to maintain eye contact and respond freely to the resident. The precision of the instrument, expecially on open-

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[4] Considering the potential danger of a lone female (in most cases all other household members were either in school or at work) inviting two strangers into her home within these settings, the refusal rate was surprisingly low. Unfortunately, refusal rates were not recorded separately for the three building types. In addition, although we assured tenants that we did not work for the Housing Authority, there was the fear that we might alert the management to the presence of unreported household members living in the apartment, unreported sources of income in the household, or family pets such as dogs and cats - all violations of Housing Authority regulations which draw stiff penalties.

ended questions, was also increased by having a second interviewer recording the responses.

Interviews ranged in length from thirty minutes to as long as an hour. When necessary the interview was conducted in Spanish.

Upon completion of the interview the resident was thanked for her cooperation and was asked if she had any questions. However, whether tenants had questions or not, interviewers explained the major interests and goals of the research. Before the interviewers left the apartment the resident was paid $3.00 for their cooperation.

The Structured Interview: Content

The interview schedule was comprised of approximately one hundred items and included a mix of short answer questions, questions to be responded to along 6-point scales, and open-ended questions (see Appendix A). Respondents were encouraged to elaborate on their answers to the scalar and short answer inquiries. A book containing the response scales (Appendix B) was used to present the scales to the resident. The interviewer indicated the scale pertaining to each question as the interview progressed. Each of the six response points along all of the scales were labeled.

The interview was designed to measure tenants' sense of control, security, and privacy in various interior spaces of their building, the presense or absense of tenant territorial prerogatives and attitudes toward building spaces, and

use of building spaces. Questions dealt with resident's informal social relationships with neighbors and close friends and relatives living outside the project, and membership in formal organizations. Most importantly in testing the proposed model of residential density, items tapping tenant perceptions of social overload and crowding were included.

Also among the interview items was the 10-point Cantril Ladder scale used to measure residential satisfaction, and five of the six items comprising the Middleton Alienation Scale (Middleton, 1963). The Middleton scale was used to tap the resident's general level of life alienation. The items of the scale included were the powerlessness, meaninglessness, normlessness, social isolation, and self-estrangement in work measures. Two additional alienation items, based on Middleton's powerlessness and work-estrangement measures, were created by the author to compare residents' sense of residential powerlessness and residential estrangement. Demographic information was also collected.

Chapter III

RESULTS

To examine the hypothesized effects of residential structure density tenant responses were analyzed by building type. The 30-story high-rise towers housing approximately 400 families served as the high density condition; the 14-story buildings housing from 110 to 112 families as the medium density condition, and the 3-story walk-ups housing 9 to 12 families as the low density condition.

Results are presented for one-way analysis of covariance tests by building type, covarying out the effects of four demographic variables on which building samples differed significantly, performed on each dependent measure. When building type was shown to have a significant main effect on a dependent measure, the analysis of covariance was followed by a posteriori t-test comparisons between building types. These results are also presented.

Demographic Comparisons

Comparisons of building type tenant samples (see Table 2) on demographic variables showed that the samples did not differ significantly in terms of age, education, number of parents per household, number of young children twelve years of age or younger per household, or car ownership. Building type samples did differ significantly, however, in terms of length of residence in the project, length of residence in the apartment, and family size, as expected

Table 2

Demographic Comparisons of Building Type Samples

Variables	ANOVA F	(df)	MEANS High	Medium	Low	Bldg. Type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
Age	1.88	(2,177)	36.85	36.88	40.00	NS	NS	NS
Education	0.12	(2,177)	10.98	11.12	11.18	NS	NS	NS
Care Ownership (1) Yes (2) No	1.00	(2,177)	1.58	1.70	1.62	NS	NS	NS
Family Size	20.75***	(2,177)	5.43	3.77	5.48	5.50***	NS	-5.66***
Number parents per household	1.17	(2,177)	1.58	1.48	1.62	NS	NS	NS
Number children 12 years old and younger per household	0.35	(2,177)	1.33	1.17	1.38	NS	NS	NS
Length Residence Apartment	4.52**	(2,177)	6.40	8.97	9.17	-2.70**	-3.13**	NS
Length Residence Project	21.85***	(2,177)	7.18	10.33	14.77	-3.00**	-7.76***	-3.20**

		Number per Building Type Sample High	Medium	Low
Ethnicity	(1) Puerto Rican	12	8	12
	(2) Black	48	49	46
	(3) White	0	3	2

** $p<.01$
*** $p<.001$

and discussed in the previous chapter.

Low- and medium-rise tenants reported residing in the project significantly longer than high-rise tenants, and low-rise tenants significantly longer than medium-rise tenants. Apartment length of residence was significantly shorter for high-rise tenants as compared to apartment lengths of residence of medium- and low-rise residents, while medium- and low-rise length of apartment residence did not differ significantly.

In terms of family size, high- and low-rise samples did not differ significantly. Medium-rise family size was however, significantly smaller than both high- and low-rise family sizes. Having revealed these demographic differences between the samples, analysis of covariance was used to control the effects of these variables in all subsequent analyses. Before testing the main effect of building type, any variation in the dependent measure due to length of residence in the apartment, length of residence in the project, and family size, was removed by entering these variables as covariates in each analysis of variance performed.

Ethnic breakdown of building type tenant samples showed that similar proportions of black, Puerto Rican, and white residents had been interviewed (analysis of covariance supported that building type was not significantly related to ethnicity). However, to further insure that any obtained building type effects generalized to all ethnic groups, ethnicity (in

dummy variable form) was included as a fourth and final covariate in all one-way analyses of covariance.

TENANT POPULATION SIZE EFFECTS

Social Encounters, Tenant Anonymity, Crowding Perceptions, and Privacy of Residential Spaces

As predicted, one-way analysis of covariance by building type revealed that as size of building and floor population increased residents reported higher frequencies of social encounters, higher frequencies of encounters with others they did not recognize, residents knew smaller proportions of their building and floor population to say hello to, residents felt that shared building spaces were more public and less private, and more residents perceived their floor and building to be crowded. Significant F-ratios for the main effect of building type on these variables are presented in Table 3. Also presented are the t-ratios and significance levels of building type contrasts to be discussed below.

When residents were asked how often they saw people in the lobby and elevator[1] of their building, both the high- and medium-rise tenants reported seeing people significantly more often than low-rise tenants. When asked how often they saw people in the hallway on their floor, only high-rise

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[1]In low-rise interviews "stairs" was substituted for questions referring to the elevator.

Table 3

Social Encounters, Tenant Anonymity, Privacy and Crowding

Variables	CANOVA Bldg. Type F (df)	MEANS High	MEANS Medium	MEANS Low	Bldg. Type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
Social Encounters[a]							
See people lobby and elevator (stairs)	11.77***(2,169)	1.90	1.52	2.68	NS	-2.90**	-4.48***
See people in hall	4.84** (2,169)	3.00	3.56	3.65	NS	-2.18*	NS
See people don't recognize lobby and elevator (stairs)	19.81***(2,169)	3.03	2.70	4.41	NS	-4.91***	-6.09***
See people don't recognize hall	10.20***(2,169)	4.27	4.30	5.08	NS	-3.51**	-3.18**
Tenant Anonymity[b]							
Tenants know to say "hello" in building	18.65***(2,173)	3.49	3.27	1.58	NS	8.22***	7.69***
Tenants know to say "hello" on floor	3.12* (2,173)	1.47	1.70	1.22	NS	NS	2.39*

Response Scales

[a] (1) Very Often - (6) Never
[b] (1) All - (6) None

*p<.05
**p<.01
***p<.001

Table 3 (continued)

Social Encounters, Tenant Anonymity, Privacy and Crowding

Variables	CANOVA Bldg. Type F	(df)	MEANS High	Medium	Low	Bldg. type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
Building Privacy[c]								
Private-Public Hall	5.28**	(2,167)	4.03	4.27	3.32	NS	2.33*	3.09**
Private-Public Elevator (stairs)	29.78***	(2,167)	5.38	5.66	3.93	NS	5.41***	6.61***
Private-Public Lobby	27.86***	(2,167)	5.30	5.72	4.15	-2.44*	4.40***	6.73***
Private-Public Front	7.95***	(2,167)	5.61	5.62	5.07	NS	2.47*	2.40*
Crowding Perceptions[d]								
Crowded Building	41.25***	(2,169)	2.97	2.20	4.98	2.70**	-7.03***	-9.70***
Crowded Floor	5.00**	(2,173)	4.48	4.60	5.22	NS	-2.84**	-2.39*

Response Scales

[c] (1) Very Private - (6) Very Public
[d] (1) Very Crowded - (6) Not Crowded At All

*p<.05
**p<.01
***p<.001

and low-rise responses differed significantly, with high-rise tenants reporting greater frequencies of contact than low-rise tenants.

When asked how often they saw people in the lobby and elevator they did not recognize, and how often they saw people they did not recognize in the hallway on their floor, both high- and medium-rise residents reported significantly higher frequencies of such contact in these building areas than low-rise residents.

High- and medium-rise tenants knew significantly smaller proportions of their building population to say hello to than low-rise tenants. However, only medium-rise residents reported knowing significantly smaller proportions of tenants on their floor to say hello to when compared with the proportion of tenants known on the floor by low-rise residents.

The hallway on their floor, the elevator, the lobby, and the front (bench area) of their building were described by high- and medium-rise tenants as significantly more public than low-rise tenants felt these spaces to be in their buildings. Interestingly, medium-rise residents rated the lobby area as significantly more public than high-rise residents.

When asked whether they felt their building and their floor were crowded, high- and medium-rise tenants perceived both their building and floor to be significantly more crowd ed than low-rise residents. Interestingly, again, medium-

rise residents responded more negatively than high-rise residents: they felt that their building was significantly more crowded than high-rise residents.

Control and Safety of Building Spaces

It has been hypothesized that as unpredictable social encounters with known and unknown others increase, and as tenant anonymity and the concommitant inability to make tenant-intruder discriminations becomes greater, resident control over and sense of security in shared building spaces will decrease. As expected then, building type had a significant effect on tenant perceptions of building control and safety (see Table 4).

High- and medium-rise residents reported significantly lower levels of tenant control over the elevator than low-rise residents reported over the stairs. High- and medium-rise residents also felt significantly less tenant control over the lobby than low-rise residents, and medium-rise residents reported significantly less control by tenants over the lobby than high-rise tenants. Based on the higher levels of building crowding and lobby publicness reported previously by medium-rise residents, it would be expected that medium-rise residents would indicate lower tenant control in the lobby of their building than high-rise residents.

In terms of building type differences in tenant control over the hallway, only medium-rise residents reported significantly less tenant control over the hallway on

Table 4

Control and Safety of Building Spaces

Variables	CANOVA Bldg. Type F	(df)	MEANS High	Medium	Low	Bldg. Type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
Tenant Control[a]								
Control Hall	3.73*	(2,171)	3.18	3.62	2.73	NS	NS	2.56**
Control Elevator (Stairs)	14.56***	(2,168)	4.80	5.25	3.33	NS	4.74***	6.32***
Control Lobby	7.88***	(2,173)	4.22	4.93	3.47	-2.25*	2.35*	4.60***
Safety (at night)[b]								
Safe Hall	6.13**	(2,167)	4.17	3.93	3.03	NS	3.82***	3.03**
Safe Elevator (Stairs)	13.73***	(2,167)	5.12	4.75	3.55	NS	5.70***	3.83***
Safe Lobby	11.17***	(2,167)	4.85	4.88	3.48	NS	4.72***	4.30***
Safe Front	12.49***	(2,172)	5.02	4.69	3.78	NS	4.32***	3.18**

Response Scales

[a] (1) A lot of Control - (6) No Control
[b] (1) Very Safe - (6) Very Unsafe

*p<.05
**p<.01
***p<.001

their floor than low-rise tenants. Again, this difference would be expected as medium-rise residents had previously indicated greater tenant anonymity on their floor when compared with low-rise responses, while no high-medium or high-low differences in tenant anonymity on the floor were found.

Building type had no significant effect on tenant control over the front of the building. F-ratio and t-test comparison information for the measures of building control reported above are presented in Table 4.

Information on perceived building safety during the day and night was collected at all but the Bronx project. Unfortunately, tenants there were only asked about the safety of building spaces during the night. However, the high correlations between day and night measures of perceived safety in various building spaces (hallway safety day-night r=.71, N=120, p=.001; elevator safety day-night =.67, N=117, p=.001; lobby safety day night r=.54, N=120, p=.001; front bench area safety day-night r=.55, N=119, p =.001) support the use of the night data as general safety measures regardless of time of day.

Analysis of tenant perceptions of the safety of the hallway, elevator, lobby, and the front of the building during the night, revealed a significant main effect for building type on each measure. Building type comparisons indicated that high- and medium-rise tenants felt the hall-

way on their floor, the elevator, lobby, and front of the building, to be significantly more unsafe than low-rise residents perceived these areas to be in their buildings. (See Table 4).

Tenant Cohesion

It was hypothesized that large tenant populations, by generating excessive unavoidable social encounters in shared residential spaces and exposure to more social information of adaptive significance than a resident can handle cognitively, create residential conditions of unpredictability and anonymity. These conditions, in addition to weakening the already fragile degree of control and security lower-income residents have attained in their residential environment, discourage the familiarity and stable interpersonal relationships necessary to the development of cohesive residential groups. Instead, tenant relations would be impersonal, fragmented and more often marked by inter-resident conflict.

As predicted, high- and medium-rise responses to two general measures of tenant cohesion indicated that there was significantly more trouble between tenants in their building, and that tenants in their buildings were significantly less friendly, than indicated by low-rise tenant responses. The significant F-ratios for the main effect of building type on the trouble and friendliness measures and t-test comparisons between building types, are reported in Table 5.

Table 5

General Measures of Tenant Cohesion

Variables	CANOVA Bldg. Type F (df)	MEANS High	Medium	Low	Bldg. Type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
Trouble between building tenants (1) A lot-(6) None	10.74*** (2,154)	3.98	3.72	5.10	NS	-3.58***	-4.22***
Friendliness of building tenants (1) Very Friendly - (6) Very Unfriendly	5.53** (2,166)	2.68	3.04	2.10	NS	2.17*	3.41***

*p<.05
**p<.01
***p<.001

Moral Non-Involvement

It was predicted that the absence of cohesive residential groups, the anonymous and public nature of shared residential spaces, and the unpredictable consequences of active intervention would be related to tenant adoption of strategies of noninvolvement in terms of building upkeep and tenant safety. Questions were asked tapping residents' personal commitment to the upkeep of shared building spaces and the safety of neighbors, and the resident's sense of mutual responsibility for building spaces and tenant safety on the part of fellow residents.

Personal Involvement in Building Maintenance and Safety. Tenants were asked whether they or anyone else in their family had ever cleaned the hallway on their floor, the elevator, the lobby, or the front outdoor bench area. Building type had a significant main effect on all but the hallway question. In terms of building type comparisons, high- and medium rise tenants were significantly less likely to have cleaned the elevator than low-rise tenants were to have cleaned the stairs in their building. High-rise residents were significantly less likely to clean the lobby in their building than medium- and low-rise tenants. In response to cleaning the area in front of the building, high-rise residents were significantly less likely to clean this area than medium- and low-rise tenants, and medium-rise tenants were significantly less likely to clean this area than low-

rise tenants. The significant F-ratios and t-test building comparisons are presented in Table 6.

When analyses were conducted on tenants' responses indicating their willingness to question a stranger (or report their presence to the housing police) in the hallway on their floor, in the elevator, in the lobby, and outside in front of their building, building type was shown to have a significant main effect on the questions dealing with the elevator and lobby. High- and medium-rise tenants were significantly less likely to get involved than low-rise tenants when a stranger was present in the elevator. High-rise residents were significantly less likely than medium- and low-rise, and medium-rise significantly less likely than low-rise residents, to get involved if the stranger was in the lobby. (See Table 6 for significant F-ratios and building type comparison results).

Generally, therefore, measures dealing with residents' personal involvement in building upkeep and safety were in the predicted direction. As tenant population increased residents were less likely to become personally involved in the maintenance of shared building spaces (except the hallway on their floor) and were less likely to actively protect building spaces (with the exception of the hallway on their floor and the front of the building).

However, a measure inquiring into the likely action of a tenant if they heard a loud noise in the hallway on their floor was not in the predicted direction. While there was

Table 6

Personal Involvement in Building Maintenance and Safety[a]

Variables	CANOVA Bldg. Type F	(df)	MEANS High	Medium	Low	Bldg. Type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
• Have you ever cleaned (building spaces)[b]								
Elevator (Stairs)	7.26***	(2,172)	1.85	1.76	1.43	NS	5.24***	3.86***
Lobby	6.04**	(2,169)	1.95	1.70	1.58	3.68***	5.28***	NS
Front	4.42**	(2,172)	1.90	1.73	1.52	2.44*	5.05***	2.43*
• Would you ever question a stranger[c]								
In elevator (stairs)	4.53**	(2,170)	2.60	2.51	2.10	NS	3.46***	2.90**
In lobby	6.69**	(2,172)	2.68	2.41	2.07	2.32*	4.36***	2.34*
• What would you do if you heard a loud noise in the hallway?[d]	5.19**	(2,173)	1.45	1.73	1.67	-2.50**	NS	NS

*p<.05
**p<.01
***p<.001

[a]These variables were asked in open-ended questions. Tenant responses on these items were coded into continuous categories, which made parametric statistical analysis possible.

Response Categories

[b] (1) Yes - (2) No; [c] (1) Yes - (2) Report it to housing police (3) No; [d] (1) Go out and investigate (2) Look through peephole of apartment door (3) Nothing.

no significant difference between high- and low-rise responses, medium-rise residents were significantly more passive in terms of investigating the noise than high-rise residents. The significant F-ratio for building type and building type comparison results are presented in Table 6.

Shared Tenant Commitment to Building Maintenance and Safety. Inquiries into residents' sense of shared tenant commitment to building maintenance and safety revealed some additional unexpected results.

Residents were asked whether other tenants in the building seemed to care about the condition (upkeep, maintenance) of the hallway, elevator, lobby, and front of the building. Significant F-ratios were obtained for the effect of building type on responses to questions dealing with each area. Building type comparisons indicated that both high- and low-rise residents felt that a significantly larger portion of their building tenant population cared about the condition of the elevator, lobby, and front area of the building than medium-rise residents. An additional surprise was finding that high-rise residents reported feeling that a significantly larger proportion of tenants on their floor cared about the condition of the hallway than medium- and low-rise tenants reported. (See Table 7 for F- and t-test results).

Similarly to the results above, analysis of tenant responses to the question of the likelihood of a building

Table 7

Shared Tenant Commitment to Building Maintenance and Safety

Variables	CANOVA Bldg. Type F	(df)	MEANS High	Medium	Low	Bldg. type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
(Do other tenants:)[a]								
Care about the condition of hall	6.90***	(2,168)	1.18	1.79	1.61	-3.71***	-2.61**	NS
Care about condition of elevator (stairs)	3.92*	(2,159)	1.45	2.13	1.59	-3.27***	NS	2.54**
Care about condition of lobby	3.42*	(2,157)	1.40	2.06	1.62	-3.32***	NS	2.16*
Care about condition of front	7.57***	(2,160)	1.36	2.14	1.55	-3.72***	NS	2.68**
Likelihood of tenant intervention in act of:								
Vandalism to Building[b]	5.15**	(2,169)	2.58	3.41	2.19	-2.58**	NS	3.77***
Tenant Attack in Building[b]	9.48***	(2,162)	3.09	3.65	2.44	NS	2.10*	3.83***
Tenant Attack on Floor[b]	4.52**	(2,156)	2.02	2.88	2.21	-2.70**	NS	NS

*p<.05
**p<.01
***p<.001

[a]Responses to this question were coded into continuous categories, making parametric statistical analysis possible. Categories were: (1) All tenants, (2) The majority of tenants, (3) a few tenants, and (4) none.

Response Scales

[b] (1) Very likely - (6) Very unlikely

tenant stopping someone from vandalizing the physical plant of the building, high- and low-rise residents felt that it was significantly more likely that a tenant would act than medium-rise tenants reported. There was no difference between building types in terms of the likelihood of a tenant on the floor interfering in an act of vandalism to the hallway. The significant F-ratio for the effect of building type on the building vandalism measure and the building comparisons on this measure are presented in Table 7.

In terms of resident commitment to building safety, when tenants were asked about the liklihood of a building tenant coming to the aid of another tenant being attacked in the building, analyses of high- and medium-rise responses revealed that it was significantly less likely that a tenant would come to the aid of another tenant than low-rise residents responses indicated. Medium-rise tenants felt that it was significantly less likely, than high-rise residents, that another tenant on their floor would come to the aid of a tenant being attacked in the hallway on their floor. (See Table 7 for F- and t-test results).

In summary, analyses revealed that only in terms of the likelihood of tenant assistance in the event of an attack on another tenant in the building did results confirm predictions. Otherwise, measures of residents' sense of tenant commitment to building maintenance and safety did not indicate decreasing commitment with increasing tenant popu-

lation size. Only in the medium-rise buildings did tenant responses reflect consistently lower feelings of tenant commitment.

Social Withdrawal Within the Building

It was hypothesized that high- and medium-rise tenants would report attempts to avoid contact with other residents and would indicate withdrawal from participation in, or the absence of, informal social relationships and neighbor relationships of mutual aid. The general unfriendliness of tenants and the problematic nature of inter-resident relations was expected to be associated with avoidance of social contact in shared residential spaces. In addition, the relative anonymity between residents might make it very difficult for close friendships and neighbor relationships of mutual aid to develop at all in the building.

Analyses revealed, however, that building type did not have a significant effect on residents' desire to avoid contact with fellow tenants, reported frequencies of casual conversations with other tenants in shared building spaces (hall, elevator, lobby, front bench area), frequencies of visiting other tenants living on the floor or elsewhere in the building, or on frequencies of going out with tenants living in the building. In addition, building comparisons of significant building type effects showed that as tenant populations increased so did reported numbers of close friends and numbers of tenants one could count on for a favor or in an

emergency.

High-rise residents reported significantly more tenants on their floor and in the building[2] that they could count on for a small favor than medium- and low-rise tenants. Medium-rise residents had significantly more tenants on their floor they could count on for a small favor than low-rise residents. (See Table 8a).

In terms of tenants who could be turned to in an emergency, high-rise residents reported a significantly greater number of tenants on their floor than medium- and low-rise residents, and medium-rise a significantly greater number than low-rise residents. The reported number of tenants in the building, other than those on the floor, who could be counted on in an emergency was significantly greater in the high- and medium-rise buildings than in the low-rises. (See Table 8a).

These results seem to indicate a very positive feature of larger tenant populations, that is greater numbers of mutual aid relationships. However, when these data are analyzed in terms of the proportion of mutual aid relaionships per floor and building existing in each building type, very different interpretations are suggested. Building type

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[2]When asked the number of tenants living in the building who could be counted on for a small favor or in an emergency, tenants were asked to exclude those tenants already mentioned on the floor.

Table 8a

Mutual Aid Relationships and Close Friendships in the Building, and Visiting with Project Tenants

Variables	CANOVA Bldg. Type F	(df)	MEANS High	Medium	Low	Bldg. Type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
Number of tenants on floor for favor	13.07***	(2,161)	4.37	2.70	1.74	2.81**	5.17***	2.75**
Number of tenants in bldg. for favor	5.55**	(2,170)	7.52	3.12	4.00	2.48*	2.01*	NS
Number of tenants on floor emergency	13.12***	(2,160)	5.00	3.00	1.59	2.91**	5.74***	3.63***
Number of tenants in bldg. emergency	5.74**	(2,172)	9.10	4.41	4.32	2.31*	2.42*	NS
Number of close friends in building	7.44***	(2,171)	2.37	1.77	0.73	NS	3.54***	2.92**
Visit tenants in project[b]	3.36*	(2,173)	5.23	5.05	4.67	NS	2.53**	NS

*p<.05
**p<.01
***p<.001

Response Scale
[b](1) Very Often - (6) Never

comparisons of percentages of mutual aid relationships on the floor and in the remainder of the building (see Table 8b) reveal that low-rise residents can count on significantly greater proportions of tenants on their floor for a favor (72 percent) and in an emergency (68 percent) than high-rise (33 percent and 39 percent) and medium-rise (39 percent and 43 percent) tenants.

The proportions of tenants living in the rest of the building on whom low-rise residents can count for a small favor (56 percent) and in an emergency (61 percent) are also significantly larger than the proportions high-rise (2 percent and 2 percent) and medium-rise (3 percent and 4 percent) residents can count on (see Table 8b).

While comparisons of the percentage of mutual aid relationships on the floor reported by high-rise and medium-rise tenants do not differ significantly, medium-rise residents can count on significantly greater proportions of their building population in an emergency or for a favor than high-rise tenants (see Table 8b).

In terms of mutual aid relationships, then, it seems that these relationships do exist in all of the building types. The significantly larger numbers of such relationships reported in the high- and medium-rise buildings must be considered, however, in light of the far greater propor-

Table 8b

Proportion of Floor and Building Population Who Can Be Counted on For Mutual Aid

Variables	Means (percentages) High	Medium	Low	Bldg. Type t-test Comparisons (t-value) Hi-Md	Hi-Lo	Md-Lo
Number of tenants on floor for favor	33.37	39.09	71.91	NS	6.36***	4.85***
Number of tenants in bldg. for favor	1.83	3.26	56.44	3.33**	11.64***	11.31***
Number of tenants on floor emergency	38.87	42.85	67.57	NS	4.82***	3.47***
Number of tenants in bldg. emergency	2.27	4.39	61.17	2.68**	11.97***	11.53***

**p<.01
***p<.001

tions of their total floor and building population which low-rise residents can count on for mutual assistance. In addition, inspection of the variables that these measures correlate with at .25 or above (see Table 9), indicates that these measures correlate with themselves and with other social interaction indicators and dependent variables on which building type does not have a significant effect (with the exception of number of close friends in the building to be discussed below). The conclusion, therefore, is that high- and medium-rise residents have not withdrawn socially to the point where relationships of mutual aid have not developed. The presence of these alliances however, does not seem to bear any relationship to other variables influenced by building type and excessive levels of social stimulation.

Residents were asked how many close friends they had in the building. Building type was shown to have a significant effect, with high- and medium-rise residents reporting two close friends and low-rise residents one (see Table 8a). While the difference between high- and medium-rise responses was statistically significant when compared with the low-rise, inspection of variables correlating with this measure at .25 or above showed no relationship between reported number of friends in the building and any variables on which building type had a significant effect other than two mutual aid measures. Residents of all building types in

Table 9

Correlates ($\geq .25$) of Mutual Aid Relationships and Number of Close Friendships in Building[a]

	r	N
Correlates of Number of Tenants on Floor Favor		
Building type	-.37[b]	168
Number of close friends in project	.27	168
Number of close friends in building	.41	168
Casual conversation in hall	-.35[c]	168
Casual conversation in lobby	-.28[c]	168
Number tenants in bldg. favor	.61	165
Number tenants in project favor	.30	166
Number tenants on floor emergency	.49	165
Number tenants in bldg. emergency	.26	167
Correlates of Number of Tenants in Bldg. Favor		
Number of close friends in project	.33	177
Number of close friends in building	.27	168
Number of tenants on floor favor	.61	165
Number of tenants in project favor	.50	176
Number of tenants on floor emergency	.31	164
Number of tenants in building emergency	.54	176
Number of tenants in project emergency	.29	176
Correlates of Number of Tenants on Floor Emergency		
Building type	-.41[b]	167
Vandalism floor	-.25[d]	158
Number of tenants on floor favor	.49	165
Number of tenants in building favor	.31	164
Number of tenants in building emergency	.53	166
Number of tenants in project emergency	.31	166
Correlates of Number of Tenants in Bldg. Emergency		
Number of memberships in organizations and clubs	.25	178
Number of tenants on floor favor	.26	167
Number of tenants in building favor	.54	176
Number of tenants in project favor	.41	177
Number of tenants on floor emergency	.53	166
Number of tenants in project emergency	.61	178

Table 9 (continued)

Correlates ($\geq$.25) of Mutual Aid Relationships and Number of Close Friendships in Building

	r	N
Correlates of Number of Close Friends in Bldg.		
Building type	-.26[b]	180
Number of close friends in project	.65	180
Visit tenants on floor	-.29[e]	180
Visit tenants in the building	-.31[e]	180
Go out with tenants in the bldg.	-.33[e]	180
Go out with tenants in the project	-.30[e]	180
Casual conversation in the hall	-.31[c]	180
Casual conversation in the elevator	-.27[c]	178
Casual conversation in the lobby	-.32[c]	180
Casual conversation in the front of bldg.	-.25[c]	180
Times sat on bench in front of bldg.	-.25[f]	180
Number of tenants on floor favor	.41	168
Number of tenants in bldg. favor	.33	177

[a]To increase reliability only moderate and high correlations ($\geq$.25) were examined. All correlations are significant at the .001 probability level.

[b]As building population increases so do reported mutual aid relationships and close friendships.

[c]As frequency of casual conversation increases so do mutual aid relationships and close friendships.

[d]As reported likelihood of tenant intervention in an act of vandalism to the building increases, so do mutual aid relationships.

[e]As frequency of visiting or going out with tenants increases so do close friendships.

[f]As frequency of sitting on the bench increases so do close friendships.

all but a few cases, reported not having any close relatives living in the building.

As mentioned previously, building type had no effect on reported frequencies of visiting with other tenants on the floor or in the rest of the building, or on frequencies of going out (shopping, to the movies, etc.) with other tenants in the building.

In summary, measures of mutual aid relationships, close friendships, and frequencies of informal socializing activities, did not indicate social withdrawal or avoidance behaviors on the part of high- and medium-rise residents within their buildings. It should be noted, however, that low-rise residents could count on far larger proportions of their floor and building residents for favors and in emergencies.

Social Relationships Beyond the Building Within and Outside of the Project

It was originally hypothesized that the predicted absence of social bonds within the high- and medium-rise buildings might either cause residents to become more involved in social relationships with others beyond the building (within and outside of the housing project) to compensate for the lack of close acquaintances in the immediate residential environment, or lead to generalization of behavioral patterns of social avoidance and withdrawal within the building to outside relationships.

As was the case with the within the building informal social relationship measures, however, building type generally did not have any effect on social interactions with others living beyond the building. No significant building type effects were observed on tenant reports of recognition of other tenants living in the project, frequencies of going out with other tenants living in the project, numbers of other tenants in the project who could be counted on for a small favor or in an emergency, or on reported numbers of close friends and close relatives living in the project beyond the building.

The only measure dealing with social relationships with others in the project beyond the building on which building type did have a significant effect was frequency of visiting other tenants in the project. Building type comparisons for this measure showed low-rise residents reporting a higher frequency of visiting in the project than high-rise residents. (See Table 8a)

Social interactions outside the project were not significantly affected by building type. Indicators of social activity and acquaintances outside of the project included: amounts of close friends and relatives living outside the project within the New York metropolitan area, frequencies of seeing, visiting and going out with these close friends and close relatives, and time spent on the telephone talking with friends and relatives. Building type also did not significantly affect the indication of whether visiting with close

friends and relatives occurred more often in the tenant's apartment or in the homes of friends and relatives.

Reiterating, measures of informal social relations and activities with others living in the project (beyond the resident's building) and living outside the project, did not differ across building type with the exception of the high-rise — low-rise difference in frequency of visiting tenants in the project which will be discussed shortly.

Residential Satisfaction and Residential Alienation

It was expected that the higher levels of unpredictability, tenant anonymity and crowding in the building, the lower sense of control over, security in, and privacy of shared building spaces, the general lack of tenant cohesion, and the absence of shared commitment to tenant safety found in the high- and medium-rise buildings, would be associated with greater dissatisfaction with and alienation from the residential environment.

Analysis showed that measures of residential satisfaction were not significantly affected by building type. Satisfaction indicators included: sense of belonging to the residential environment, rated satisfaction with the project, and desire to move.

Measures of residential alienation, however, were significantly related to building type (see Table 10). Resi-

Table 10

Residential and Life Alienation Measures

Variables	CANOVA Bldg. Type F	(df)	MEANS High	Medium	Low	Bldg. Type t-test Comparisons (t-Value) Hi-Md	Hi-Lo	Md-Lo
Residential Powerlessness[a]	4.58**	(2,172)	3.00	2.20	3.29	2.53**	NS	-3.43***
Residential Estrangement[a]	3.88*	(2,172)	2.98	2.38	3.15	NS	NS	-2.15*
Powerlessness[a]	6.86***	(2,173)	2.87	1.88	2.80	3.38***	NS	-3.15**
Meaninglessness[a]	4.35**	(2,172)	2.92	2.58	3.46	NS	NS	-2.54**

*p<.05
**p<.01
***p<.001

Response Scale

[a](1) Very strongly agree (very alienated) - (6) Very strongly disagree(no alienation).

dents of the medium-rise buildings felt significantly more powerless in affecting management decisions (residential powerlessness: "I don't feel that there is much I can do to affect decisions made by the management") than high- and low-rise residents, and felt significantly more estranged from the residential environment (residential estrangement: "Most of the time I don't enjoy living at - name of project - but I feel that we really don't have much choice.") than low-rise residents.

High-rise and low-rise responses to the measures of residential alienation did not differ significantly.

Life Alienation and Sense of Social Efficacy

It was originally hypothesized that the impact of feelings of powerlessness in and estrangement from the residential environment, an environment of central importance to the psychological well-being of lower-income people, might affect respondents sense of life alienation and sense of personal efficacy in larger community decisions as measured by formal organization membership.

Membership in formal organizations was not significantly affected by building type, nor was participation in organizations of primarily a political or social-efficacy nature such as membership in the tenant association, community groups, and local political clubs. However, the sense of powerlessness and meaninglessness measures of the Middleton Life Alienation scale were significantly related to building type (see Table 10).

Medium-rise residents felt significantly more powerless ("There is not much I can do about most of the important problems that we face today.") in their ability to affect world issues than high- and low-rise residents, and significantly greater life meaninglessness ("Things have become so complicated in the world today, that I really don't understand just what is going on.") than low-rise tenants. Again, high- and low-rise residents did not differ significantly in their responses to the alienation measures.

As hypothesized, then, when conditions of residential alienation are reported by residents, as in the case of the medium-rise tenants, the psychological impact of such feelings does seem to relate to feelings of life anomie, specifically sense of life powerlessness and meaninglessness.

EFFECTS OF PHYSICAL ISOLATION IN LARGE MULTIPLE-STORY BUILDINGS

Based upon the inconvenience of elevator travel and the distal, visual, and aural isolation of apartment dwelling in the high- and medium-rise buildings, it was hypothesized that the amount of time residents reported spending in the apartment and their sense of control over, safety and privacy in their apartment, might be significantly different than indicated by low-rise residents.

Time Spent in the Apartment

It was hypothesized that the physical distance of most

high- and medium-rise apartments from the ground floor, and the simple inconvenience of elevator use required for most tenants to reach the outdoors, might influence the amount of time residents reported spending in the apartment, the amount of time residents spend in the apartment by themself, the amount of time residents reported their husband spent in the apartment, and use tenants made of the front outdoor bench area. Building type, however, was not shown to have a significant effect on any of these measures.

Frequency of Visiting Project Tenants

The physical distance from the outdoors and the inconvenience of elevator travel might explain the difference between high-rise and low-rise frequencies of visiting other tenants living in the project outside of the building (see Table 8a). The greater infrequency of such visiting by high-rise residents may be due to the fact that this visiting necessitates four elevator rides for most of these tenants (all buildings are high-rises in the project of the high-rise sample) while low-rise residents need take only two, if any, elevator rides (buildings are either medium-rise elevated structures or 3-story walkups in the projects of the low-rise tenant sample).

Apartment Control, Privacy, and Safety

Differences in the distal, visual, and aural isolation of high-, medium-, and low-rise apartments from contact with

others outdoors at ground level, were hypothesized to have possible effects on residents' sense of personal control over, privacy and security in their apartments. Analyses demonstrated, however, no significant main effect for building type on these measures.

Chapter IV

DISCUSSION

Before proceeding with a discussion of the findings, a summary of the results in terms of the original hypotheses will be presented.

Tenant Population Size Findings

> Hypothesis 1. Large tenant populations generate excessive social encounters in shared building spaces, which in turn, affect tenant perceptions of crowding and privacy in the building.
>
> Hypothesis 2. Large tenant populations expose residents to more social information of adaptive significance than can be cognitively processed (information overload), resulting in contact with others in building spaces who frequently are not recognized or known well enough to greet.

Findings generally confirmed that high- and medium-rise tenants reported higher frequencies of contact with known and unknown others on their floor and in the building, knew smaller proportions of tenants in the building to say hello to, felt shared building spaces were more public, and perceived their floor and building to be more crowded than low-rise tenants.

Unexpectedly, however, high-rise and medium-rise comparisons did not indicate these conditions to become progressively worse in the high-rise buildings. High- and medium-rise tenant responses on most of these measures did

not differ significantly, and in terms of tenant perceptions of building privacy and crowding, high-rise tenants actually felt their lobby to be less public and their building less crowded than medium-rise residents. In addition, medium-rise residents knew fewer tenants on their floor to say hello to than low-rise residents, while high- and low-rise responses and high- and medium-rise responses did not differ significantly.

> Excessive unavoidable social encounters with known and unknown others and the over-abundance of relevant social information (informational overload) create residential conditions of unpredictability and tenant anonymity.
>
> Hypothesis 3. Residential conditions of unpredictability and tenant anonymity (making resident-intruder discrimination impossible) weaken tenant control over, and security in, shared building spaces.
>
> Hypothesis 4. Residential conditions of unpredictability and tenant anonymity by inhibiting familiarity and stable interpersonal relationships, discourage cohesive tenant relations within the building. Instead, tenant relations tend to be impersonal, unfriendly, and marked by inter-resident conflict.

Results generally confirmed less tenant control over and security in residential spaces, and greater unfriendliness and trouble between tenants in the high- and medium-rise buildings than reported in the low-rise buildings. Again high- and medium-rise responses did not differ significantly except in terms of significantly greater tenant

control over the lobby reported by high-rise residents. Also only medium-rise tenants indicated significantly less control over the hallway on their floor than low-rise residents.

> Hypothesis 5. The absence of cohesive residential groups, and the anonymous and public character of shared residential spaces, will be related to tenant adoption of behavioral strategies of non-involvement in terms of building upkeep and tenant safety.

Findings confirmed that, generally, as building population increased the lower the likelihood of tenants having ever cleaned the elevator, lobby, and the front of the building, and the lower the expressed willingness of tenants to become involved in questioning the presence of a stranger in the elevator or lobby. However, high-rise residents were significantly more active than medium-rise tenants in terms of their likely investigation of a loud noise in the hallway on their floor.

In terms of residents' sense of shared commitment to building upkeep and tenant safety, high- and medium-rise residents felt that it was significantly less likely that a tenant in the building would aid another tenant under attack than low-rise residents. However, high-rise residents felt significantly more certain that a tenant on the floor would come to the aid of a tenant being attacked in the hallway than medium-rise residents.

Medium-rise residents also felt that a significantly smaller portion of the building tenants cared about the condition of the building, and that it was significantly less likely that a tenant would interfere in an act of building vandalism than high- and low-rise residents. High-rise responses did not differ significantly from low-rise responses on these measures with the exception of high-rise residents actually reporting that a greater proportion of the tenants on their floor cared about the condition of the hallway than low-rise and medium-rise residents reported.

> Hypothesis 6. The general unfriendliness of tenants and the problematic nature of inter-resident relations will be associated with avoidance of social contact in shared residential spaces. In addition, tenant anonymity may inhibit the development of close friendships and neighbor alliances of mutual aid within the building.
>
> Hypothesis 7. Resident behavioral patterns of social avoidance and withdrawal may generalize to relationships beyond the building inside and outside of the project. Or the importance of involvement in social relationships and activities beyond the building may be intensified to compensate for their absence in the building.

Measures of informal socializing within the building were not significantly affected by building type. Building type did have a significant effect on numbers of floor and building tenants who could be counted on for a favor and in an emergency, and on numbers of close friends in the

building — but not in the predicted direction. It seems as size of building and floor population increases so does the number of these relationships. However, analyses of mutual aid relationships in terms of percentages revealed that low-rise tenants could count on far larger proportions of their floor and building populations for small favors and in emergencies than high- and medium-rise tenants; and medium-rise residents larger proportions of their building population in emergencies and for favors than high-rise residents. Finally, inspection of the correlational patterns of reported numbers of mutual aid relationships and close friends in the building did not demonstrate any relationship between these variables and other dependent measures significantly affected by building type and excessive social stimulation.

Measures of social interaction beyond the building, within and outside of the development, were not significantly affected by building type with one exception: high-rise residents reported visiting with other project tenants significantly more infrequently than low-rise residents. It was suggested that this finding was related to the inconveniences of elevator travel (see page 82 in Chapter III for further discussion of this finding).

> Hypothesis 8. The negative consequences of large tenant populations predicted in Hypothesis 1-6 will be associated with tenant reports of dissatisfaction with and alienation from the residential environment.

Hypothesis 9. Because of the central importance of the residential environment in the lives of low-income people, feelings of residential alienation may generalize to residents' sense of life alienation and efficacy in larger community matters.

Building type did not have a significant effect on measures of residential satisfaction and formal organization membership. Medium-rise residents, however, reported significantly stronger feelings of residential and life powerlessness than high- and low-rise tenants, and significantly stronger feelings of residential estrangement and life meaninglessness than low-rise tenants. High-rise responses on these measures did not differ significantly from those of low-rise residents.

The summary above has attempted to emphasize that building type comparisons generally supported the hypothesized negative consequences of large building populations for the medium-rise sample. However, on a number of variables, responses of the high-rise sample were unexpectedly significantly more positive than medium-rise responses and at times as positive as those of the low-rise tenants. These variables are presented in Table 11 which summarizes unexpected building comparison results. In the discussion to follow, factors which may have mediated the predicted relationships in the high-rise buildings will be suggested.

Table 11

Unexpected Building Type Comparison Results

Medium-rise responses significantly more negative than high-rise

- Publicness of lobby
- Perception of building crowding
- Tenant control of lobby
- Investigation of loud noise in hall[a]
- Tenants' concern for the condition of the hall, elevator (stairs)[a], lobby[a], and front[a]
- Likelihood of tenant intervention in an act of vandalism to bldg.[a] and tenant attack on floor[a]
- Residential Powerlessness[a]
- Powerlessness[a]

Medium-rise responses only significantly more negative than low-rise

- Proportion of tenants know to say "hello" to on the floor[a,b]
- Tenant control of hall[a,b]
- Residential Estrangement[a,b]
- Meaninglessness[a,b]

Low-rise responses significantly more negative than high-rise

- Tenants' concern for the condition of the hall [c]

[a]High- and low-rise responses not significantly different on this measure.
[b]High- and medium-rise responses not significantly different on this measure.
[c]Medium- and low-rise responses not significantly different on this measure.

Building Isolation Findings

> Hypothesis 10. The visual, aural, and distal isolation from ground level of apartments in the high- and medium-rise buildings, and the inconveniences of elevator travel, may effect residents' sense of privacy, control over, and safety in their apartments, and reported time spent in their apartments.

Building type had no effect on any variables included to explore the isolative effects of large multiple-story buildings. It was suggested, however, (see page in Chapter III) that the significantly greater infrequency of visiting other tenants in the project reported by the high-rise residents, as compared to low-rise responses, was largely due to the inconveniences of elevator travel.

Possible Explanation of Unexpected Building Comparison Findings

Returning to the unpredicted building comparison results summarized in Table 11, examination of various architectural design features of the high-rise towers and a number of tenant characteristics of the housing development from which the high-rise sample was drawn, suggest possible explanations for these findings.

As described in Chapter II, the high-rise towers are divided into upper and lower building sections by the design of elevator service within the building: one bank of three elevators stops at floors two through sixteen and another bank of three elevators services floors seventeen through thirty. The strain placed on these elevators by the volume

of use generated by such large tenant populations and the vandalism by older children and teenagers, make elevator breakdowns a daily occurence in these buildings. It is not uncommon to find one or more elevators within a building section out of order. The complexity of these machines and the limited number of housing authority elevator mechanics, make repairs tedious and slow.

Elevator breakdowns are especially inconvenient for residents living in upper building sections. Besides always waiting longer for an elevator than lower building section residents because of the increased distance their elevators travel, upper building residents are much more unlikely to alternatively use the interior building staircases to reach their apartments or the ground floor when elevator waits are particularly extended by breakdowns. The likelihood of being mugged or raped on these interior staircases (as well as the physical energy needed to climb them) increases, the longer one must travel on these stairwells to reach his or her destination.

Even when the elevators are operating normally, upper building section residents report greater apprehension about using them. The elevators servicing the upper building section travel through an enclosed shaft as they skip the first sixteen floors of the building. When one of the elevators breaks down, or is stopped, before reaching the seventeenth floor it is extremely difficult to hear anyone calling for

for help. In addition to the fear of being trapped in this way, female and elderly tenants are particularly aware of the ease with which they could be "silently" robbed or raped within this "sound-proof" tunnel.

Unfortunately, the efficency apartments for the elderly are located on floors seventeen through thirty, which means that there are at least two elderly households on each floor of the upper building sections (the one three-room apartment on each floor and all efficiency apartments are reserved for elderly tenants) who are extremely dependent on safe and efficient elevator service.

If one likens the isolation of the floors of the upper building sections to small mountain communities (with socially and physically risky road conditions, and sizable proportions of dependent members) relying on services only available at the foot of the mountain, one can understand the greater neighbor cohesion revealed on these floors when upper and lower high-rise building sections were compared.

When comparisons[1] were made between responses of upper and lower building section tenants living in the high-rise buildings, tenants of upper sections were shown to know significantly more tenants on their floor, to visit tenants on their floor significantly more often, to have signifi-

---

[1]Statistical comparison of upper and lower high-rise building section responses involved one-way analysis of covariance tests. Ethnicity was covaried out as previously, as well as significant differences between upper and lower family size means. (Upper section family size $\bar{X}$:5.00, lower section family size $\bar{X}$:5.87; t=2.04, 52df, $p < .047$).

cantly more tenants on their floor who they could count on for a small favor, to report that tenants on their floor had significantly more control over the hallway, and to feel that it was significantly more likely that a tenant on their floor would come to the aid of another tenant under attack on the floor and interfer in an act of vandalism to the floor. In addition, upper building section tenants believed that it was significantly more likely that a building resident would come to the aid of a tenant being attacked in the building as well as interfere in an act of building vandalism. (See Table 12)

Physical and social conditions in the upper portions of these buildings seem to have fostered the development of social bonds among residents. And, as research reviewed in Chapter I has shown, when supportive relationships exist within the setting the negative effects of excessive interaction may be mitigated.

Running out to the store, going to visit a tenant in a nearby building, picking the children up from school, and other daily tasks of the managing household member are marked by much greater difficulty, indecision and risk for upper building section residents — particularly the elderly. These residents find themselves much more dependent on others around them in terms of mutual borrowing, exchanges of favors, and socializing because of the inconveniences and risks involved in reaching the ground floor. More than

Table 12

Comparison of High-rise Upper and Lower Building Sections

Variables	CANOVA F for Building Section	MEANS High-Rise Upper Floor	High-Rise Lower Floor	Medium-Rise
Tenants hello floor[a]	6.65**	1.23	1.70	1.70
Visit tenants floor	12.60***	3.83	5.00	4.78
Number of tenants count on for favor on floor[a]	6.27*	5.77	2.97	2.70
Control hall[a]	4.29*	2.77	3.60	3.62
Tenant attack floor[a]	4.28*	1.60	2.43	2.88
Vandalism floor	19.51**	1.27	2.20	2.29
Tenant attack building[a]	7.78**	2.52	3.66	3.65
Vandalism building[a]	8.16**	2.13	3.03	3.41

[a]Variables on which Building type was shown to have a significant main effect (see Chapter III).

*$p < .05$
**$p < .01$
***$p < .001$

likely the elderly are the first to initiate these supportive relationships among floor tenants because of their greater dependence.

As social bonds extend among floor tenants residential conditions of anonymity and unpredictability are broken down on the floor, making the extention of tenant control over the floor possible and encouraging shared responsibility for the protection of the hallway and fellow floor tenants. Their increased sense of shared tenant commitment to the hallway and the safety of floor tenants may account for the stronger beliefs of upper building section tenants in the likelihood of tenant intervention in an act of vandalism or tenant attack throughout the entire building.

Interestingly, if medium-rise means are visually compared with upper and lower building section means on these variables (see Table 12), it becomes clear that lower building section (floors 2-16) high-rise resident responses are almost identical to medium-rise responses.

Thus, while physical and social conditions of the upper building sections have created a degree of informal social organization among floor residents which has mitigated some of the negative effects of large floor and building populations, in terms of tenants known on the floor, tenant control of the hall, and the likelihood of tenant intervention in an act of building vandalism or tenant attack on the floor or in the building, lower building section residents responded as predicted (as negatively as medium-rise residents).

Architectural design features might also account for the greater reported willingness of high-rise tenants as compared to medium-rise residents, to investigate a loud noise in the hallway on their floor. The majority of the tenants interviewed in the high-rise sample live in the five- and six-room apartments located at the ends of the hallway corridors. The apartment doors of these units face the length of the hallway, making activities occuring in their corridor easily surveillable through the apartment door peephole, or by opening up the door slightly with the chain lock in place. In contrast, all apartment doors in the medium-rise buildings face into the width of the corridor. Looking through the apartment door peephole in these apartments only enables one to monitor activities taking place immediately in front of one's door. Investigating a noise in the hallway in the medium-rise buildings, therefore, requires the tenant to open their door completely to look up and down the length of the corridor — an action which could prove very dangerous.

The housing of elderly households in all of the high-rise buildings — rather than the segregated housing of the elderly tenant population in separate buildings as in the housing projects from which the medium- and low-rise tenant samples are drawn — and the lower percentage of welfare and single-parent households with minors under eighteen years of age in the high-rise as compared to the

medium- and low-rise buildings, may explain the strong belief in tenant concern for the upkeep of the building voiced by high-rise residents. In each of the housing developments the elderly residents were credited with being the most consciencious about the upkeep and maintenance of the building. Residents felt that the elderly were usually the first to complain among themselves, other building tenants, housing personnel, and to the management about a sloppy building appearance or unrepaired physical aspects of the building.

On the other hand, families receiving public assistance and single-parent households are consistently mentioned as the major source of building vandalism and general residential untidiness at all housing developments. The children from these households are blamed for the acts of vandalism, and the parents for their general lack of discipline and control over their children. Building residents felt that most of these families didn't care at all about the building.

The significantly greater feelings of lobby control and privacy — and perhaps weaker sense of crowding in the building — reported by high-rise as compared to medium-rise residents, may be related to the organized monitoring of activity in the lobby by tenants more often informally observed in the high-rise buildings. Again, the larger elderly tenant population of these buildings seems to account for the greater likelihood of volunteer tenant patrols stationed in the high-rise lobbies. The patrols

observed in all of the buildings were largely made up of elderly tenants. Sitting together in the lobby gives many of the elderly something to do and at the very least cuts down on teenage loitering and children's play in the lobby both of which may be strongely related to tenant perceptions of lobby privacy and control and, to a certain extent, building crowding.

Finally, the absense of residential and life alienation findings among the high-rise tenant sample may be related to the residential and socio-economic stability of fellow residents and the symbolic message communicated by the high-rise buildings.

A review of the tenant characteristics presented in Table 1 of the Manhattan (high-rise) project and the Brooklyn and Bronx projects of the medium- and low-rise tenant samples, shows that the resident population of the Manhattan project earns approximately a thousand dollars more a year in average gross income than do tenants of the other two developments, is comprised of much smaller proportions of welfare families and single-head households with minors under eighteen, and consists of a larger proportion of original tenants (the Manhattan project is nine years old and has an average length of tenant residence of 7.7 years while the Brooklyn and Bronx projects are twenty-four years old with average length of tenant residences of 11.3 years and 10.4 years, respectively). In terms of outward physical design the high-

rise towers of the Manhattan project, being almost three-times newer than the Brooklyn and Bronx project buildings, are quite modern looking structures. In addition, perhaps very unfortunately, the high-rise tower has become a status symbol of late to the low-income urban black population.

The generally stable character of the tenant population and the modern, status-bearing image of their buildings, may help high-rise residents to overcome the originally predicted feelings of residential and life alienation generated by large building populations. Saegert (1977b) has suggested that when aspects of the residential context contribute to residents perceiving the environment as relatively benign and as a potential source of satisfactions, the effects of high-densities will tend to be ameliorated.

Absence of Residential Satisfaction Findings

Similarly to Bickman's dormitory studies, the present investigation did not demonstrate building type effects on any of the residential satisfaction measures. Bickman, et al. (1973) have suggested that perhaps higher density dormitory residents had adapted to the negative conditions generated by excessive social contact. While this might be the case in the present study, it is also possible that residential satisfaction is based more on the tenant's evaluation of the adequacy of the apartment unit.

As stated earlier, the New York City Housing Authority maintains strict standards as to the relatively high quality

of amenities provided within their apartments. The Housing Authority is also much more conscientious about providing heat and hot water, and maintaining apartment units than the vast majority of private landlords of low-income housing in New York City.

Therefore, if the assumption that residential satisfaction is primarily determined by within-apartment unit considerations, the infrequency of serious complaints concerning the apartment itself in any of the developments, and the absence of building type effects on measures of tenant control over and sense of privacy and safety in the apartment, may account for building type having no effect on various measures of tenant dissatisfaction in this investigation.

CONCLUSION

The findings of this investigation have supported the overload theoretical perspective of high density effects and the majority of dormitory study findings of Baum and his associates and Bickman, et al. (1973). With the exception of the upper building sections of the high-rise towers in which tenant cohesion among floor residents tended to ameliorate some of the predicted effects of large tenant populations — and the entire high-rise sample on a number of measures on which negative effects seem to have been mitigated by various tenant characteristics and architectural features — the originally proposed hypotheses of this

investigation were confirmed.

Building type comparisons, on variables shown to be significantly affected by building type, generally demonstrated that the larger tenant populations of the high- and medium-rise buildings generated excessive rates of contact with known and unknown others in shared building spaces, increased tenant anonymity and reports of crowding in the building, decreased the privacy, safety, and control of semi-private building areas, discouraged cohesion among building residents, and lowered resident commitment to tenant safety and building protection. In addition, these residential conditions in the medium-rise buildings seem to be related to increased feelings of residential and life alienation.

The truly significant, yet largely neglected, finding of this study is the consistently positive nature of low-rise responses on all dependent measures. The tenants of the low-rise nine to twelve-family housing structures were shown to form a cohesive, tightly-knit, building unit in which commitment to the social and physical residential environment was very strong. Residents of these buildings reported far higher levels of tenant recognition, tenant control over, privacy and safety in shared building spaces. The ability to "know" fellow residents — to be able to identify them; to be relatively certain of their behavior —

is at the heart of the greater trustworthiness and predictability felt by the tenants of the low-density residential environment.

The fact that the low-rise sample was typical of low-income residents generally, and basically no different than the high- and medium-rise samples studied, clearly implies that the supportive residential conditions encouraged by smaller building populations may alleviate, or mitigate entirely, many of the problems typically associated with low-income residential environments (inter-resident conflict, crime, vandalism, etc.). Recognizing this, it may actually be criminal to build new low-income structures intended to house residential populations much larger than those of the low-rises examined in this study. Further research will be necessary to ascertain the maximum number of families per structure which can be expected to sucessfully share semi-private building space, however, a safe guess would be no more than twenty families per building entrance and not more than five families per floor.

Continued research will also be necessary to determine whether conditions in existing medium-rise and high-rise low-income residential structures can be improved. Vastly improved elevator equipment and repair, closed circuit television monitoring of elevator interiors, and doormen or guards stationed in building lobbies by the Housing Authority, may be expensive solutions but may also be the only way to

ameliorate the anonymous and dangerous residential conditions characteristic of buildings housing large tenant populations and serviced by elevators.

As suggested by the speculative explanations of the findings in the high-rises studied in this investigation, a socio-economically stable tenant population and the housing of a reasonably large proportion of elderly households in the building, may mitigate some of the negative effects of large tenant populations. (It would be ridiculous to believe that housing elderly tenants in an already bad building will turn the building around. They are, however, a positive force in a reasonably well-functioning building). In agreement with Saegert (1977b), it would be expected that such tenant populations, comprised of others considered to be relatively benign and trustworthy, would lessen the necessity of closely attending to social informational cues and thereby would reduce the potential impact of daily contact with large numbers of others in the residential enviornment.

In closing, based on the findings of the present investigation it is strongly recommended that all future lower-income housing be low-density and low-rise in design, both because of the supportive residential conditions facilitated by this building type and because of the restrictive screening of more unstable families which would be necessary in medium- and high-density design buildings.

APPENDIX A

(1) How often do you see people in the lobby and (in high-rise building: the elevator, or low-rise building: the stairs)?

Very often 1 2 3 4 5 6 Never

(2) How often do you see people in the hallway on this floor?

Very often 1 2 3 4 5 6 Never

(3) How often do you see people you don't recognize in the lobby and (in high-rise building: the elevator, or low-rise building: the stairs)?

Very often 1 2 3 4 5 6 Never

(4) How often do you see people you don't recognize in the hallway on this floor?

Very often 1 2 3 4 5 6 Never

(5) How crowded or uncrowded is this building?

		pretty crowded	crowded	somewhat crowded	not really crowded	
Very crowded	1	2	3	4	5	6 Not crowded at all

(6) How crowded or uncrowded is this floor?

		pretty crowded	crowded	somewhat crowded	not really crowded	Not crowded at all
Very crowded	1	2	3	4	5	6

(7) How often would you rather not run into other tenants when you are in the building?

Very often 1 2 3 4 5 6 Never

(8) How much trouble is there between tenants in this building?

A lot 1 2 3 4 5 6 None

(9) How friendly or unfriendly are tenants in this building?

Very friendly 1 2 3 4 5 6 Very unfriendly

Now I'm going to ask you some questions about the maintenance and safety of several places. (Turn to List 1 Low-rise or High-rise)

(10) Have you, or anyone else in your family ever cleaned in any way, any of these areas? (List 1)

If yes: What was done? (Ask about each area)

Hall _____

_____

_____

_____

_____

_____

Elevator (h.r.) or Stairs (l.r)

_____

_____

_____

_____

_____

_____

Lobby _____

_____

_____

_____

_____

_____

_____

Front _____

_____

_____

_____

_____

_____

_____

(11) Do you care about the condition (upkeep, maintenance, cleanliness) of each of these areas? Why or why not? (List 1)

Hall _____

_____

_____

_____

_____

_____

Elevator (h.r.) or Stairs (l.r.)

_____

_____

_____

_____

_____

_____

Lobby _____

_____

_____

_____

_____

_____

Front _____

_____

_____

_____

_____

_____

(12) Do other tenants seem to care about each of these areas, and why? [List 1]

Hall

Elevator (h.r.) or Stairs (l.r.)

Lobby

Front

(13) If you saw a stranger hanging around in these areas, would you question him or ask him what he was doing there? (List 1)
[Ask in reference to each area]

Hall _____

_____

Elevator (h.r.) or Stairs (l.r.)

_____

_____

Lobby _____

_____

Front _____

_____

INTERVIEWER: Turn to List 2 - Low-rise or High-rise

(14) How much control do tenants have over what goes on in each of these areas? (List 2)

A lot of control 1 2 3 4 5 6 No control

Apt. _____ Elev.(h.r.) or Stairs (l.r.) _____

Hall _____ Lobby _____ Front _____

(15) How public or private do you feel each of these areas are? (List 2)

Very private 1 2 3 4 5 6 Very public

Apt. _____ Elev. (h.r.) or Stairs (l.r.) _____

Hall _____ Lobby _____ Front _____

(16) How safe or unsafe are each of these areas during the day? (List 2)

Very safe 1 2 3 4 5 6 Very unsafe

Apt. _____ Elev. (h.r.) or Stairs (l.r.) _____

Hall _____ Lobby _____ Front _____

(17) How safe or unsafe are each of these areas during the night? (List 2)

Very safe 1 2 3 4 5 6 Very unsafe

Apt. _____ Elev. (h.r.) or Stairs (l.r.) _____

Hall _____ Lobby _____ Front _____

(18) Do you feel you belong to all or part of (project name) _____

If all, why?

If part, why? What part(s)? [Get specific boundaries]

(19) What would you do if you heard a loud noise in the hallway on this floor?

(20a) If a tenant was attacked in this building and called out for help, how likely is it that another tenant would help?

Very likely 1 2 3 4 5 6 Very unlikely

(20b) If a tenant was attacked in the hallway on this floor and called out for help, how likely is it that another tenant on this floor would help?

Very likely 1 2 3 4 5 6 Very unlikely

(21a) How likely is it that a tenant in this building would stop someone from doing damage (e.g., graffiti, breaking light bulbs, etc.) to the building?

Very likely 1 2 3 4 5 6 Very unlikely

(21b) How likely is it that a tenant on this floor would stop someone from doing damage (e.g., graffiti, breaking light bulbs, etc.) to the hallway on this floor?

Very likely 1 2 3 4 5 6 Very unlikely

(22) Do you have any children twelve or under? [If none, go to question 27].

Ages:

(23) Are you a member of any clubs or organizations? None_____

Tenant Association or Community Groups _____

Church groups _____ Volunteer or charity groups _____

Political groups _____ Union or Work Associations _____

P.T.A. _____ Hobby groups _____

Educational (attend night school) ____ Other _____

Sports' teams _____

(24a) How many close friends or close relatives do you have living in (project name)_____

Friends_____ Relatives_____

(24b) How many live in this building?

Friends_____ Relatives_____

(25a) How many close friends or close relatives do you have living outside of (project name)_____

A lot 1 2 3 4 5 6 None

Friends_____ Relatives_____

(25b) How often do you see each other, go out together, visit with each other?

Very often 1 2 3 4 5 6 Never

Friends_____ Relatives_____

(25c) When you visit together, is it mainly in their house, yours or 50-50?

1) Their house 2) 50-50 3) My house

Friends_____ Relatives_____

(26) How many tenants do you know to say "Hello" to on this floor?

All 1 2 3 4 5 6 None

-In this building, not including this floor _____

-In the project, not including this building_____

(27) How often do you visit with tenants on this floor?

Very often 1 2 3 4 5 6 Never

-In this building, not including this floor _____

-In the project, not including this building_____

(28a) How often do you go out (e.g., shopping, to the movies, etc.) with tenants in this building?

Very often 1 2 3 4 5 6 Never

(28b) How often do you go out (e.g., shopping, to the movies, etc.) with tenants in the project, not including this building?

Very often 1 2 3 4 5 6 Never

(29) How often would you say you have casual conversations with other tenants in each of these areas?

Very often 1 2 3 4 5 6 Never

- The hallway on this floor? _____

- The stairs (elevator in high-rise building)? _____

- The lobby?_____

- The benches outside of the building? _____

(30) How many tenants on this floor could you count on doing a small favor for you? (e.g., accepting a package, using the telephone, borrowing a small amount of food or money, picking up something small at the store for each other, watching each other's children for a little while, etc.). [Get actual or approximate number, not a scale question].

-Floor _____

-How many tenants in this building, not including this floor? _____

- How many tenants in the project, not including this building? _____

(31) How many tenants on this floor could you count on in an emergency? [Get actual or approximate number, not a scale question]

-Floor _____

-How many tenants in this building, not including this floor? _____

-How many tenants in the project, not including this building? _____

(32) About how much time do you spend on the telephone talking to friends or relatives?

A lot 1 2 3 4 5 6 None

(33) How much time do you spend inside of your apartment?

A lot 1 2 3 4 5 6 None

-How much time do you spend alone in your apartment?

A lot 1 2 3 4 5 6 None

(34) How much time does your husband spend in the apartment?

A lot 1 2 3 4 5 6 None

not married _____ divorced or separated _____

deceased _____

(35) This past summer, how often would you say you sat outside on the bench or in front of the building?

1 - Four or more times a week _____

2 - Three times a week _____

3 - Two times a week _____

4 - Once a week _____

5 - Less than once a week _____

6 - Almost never _____

7 - Never _____

Now I'm going to read a list of general statements, and I would like you to tell me how much you agree or disagree with them.

Alienation Measures

(36) (a) "I don't feel that there is much I can do to effect decisions made by the management."

Strongly agree 1 2 3 4 5 6 Strongly disagree

(b) "Most of the time I don't really enjoy living at (project name) but I feel that we really don't have much choice." _____

(c) "There is not much that I can do about most of the important problems that we face today." _____

(d) "Things have become so complicated in the world today, that I really don't understand just what is going on." _____

(e) "In order to get ahead in the world today, you are almost forced to do some things which are not right." _____

(f) "I often feel lonely." _____

(g) "I don't really enjoy most of the work that I do, but I feel that I must do it in order to have other things that I need and want." _____

(37) Here is a ladder. Suppose we say that at the top of the ladder [indicate top space] is your idea of the best possible home for you, and at the bottom is your idea of the worst kind of home for you.

(38) Where would you put _____ Project on this ladder?

Lowest 1 2 3 4 5 6 7 8 9 10 Highest

(39) If the chance came up, would you rather move or stay at (project name)
[Circle the response and record reason if tenants give one]

Move Stay

Now I need to ask you just a few more questions before we finish.

(40) How long have you lived in (project name) ? _____

-Always in this apartment in this building? _____.

If no: address(es) of previous building(s) in the project and number of years they lived in each.

(41) Including yourself, how many people live here?

	Relationship to Respondent	Age (only of children)
1.		
2.		
3.		
4.		
5.		
6.		
7.		

(42) Do you own a car? _____

(43) May I ask your age? _____

(44) What is the last grade you completed in school? _____

That's all the questions I have for you. Is there anything you would like to ask me?

Completed by interviewer after interview:

(45) Ethnicity of Respondent _____

(46) Sex of Respondent _____

Level of Communication:

- Full understanding of questions and answers _____
- Difficulty on some items _____
- Serious doubts about general understanding _____

Attitude toward Interview:

- Very cooperative _____
- Cooperative _____
- Antagonistic _____

_____

(47) Building number _____.

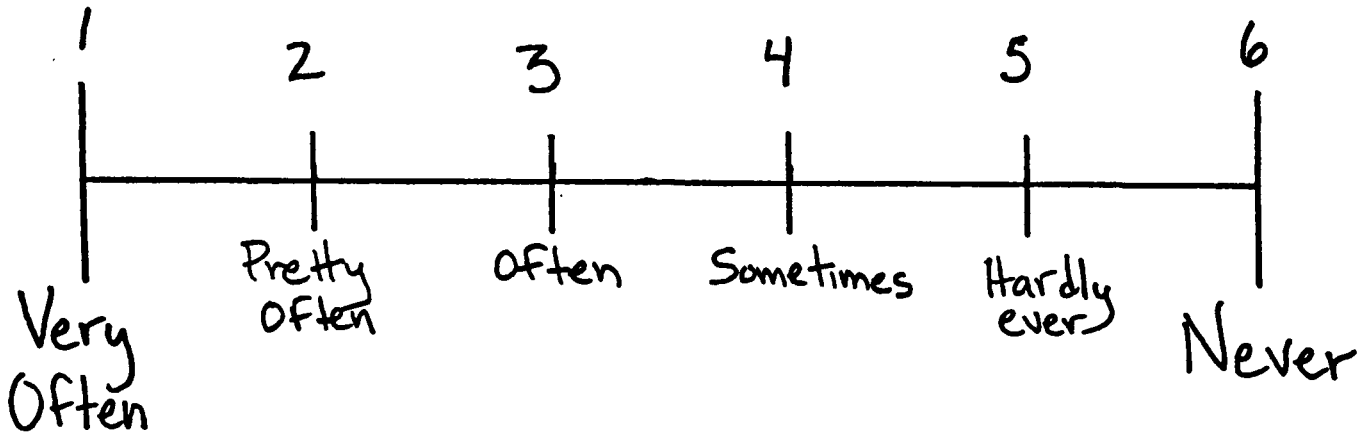
(48) Apartment number _____.

Interviewers: _____.

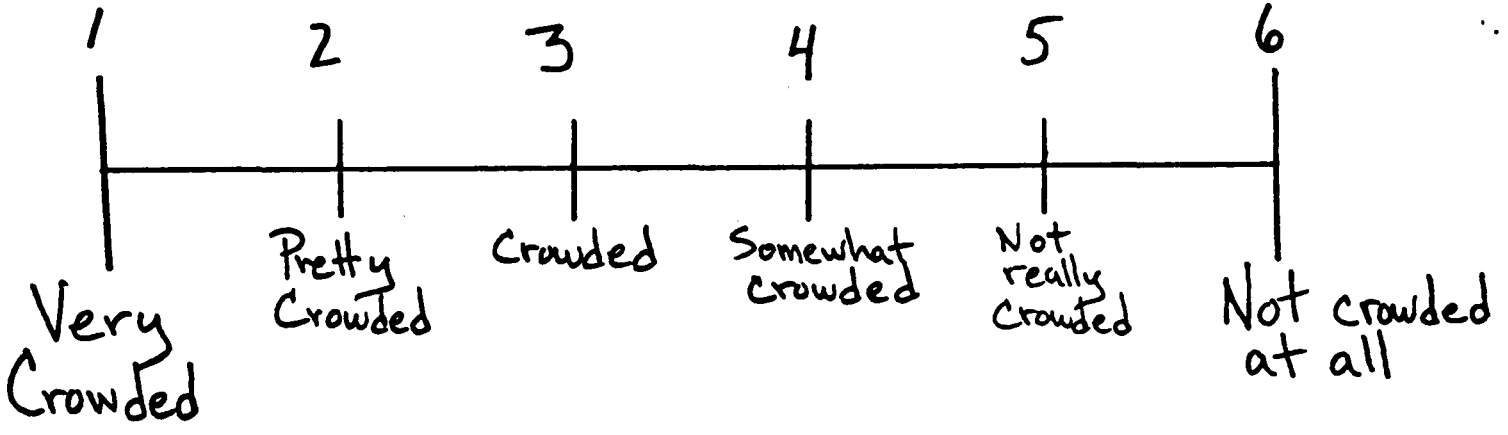
_____.

APPENDIX B

Scale 1



Scale 2



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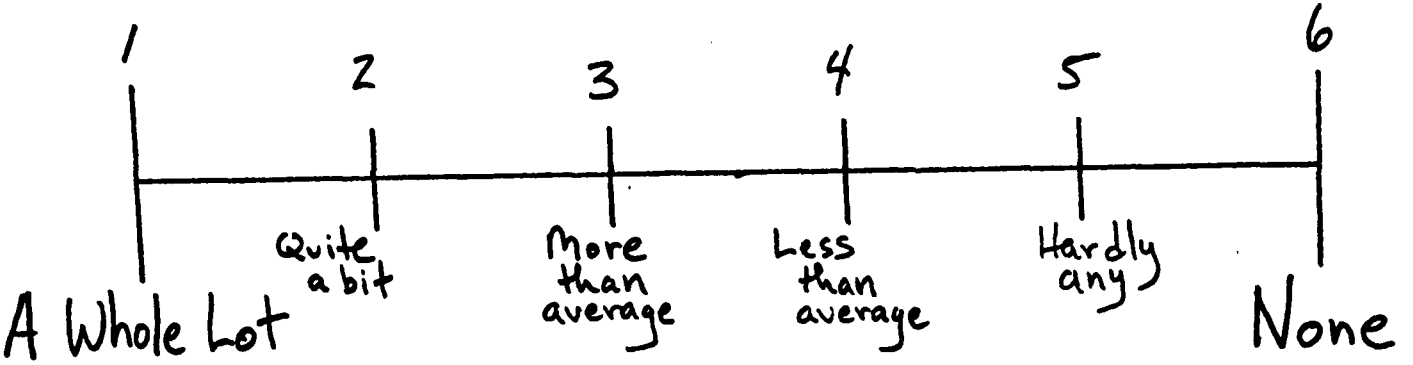
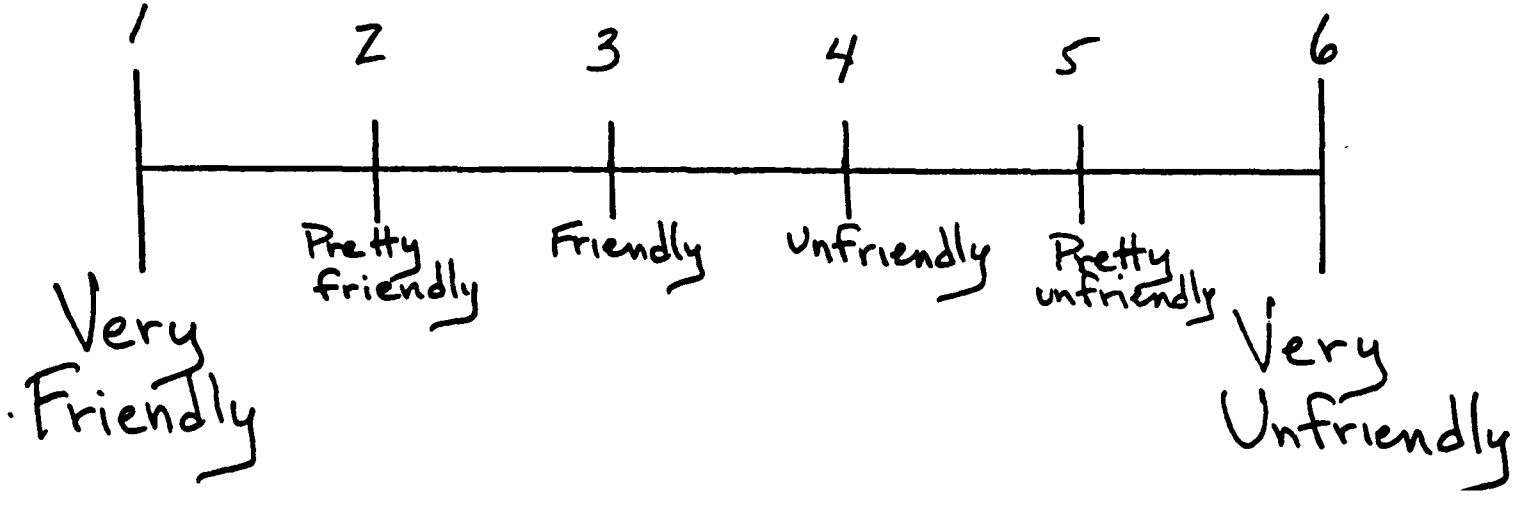
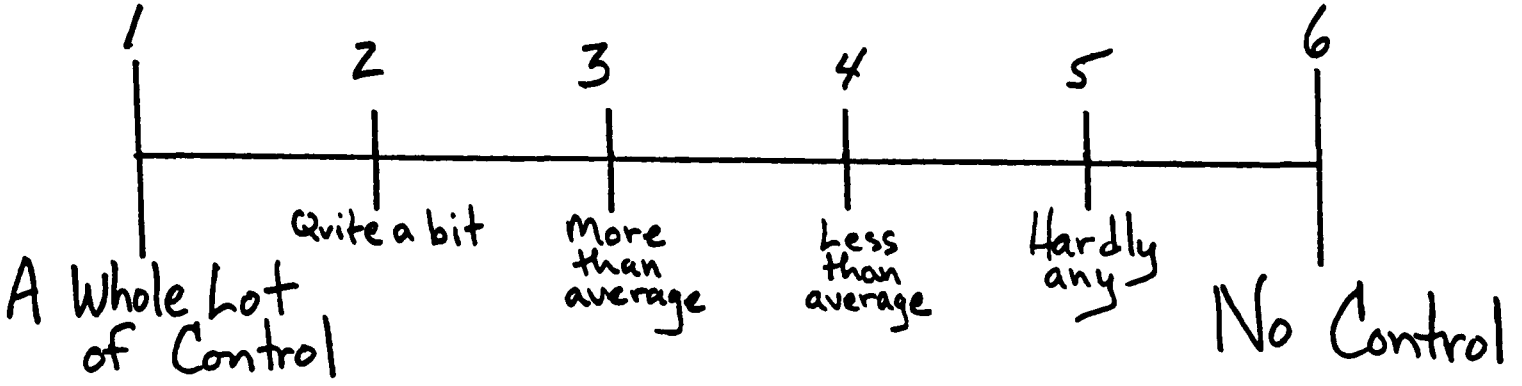


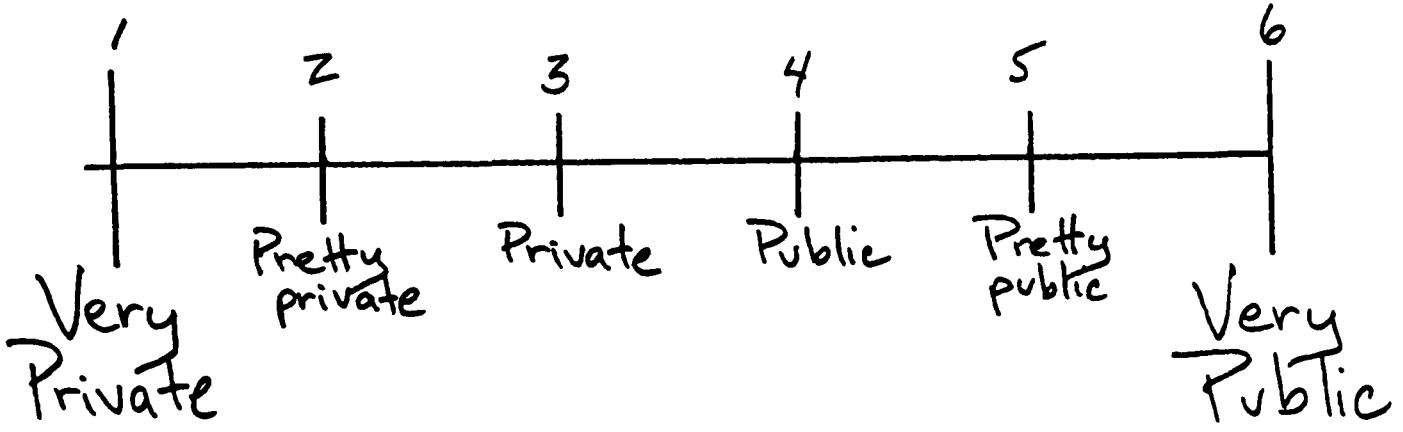
Scale 4



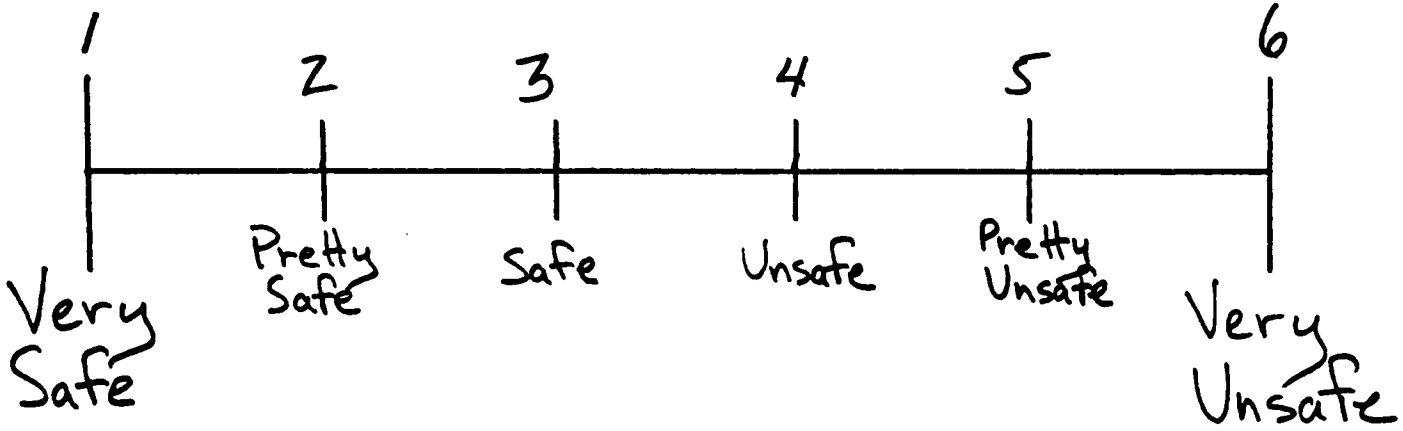
Scale 5



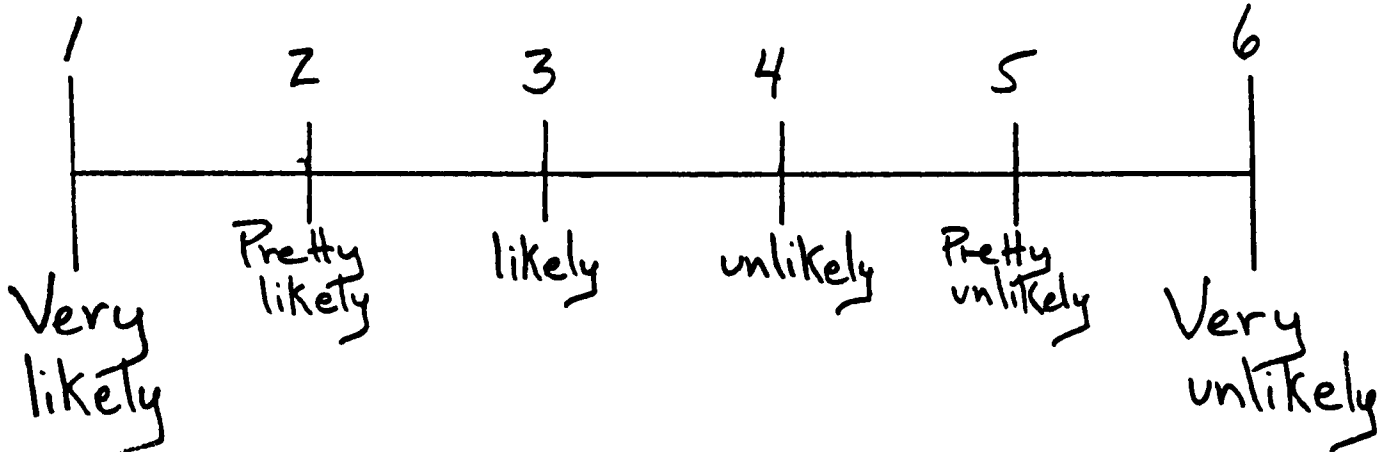
Scale 6



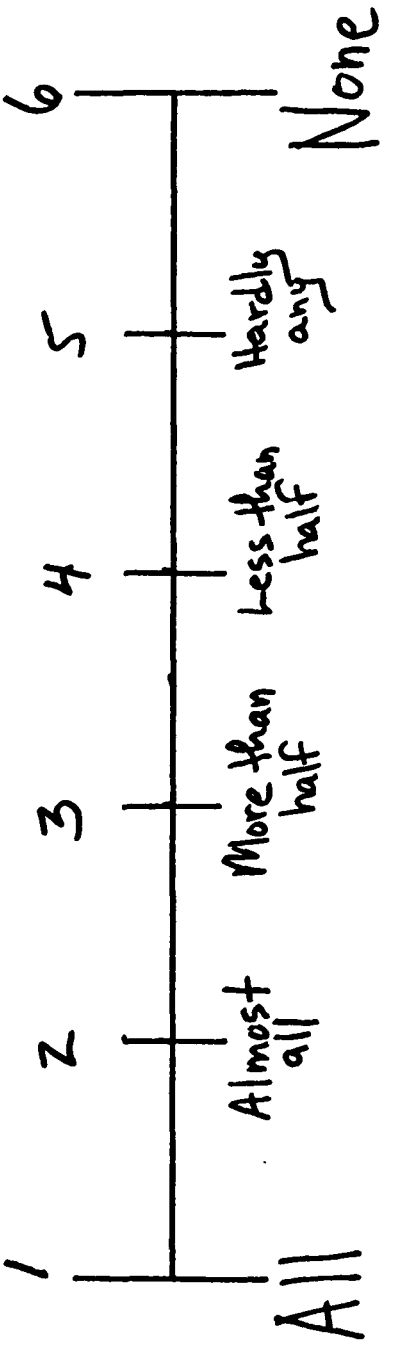
Scale 7

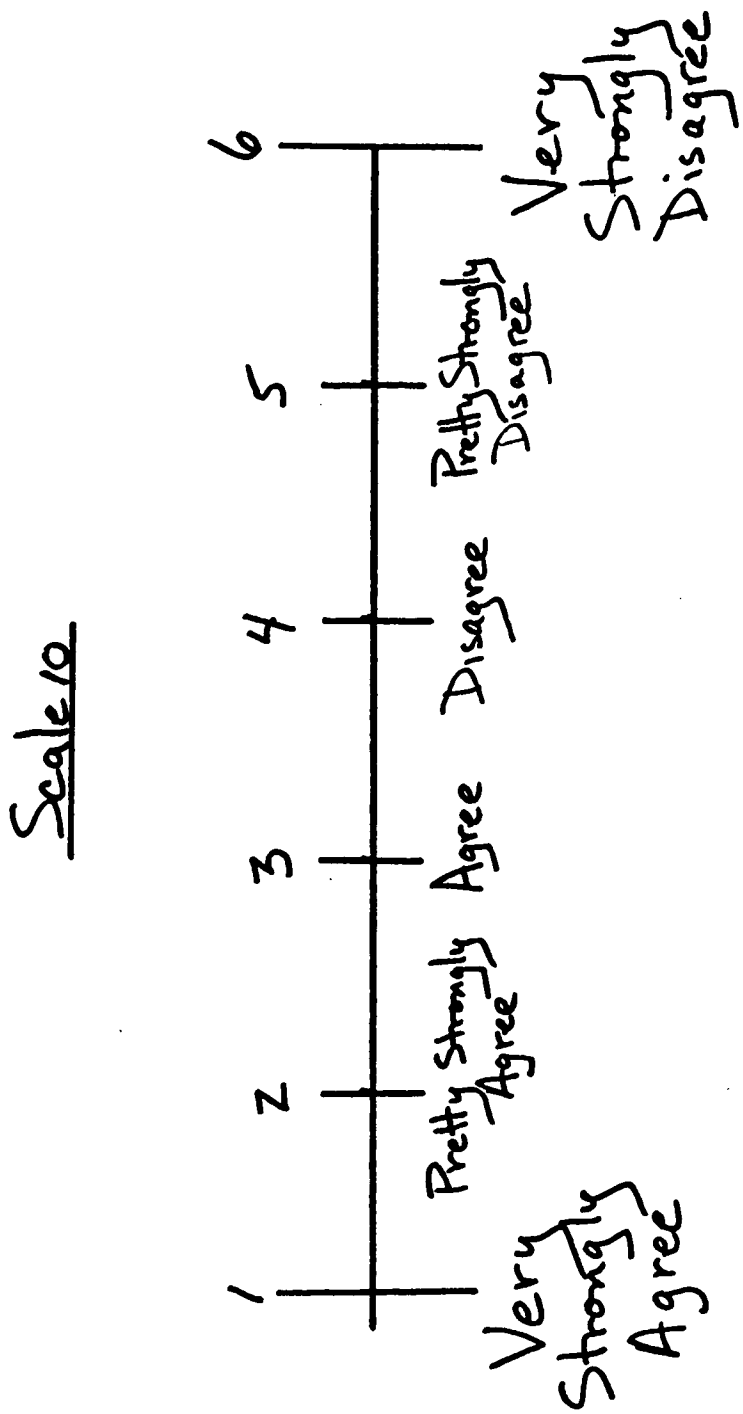


Scale 8

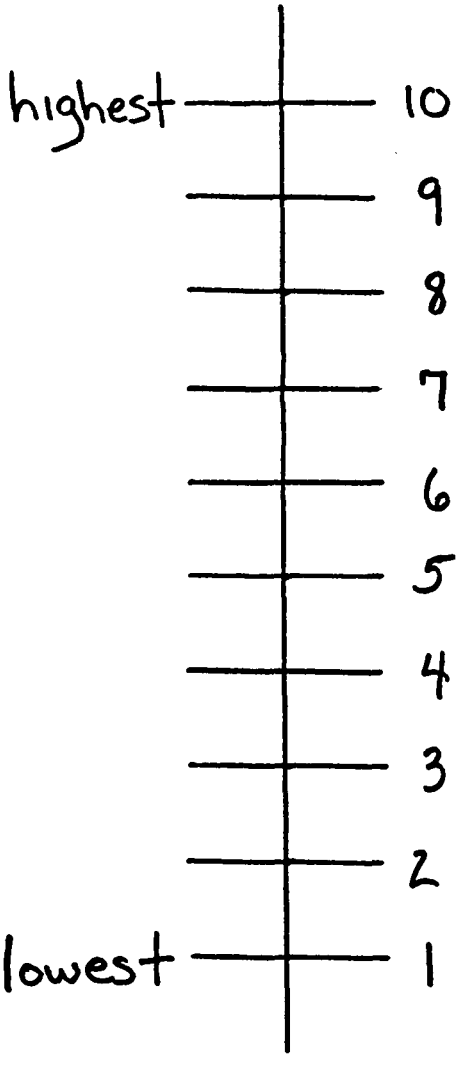


Scale 9


1
All
2
Almost all
3
More than half
4
Less than half
5
Hardly any
6
None


Scale 10
1
2
3
4
5
6
Very Strongly Agree
Pretty Strongly Agree
Agree
Disagree
Pretty Strongly Disagree
Very Strongly Disagree

Ladder (Question 44)



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