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DESIGN AND SOCIAL INTERACTION: A CASE STUDY

A Study of the Relationship of Building and Site Design to Social Interaction in Medium Density Housing

A Thesis
Presented to the College of Architecture in Partial Fulfillment of Requirements for the Degree of Bachelor of Architecture

Ortrude Susan Busse
June 1965
ACKNOWLEDGMENTS

The author gratefully acknowledges the patient prodding of professors Stuart Stein, Allan Feldt, Alex Kira and Mario Schack, without whose encouragement this thesis probably wouldn't have been possible, and certainly would not have been enjoyable. Thanks are also due to Daniel C. Sutton of Syracuse who was extremely helpful during the early stages of this study in facilitating the selection of appropriate projects; and to W. P. Dinsmoor White who was the reason it was finished on time.
I. THE PROBLEM

The hypothesis of this study is that given two similar groups of people living in housing of approximately the same basic quality that differs in the arrangement of essential design elements, the resulting interaction patterns will differ as a direct result of the design.

In 1950, Festinger, Schachter and Bach published a study of student housing at M.I.T. entitled Social Pressures in Informal Groups.1 Their findings indicated that the friendship and neighboring patterns in the two adjoining projects they studied were strongly affected by the layout of the houses, and the distances between residences. Whyte reiterated this idea in The Organization Man on the basis of a study done in Park Forest, Illinois, stressing that the placement of front and back doors affected the choice of neighborhood friends, and suggesting that the relative position of the dwelling in the court or on the block was capable of changing the whole social pattern of the individual.2 About the same time as the M.I.T. study Caplow and Forman were carrying out a similar study in Minnesota, reported briefly in an article "Neighborhood Interaction in a Homogeneous Community".


This, along with follow-up studies done on the same area at three year intervals, tends to confirm the findings of the other two studies.\(^3\) In a later study done in Puerto Rico Caplow reverses his earlier stand.\(^4\) Citing a whole series of variables which he sees as related to neighboring he finishes by saying:

> The implications of these findings for planning are clear. There are two ways to develop networks of neighboring that are intimate, well-integrated and satisfying to the participants. Neither has much to do with architectural design. The result may be achieved by raising the socio-economic level of the population, and it will also follow from an improvement in housing quality, especially the reduction of crowding. The two usually go hand in hand. Uniformity of housing quality is also favorable, but the type of housing, the terms on which it is occupied, and the presence or absence of non-residential functions make very little difference. The planner is excused, so to speak, from planning the social details of good neighborhoods. We need only provide adequate physical facilities, both inside and outside the individual dwelling, and the society need only provide a rising level of welfare, for increased neighborliness to follow of itself.\(^5\)

The general criticism of the early studies was that the groups under study were so homogeneous in their characteristics that the studies had little validity for drawing general conclusions. The M.I.T. group were all veteran, married, engineering students. The participants in Caplow's early study were also students, and differences in the dwelling units, furnishings and family composition were almost non-existent.

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5. Ibid., p. 168.
hoped that this may contribute to the accumulation of systematic re-
search as suggested by Herbert Cans in an article in the American
Institute of Planning Journal. "Two types of studies are especially
important. The first should investigate the characteristics of the
residents by analyzing the existence of propinquitous relationships among
a variety of blocks, all of similar site plan and architectural design.
The second study should analyze the impact of site plan and housing
design on propinquity, by studying subdivisions which differ in physical
layout but are occupied by similar kinds of people." If indications
that physical planning can affect social patterns can be substantiated,
it should also be possible to establish the specific design recommen-
dations for creating housing that will encourage the desired type of
neighborhood structure.

The analysis follows the second type of study suggested by Cans
with the added qualification that the two groups of people are not only
similar but also both exhibit a fairly high degree of internal hetero-
genity. Two housing projects of garden apartments were selected in
Syracuse, New York, a city with a population of 250,000. These were
chosen on the basis of dissimilarity of physical design, similarity of
the aggregate characteristics of the two tenant groups, and heterogeneity
of tenants within each project particularly with regard to socio-economic
status and family life cycle. Random samples of each of the two projects
were interviewed to obtain information regarding age, income, education,
occupation, number of children, and general social patterns; to determine

9. Herbert J. Cans, "Planning and Social Life," American Institute of
what sort of interaction patterns exist among the tenants; and what physical design features are associated with these patterns. Major design features in the two projects include the arrangement of and access to outdoor spaces; the placement of parking facilities, laundry facilities, and garbage disposal; the arrangement of the entrance and stair halls and the number of families sharing each hall. The actual interviews showed a strong similarity of the aggregate tenant characteristics in the two projects, coupled with marked differences in interaction patterns which seem to be associated with the differences in design.
II. SELECTION OF THE PROJECTS

Ideally it was desirable to find two projects which were as similar as possible in their aggregate population characteristics, and as different as possible in their building and site design. An initial indications of these population characteristics, rent structure, size of apartments by number of bedrooms, size of project, and approximate density were used. It was also required that the housing be built as a project, that is, all at approximately the same time; and that it possess some kind of obvious identity as a unit. A three year minimum age was decided upon to eliminate the initial active neighboring patterns often associated with new housing.

The other important set of criteria was heterogeneity of tenant characteristics within each project. Initial constraints on each project were that there be no more than 25% students, not more than 25% retired, and no ethnic predominance. In addition it was decided that public housing would not be considered since tenant attitudes in such situations could affect their behavior in an atypical way.

A list of nine possible projects was obtained from the Syracuse City Planning Commission. Inspections of the alternative sites were made, rough plans were drawn, and major design features were noted as well as general upkeep of the buildings and maintenance of the grounds. The managers were consulted to obtain information about the project and about the tenant characteristics mentioned above. They were also asked
to estimate the number of children, the range of tenant incomes and the average income, and the tenants' age range. Most of them also knew the occupations of many of the tenants. A local real estate agent was able to provide fairly detailed information for many of these characteristics. The projects investigated ranged from three to twelve years old, from 60 to 520 units, and from $110 to $137 per month for a two-bedroom apartment. The projects were different enough in design that the final selection could be made predominantly on the basis of matching tenant characteristics.

Ballantyne Gardens on the south side of town and Sunnycrest on the north, were selected from the group of possibilities. They are both about the same distance from downtown Syracuse, are both located in residential areas and are both somewhat isolated from surrounding houses. Rent in Ballantyne is $107 per month for one bedroom, $125 for two bedrooms and $133 for three. Sunnycrest rent is $110, $125 and $135. The estimated income range of the tenants was five to eight thousand per year in Sunnycrest and two to eleven thousand with an average of about $5500 in Ballantyne. Both managers said that there were "a few" students and about 25% elderly people, not all of whom were retired. In both projects some attempt had been made to group families with children together. The estimated child per unit ratio was 1 in Sunnycrest and 0.5 in Ballantyne, but the figures are based on the subsequent interviews were much closer. Both seemed to have a wide spread of age and occupation. Data obtained in the interviews and reported later confirmed the estimates.
Design Characteristics

Sunnycrest has 60 units in 4 two-story structures. Each of these is made up of three essentially separate buildings with four or six apartment units grouped around a stair hall. It is situated on a single block bounded on three sides by lightly trafficked streets and on the third side by a large park. A large new high school is across one street and single family houses across the other two. The buildings are grouped symmetrically around an interior parking lot and some garages. The back doors of the stair halls face inward to small "back yards", a small children's play area and the parking. Garbage is placed in sheds bordering the parking area. The front doors of the stair halls face out toward the streets. A laundry is located in the center building of each of the four structures. Sunnycrest was built twelve years ago and is well maintained inside and out.

Ballantyne Gardens is three years old and is comprised of four three-story structures, each containing two separate buildings of fifteen units around a stair hall. Two stairways were required for fire regulations, so an interlocking criss-cross system was used and the stairs are enclosed. The result of this is that the five families on a floor do not necessarily use the same stairway. These five do, however, share an incinerator room. The site is rectangular and ringed on three sides by the project's driveway and parking facilities. One of these three adjoins the back parking lot of a supermarket, the other two border the back yards of single family houses. Ballantyne Road completes the rectangle and has moderate traffic. Across the street is a smaller group of apartments and some single family houses. The front entrances to the
SUNNYCREST

scale: 1" = 50.0'

note: all apartment buildings two stories

figure 1
BALLANTYNE GARDENS

scale: 1" = 50.0'

note: all buildings three stories

figure 2
MAIL BOXES.

APARTMENT ENTRANCE & UNIT ENTRANCE.

BALLANTYNE GARDENS: HALL AND STAIRWELL

figure 4
MAIL BOXES.

APARTMENT ENTRANCE & UNIT ENTRANCE.

SUNNYCREST: HALL AND STAIRWELL

figure 3
stairhalls face inward on a courtyard which contains a few benches. There is a single laundry room in the basement of one of the buildings, accessible to the residents of the other buildings via the court space. It should not be inferred that the use of the word "court" implies a well defined landscaped area, as it only consists of grassy patches crossed by concrete walks.

Mail in each of the two projects is picked up and delivered at the front entrance to the stairwell. This "lobby" area is minimal in both designs and the space doubles as a circulation corridor. Both projects have supervisors living on the premises who were extremely helpful in this study.

**Tenant Characteristics**

Data based on the interviews showed even more similarity of the aggregates than was expected, and at the same time a good deal of variation in age, income and education within the projects. For instance, the average number of adults per household was 1.8 in each project. The average number of bedrooms (a measure of apartment size) was 2.10 in Ballantyne and 2.15 in Sunnycrest. The average number of children per household was 0.85 in Ballantyne and 1.15 in Sunnycrest. Each had 0.85 cars per household. The average age of the respondents was 45.5 years and 44.1 respectively, with standard deviations of 17.9 and 17.4. In general it was quite fortunate to find two groups so much alike, while still providing a reasonable amount of variation within each project.
III. INTERVIEWING PROCEDURES

An alphabetical listing of all the tenants in each of the projects was compiled and a sampling interval of four was selected. A sample of the dwellings was drawn by taking a random number from 1 to 4 and selecting every fourth dwelling unit thereafter. Within each household one adult female was selected. Where there was none, an adult male was substituted but this occurred in only one case in the sample, that of three medical students sharing an apartment. In order to assure the randomness of the sample no substitutions were permitted. There was a 77% response in Ballantyne and an 87% response in Sunnycrest. The total number of interviews was twenty in Ballantyne and 13 in Sunnycrest. Two of the refusals were due to illnesses which were confirmed by the respective managers. One person in Ballantyne flatly refused to be interviewed; one person was away on vacation; and the other four non-responses were due to inability to find a convenient time for an interview.

The interviews were carried out over a series of weeks in early spring 1965. Letters were sent out from the Cornell College of Architecture to the people selected by the sample, briefly describing the study and asking for cooperation. Phone calls were then made to arrange a time for the interview. No antagonism was experienced from any of the people during the interviews, though some anxiety was expressed during the telephone conversations when arrangements were being made.
A personal interview technique was chosen because of its potential for a higher percentage of response and greater flexibility, despite the fact that it meant that a smaller number of households could be contacted. The schedule that was used took a minimum of twenty-five minutes and a maximum of forty-five. Some of the questions gave specific choices of answers but many were open-ended. With this kind of interview it was also possible to get additional comments from the tenants.

As a prototype for the questionnaire the following were consulted: Foley's questionnaire for the study described in Neighbors or Urbanites, Caplow's questionnaire published in The Urban Ambience, and Van Huyck's questionnaire in his unpublished masters thesis "An Exploratory Study of Selected Housing Factors in Established Neighborhoods as Related to the Resident's Behavior Patterns." The interview schedule was pre-tested five times and revised after each test, but there were still some questions that did not elicit consistently useful responses. Questions in the schedule were arranged for maximum rapport with the person being interviewed rather than for facility in transcription and analysis.

The questions can be classified into five basic categories according to the type of information being sought. These are: (1) general population and housing characteristics; (2) questions about living in the

10. Donald L. Foley, Neighbors or Urbanites, Department of Sociology, University of Rochester, New York, 1952 (mimeographed).


The project requiring a combination of fact, opinion and observation; (3) questions about the specific neighboring patterns of the individual, with a subcategory on the effect of children on neighboring; (4) place-naming questions for information on gathering places and points of neighbor contact in the project as a whole; (5) social activity questions requesting information about social patterns of the members of the individual household in the larger community.

The following were asked in order to obtain general population and housing characteristics (for simplicity all questions are phrased as they were asked in Ballantyne Gardens).

- How long have you lived here in Ballantyne Gardens?
- How long have you lived here in Syracuse?
- Before you moved here did you live in a house, a two-family house, a garden apartment, a highrise, or something else?
- Was that in Syracuse?
- If not, was it in another large city, a small city, a small town, or open countryside?
- Where did you spend most of your childhood, in Syracuse, in another large city, a small city, a small town or open countryside?
- What about your husband (or other adult member of the household)?
- Would you please give me the number of people who live here and their ages?
- How many bedrooms does this apartment have?
- We are interested in getting some idea of your total family income, would you please tell me which category yours
falls into?

--handed a card with: (1) less than $5000; (2) $5000 to $10,000; (3) over $10,000.

What is your husband's occupation?

Do you work outside the home? If so, what do you do?

How many years did you complete in school?

What about your husband (or other adult member of the household)?

Do you have a car? More than one?

Living in the Project

Did you know anyone here in Ballantyne Gardens before you moved here?

Are you satisfied with your location within Ballantyne Gardens or is there some other apartment you think you would like better?

Are there any regular events such as annual parties or Fourth of July parades when you and several of your neighbors get together?

Do you think that you are getting your money's worth here? If no, what do you think you should be getting?

How would you rate your privacy here? too much, too little or just right? What things disturb you?

Would you say that Ballantyne Gardens is well managed? Why or why not?

Have you thought recently of moving? If yes, why do you wish to move? What kind of place do you think you might move to?
a house, a two-family house, a garden apartment, a highrise or something else?

Do you ever expect to move? Why?

What type of housing do you think you would move to? a house, a two-family house, a garden apartment, a highrise or something else?

If someone were talking about putting up something that you considered a nuisance, such as an undesirable factory near here, what would you do?

What do you think are the most desirable features of Ballantyne Gardens?

What things seem most undesirable?

Do you use the laundry facilities provided by the management or do you have your own? If management’s would you prefer to have your own? Why?

Would you say that Ballantyne Gardens is friendly or cold?

Would you say that it is too friendly or too cold?

Specific Neighboring Patterns

How many of your neighbors do you know well enough to chat with them when you run into them?

Do you usually chat with some neighbor every day?

Which of your neighbors do you know best? Where do they live?

Do you get together with them socially either going places together or getting together in each others homes?

How often would you say that you get together with them socially using this scale? (same scale used for all the
frequency questions) (1) several times a year; (2) once a month; (3) two or three times a month; (4) once a week; (5) more than once a week; (0) rarely or never

Did you know any of these neighbors before you moved here? If not, how did you happen to get acquainted?

How many of your neighbors do you know well enough that you occasionally borrow something like a cup of sugar, tools or books?

Where do they live?

How many of your neighbors do you know well enough to call on in case of an emergency, such as if your car won't start at a crucial time, or there is sudden illness or accident?

Where do they live?

Over the past four or five months have you gotten together with any of your neighbors informally just to talk like having coffee during the day?

Where do these people live?

How often would you say that you do this? Is it a regular thing?

Do you know any of your neighbors well enough that you would care for them if they were ill?

Where do they live?

Does your husband have any friends that would be different from the ones that you have mentioned?

Where do they live?

Do you know how they became acquainted?
Do you have any neighbors that you don't particularly get along with?

Where do they live?

Has your relationship with your neighbors changed during the time that you have lived here?

Would you say that the amount of time you spend with them has increased or decreased?

**Effect of Children**

**People without children**

Since you have been in Ballantyne Gardens, have you gotten to know any people well because you met their children first?

If yes, do you ever see them socially?

**People with children**

Are there children here that your children play with regularly?

Where do they live?

Since you have been in Ballantyne Gardens have you gotten to know any people well because they were the parents of your children's friends?

Do you ever see them socially?

How frequently would you say that you get together with them?

Where do they live?

Sometimes when people move they notice a change in the behavior of their children. Did you notice any such change when you moved here?
Place naming questions

How did you meet the neighbors you know well enough to chat with?
Are there places in Ballantyne Gardens where people usually get
together and chat or where they can meet socially?
Do people often chat with others they see at the laundry?
If you wanted to post a notice that all the tenants would see,
such as if you had lost something valuable, what places
would you put it?

(although there were only a few questions in this section, most of them
received multiple answers and therefore they were fairly useful in deter-
mining the plan aspects of the projects which people associated with
neighboring)

Social activity questions

About how often do you (and your husband) get together with
friends socially either going places or getting together
in each other's homes?
Do any of them live in Ballantyne Gardens?
Do you get together with them more than other friends,
less or about the same?

About how often do you attend meetings of organizations like
PTA, church, civic organizations or professional associations?
How often do you get together socially with people within
Ballantyne?
How did you meet them?
Do you have relatives in the Syracuse area?
How much time do you spend with them?

Do any of them live in Ballantyne?

How often do you get together with them?

The questions that proved the least useful in this analysis were those in section 2, living in the project. Information collected in these questions and in the additional comments of the tenants were more applicable to general improvements in the design of apartments than to the immediate problem being investigated. This information was therefore useful, but will not be treated extensively in this report. The second value of these questions was that they helped to reduce the obvious emphasis on social patterns during the interviews so that the people did not become selfconscious. More might have been asked to determine the personality characteristics of the tenants but it was decided that this was not within the scope of this project.
IV. PRELIMINARY CONCLUSIONS

Analysis of population and housing characteristics

As previously noted the aggregate populations of the two projects based on the sample showed a high degree of similarity. This was extremely important to the conclusions of the study since the general objective was to eliminate all variables except the building and site design as explanations of the differences in interaction patterns, and this done, to attempt to explain the way in which the various physical differences act to cause the social differences. At the same time in order to avoid replicating previous studies which have been criticized for the high degree of homogeneity among the people being tested, variation among the types of people within each project was also highly desirable. This second condition was also met though with slightly less success than the first condition, the problem being that within one housing project of 60 to 120 units operating in a free market situation there are obvious restraints on the amount of socio-economic heterogeneity that one can expect to find. There is some difference in economic status within the two projects, but the differences of position in the family life cycle are much more marked. In each project approximately 40% of the adults were under 40 years old, 40% were between 40 and 60, and the remaining 20% were over 60 years old.

The following compilations from the interviews indicate the type of similarities found between the two projects:
Comparison of population characteristics | Ballantyne | Sunncrest
--- | --- | ---
average number of years in project | 2.35 | 3.54
average number of years in Syracuse | 16.6 | 14.6
average number of bedrooms per household | 2.10 | 2.15
average number of adults per household | 1.8 | 1.8
average number of children per household | 0.85 | 1.15
average number of cars per household | 0.85 | 0.85
average age of respondent | 45.5 | 44.1
respondents average number of years in school | 14.75 | 13.2

There was more dissimilarity in the length of education than in other like kinds of variables; the implications of this difference will be discussed later. The difference in average number of years in the project could be expected due to the disparity in the ages of the projects. These differences are not considered significant in the light of a study by Caplow and Forman which states that "above a minimum residence of one year, there was no discernible relationship between the length of residence and closeness or intensity of neighboring relationships."\(^\text{13}\) The difference in the number of children is worth noting, but later data will show that this is not important as a determinant of neighboring either. Other than these, the averages are remarkably similar, and may be considered an indication that the residents of the two projects are essentially repre-

sentatives of the same population.

Some of the population and housing characteristics can be better illustrated by showing distributions. This is particularly true of questions with multiple choice answers. Annual income, for instance, is distributed in this way:

<table>
<thead>
<tr>
<th>Annual income</th>
<th>under $5000</th>
<th>$5000 to $10,000</th>
<th>over $10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballantyne</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>no. responses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunnycrest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>no. responses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

From this it can be seen that the annual income of a majority of the households in both projects falls into the 5 to 10 thousand dollar range, and that although the spread in Ballantyne is more pronounced, persons outside this range are distributed approximately evenly on both sides so that the averages are probably about the same.

Previous place of residence may be treated in the same way:

<table>
<thead>
<tr>
<th></th>
<th>house</th>
<th>2-family house</th>
<th>garden apt.</th>
<th>highrise</th>
<th>other</th>
</tr>
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<tbody>
<tr>
<td>Ballantyne</td>
<td>45% - 9</td>
<td>10% - 2</td>
<td>40% - 8</td>
<td>5% - 1</td>
<td>0</td>
</tr>
<tr>
<td>Sunnycrest</td>
<td>46%</td>
<td>15% - 2</td>
<td>23% 3</td>
<td>8% - 1</td>
<td>8% - 1</td>
</tr>
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</table>
Approximately 70% of the people in both projects lived in Syracuse or another large city just prior to moving to the projects. The only marked difference in childhood background is in the higher number of people raised in Syracuse. This will be discussed later. In general, the matches in these two variables are fairly good also. 14

On the basis of criteria established earlier as tests of the similarity of the aggregates, which included the matching of those

14. It should be remembered when examining the percentages in this study that the samples are quite small and therefore the difference between two percentages being compared have to be more sizeable to be significant than they would be if the sample were a large one. Take for instance the case of the number of adults who spent most of their childhood in a small town. The 36% for Ballantyne represents in actual figures, 12 out of 33 responses, while the 29% for Sunnycrest represents 7 out of 24 responses. If the representation for Ballantyne was decreased by one response and the Sunnycrest representation increased by one, then the percentage of people who spent most of their childhood in a small town would be exactly equal in the two projects, that is, 33%. Still, since the number of responses obtained to any one question varies somewhat, using percentages instead of actual response numbers results in greater consistency and readability. For that reason percentages will be used throughout most of the study despite the fact that unless these percentages are viewed with an understanding of what they mean they could be misleading.
characteristics commonly considered to affect neighboring patterns, it seems safe to conclude that approximately equivalent groups of people, exposed to two different design environments, have been examined. The next step will be to point out the major differences in interaction patterns in these two different designs. From there, those things which seem to be likely explanations for the disparity in social patterns other than the building and site design will be investigated. Only after an investigation and discreditation of many other possible factors will an attempt be made to explain the effects of the design variables.

The most obvious difference between the projects was in the number of people who engage in a substantial amount of social activity within the project. In Ballantyne Gardens 45% of the people reported that they get together socially with people within the project more than once a month, while only 8% of the people in Sunnycrest get together socially with neighbors this frequently. In Sunnycrest 62% of the people rarely or never see their neighbors socially while only 45% of the people in Ballantyne fall into this category. These differences are equally impressive as pure numbers as nine out of twenty Ballantyne Gardens residents socialize within the project twice a month or more, while only one out of thirteen Sunnycresters do.

<table>
<thead>
<tr>
<th>social activity with neighbors</th>
<th>rarely or never</th>
<th>several times/yr.</th>
<th>1/month</th>
<th>2 or 3 times/mo.</th>
<th>1/week</th>
<th>more</th>
<th>total</th>
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<td></td>
</tr>
<tr>
<td>number</td>
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<td>1</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>percentage</td>
<td>45%</td>
<td>5%</td>
<td>5%</td>
<td>25%</td>
<td>10%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td><strong>Sunnycrest</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>percentage</td>
<td>62%</td>
<td>8%</td>
<td>23%</td>
<td>0</td>
<td>0</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>
As a corollary, 40% of Ballantyne people see their neighbors socially as much or more than they see their other friends, while only 15% of Sunnycrest people get together with neighbors this often. It is clear that as far as social activity within the project, Ballantyne Gardens far outranks Sunnycrest.

Another difference in pattern though less marked was in the number of people mentioned by each respondent in answer to the questions on specific neighboring patterns, that is, those asking whom you borrow from, whom you call in case of emergency, etc. For this type of interaction the amount of activity appeared greater in Sunnycrest. Sunnycrest respondents mentioned an average of 4.85 neighbors in answer to these questions, while people in Ballantyne Gardens mentioned only 3.7. In Sunnycrest 54% of the people report that they chat with some neighbor every day, while only 35% of the people in Ballantyne report daily chatting. It appears that two distinct types of neighboring patterns are present in the two projects, one which will be called "project socializing" to denote the occurrence of frequent social visiting among neighbors, and another which will be called "casual neighboring" to indicate the type of interaction which involves nodding acquaintances and informal chatting. The first type of interaction has been found to be more prevalent in Ballantyne while the second type is more prevalent in Sunnycrest. Apparently differences in social interaction patterns do exist between the two projects despite the similarities of their occupants, and the differences may be argued to be reflections of the differing design features of the two projects.

The findings are not as simple as originally anticipated. Not
only have differences in the level of interaction been found between
the two projects but also differences in the types of interaction. In
attempting to isolate variables other than design features which might
account for these differences, each of the two types will be taken
separately since it seems likely that their causes may be different.

15. This difference in type of neighboring has been noticed before. A
case in point is a study done by Edward Deveraux, "Neighboring and
Community Participation," Journal of Social Issues, 16, No. 4,
64-68. The following is taken from his article:

As noted earlier, all of the neighborhoods chose
neighbors in excess of chance on our friendship nomi-
 nations question; ["Would you mind telling me the names
of the three people you feel you know best in Spring-
dale?] however the proportions of within the neighbor-
hood nominations varied from neighborhood to neighbor-
hood. We decided to seize upon this between-neighbor-
hood variation to construct an index of neighborhood
cohesiveness. The index expressed cohesiveness as a
function of the relationship between observed in-group
nominations and chance expectancy....

...there was a puzzling absence of correlation between
the cohesiveness measure and another item we hoped would
index the level of within neighborhood friendships. We
asked our respondents 'How many people in this neigh-
borhood do you feel you know fairly well?' The recorded
answer alternatives ran through four choices from 'just
a few' to 'practically everybody'. It occurred to us
that the absence of correlation between these two pre-
sumed measures of the same phenomenon, neighborhood
integration, might reflect the fact that each was
getting at a different and independent aspect of a
more general variable.
V. PROJECT SOCIALIZING

Early in the investigation of possible causes for the disparity in the amount of project socializing in the two projects, it became obvious that while comparison of the characteristics of the two projects for explanatory differentials was one approach, it would also be useful to be able to compare those who do and do not engage in project socializing within Ballantyne Gardens. Therefore the people in Ballantyne Gardens were divided into two groups on the basis of their answers to the question "How often do you and your husband get together socially with people within Ballantyne Gardens?" Those who responded two or three times a month, once a week, or more than once a week, were called "high-sociables", and those who responded once a month, several times a year, rarely or never were called "low-sociables". There are nine high-sociables and eleven low-sociables in Ballantyne according to this classification. In Sunnycrest where project socialization is very low, there is only one person who qualified as a high-sociable under this method. She reported the maximum amount of project socializing "more than once a week". The rest of the Sunnycresters reported project socialization of a frequency of once a month or less, and thus were classed as low-sociables. It must be stressed that these classifications are unrelated to responses concerning general social activity including contacts outside the project. They refer only to social activity within the project. The "high-low" labels will be used for project socialization
throughout the rest of the report, and it may therefore be assumed that this is the characteristic under discussion whenever they appear.

General Social Activity

One possible explanation for the differences in project socializing might be that the people in Ballantyne Gardens are simply more active in all forms of social activity than the people in Sunnycrest. A comparison of the amount of general social activity including people outside the project which the residents of the two projects engage in was made on the basis of the question "How often do you (and your husband) get together with friends either going places or getting together in each others homes?" The responses show that general (i.e. total) social activity in the two projects is approximately the same, as would be expected from the fact that the age of the residents, their socio-economic status, family life cycle, etc. are so much alike. It is clear from the tabulation below that the amount of general social activity cannot be cited as the reason for the difference in project socialization and that some other explanation must be sought.

<table>
<thead>
<tr>
<th>General social activity</th>
<th>rarely or never</th>
<th>several times/yr.</th>
<th>1/month</th>
<th>2 or 3 times/mo.</th>
<th>1/week</th>
<th>more than</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballantyne</td>
<td>0</td>
<td>0</td>
<td>20%</td>
<td>30%</td>
<td>15%</td>
<td>35%</td>
<td>20</td>
</tr>
<tr>
<td>Sunnycrest</td>
<td>0</td>
<td>0</td>
<td>23%</td>
<td>23%</td>
<td>23%</td>
<td>31%</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project socializing</th>
<th>Ballantyne</th>
<th>Sunnycrest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45%</td>
<td>62%</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>25%</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>13</td>
</tr>
</tbody>
</table>
Only slight differences in the pattern of general social activity are observable between the two projects while substantial differences in socialization within the projects are apparent. When the two final columns of the upper table are collapsed to get the percentage for general social activity of once a week or more, the result is 50% for Ballantyne and 54% for Sunnycrest. The two projects appear to be substantially the same in their level of general social activity and the differences in project socialization between the two cannot be attributed to differences in the degree of general gregariousness of residents in the two locations.

Organization Attendance

Another aspect of social activity which might be related to project socializing and for which there was a substantial divergence between the projects is organization attendance. In answer to the question "How often do you attend meetings of organizations like PTA, church, civic organizations, and professional associations?" the following results were tabulated.

<table>
<thead>
<tr>
<th>Organization attendance</th>
<th>rarely or never</th>
<th>several times/yr.</th>
<th>1/month</th>
<th>2 or 3 times/mo.</th>
<th>1/week</th>
<th>more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballantyne</td>
<td>20%</td>
<td>5%</td>
<td>15%</td>
<td>30%</td>
<td>5%</td>
<td>25%</td>
</tr>
<tr>
<td>Sunnycrest</td>
<td>54%</td>
<td>8%</td>
<td>15%</td>
<td>15%</td>
<td>8%</td>
<td>0</td>
</tr>
</tbody>
</table>

It may be seen from this that organization attendance in Sunnycrest is well below that in Ballantyne. A natural inference would be that there is a causal relationship between project socializing and organization attendance. It might be hypothesized that project socializing is the
equivalent of an informal organization, and that where interest in participating in organizations is high, an accompanying high degree of project socializing could be expected. A study by Edward Devereaux "Neighbors and Community Participation" refutes this kind of logic however by showing that organization participation is partially a function of social integration in the neighborhood. In Devereaux's study a number of neighborhoods were identified and rated for their cohesiveness. Each of the neighborhoods was then given a rating for "participation potential" based on those socio-economic attributes commonly acknowledged as being related to participation in voluntary organizations and similar activities in the community. The actual amount of participation was then obtained for each neighborhood and the results compared with these estimated potentials. It was found that "in integrated neighborhoods, high participation potential is associated with positive participation variance, and low participation potential with negative participation variance. In unintegrated neighborhoods this relationship does not occur." In other words, participation is in fact the dependent variable. If a socially integrated neighborhood has a high participation potential, the amount of actual participation will be higher than the potential would indicate, while in an unintegrated neighborhood, the potential will run about what the "participation potential" predicts it will be. Since Ballantyne and Sunnycrest have already been shown to be similar with regard to those characteristics


17. Ibid.
upon which participation potential was based to begin with it would seem that the greater organization attendance in Ballantyne is a result of the level of integration of the neighborhood, rather than cause for the high intensity of project socializing.

Relatives in Syracuse

Another explanation, for differing levels of project socializing in the two locations, is the possible effect that having relatives living in the Syracuse area might have on the two projects. Preliminary investigation of Sunnycrest and Ballantyne reveals that 70% of the respondents in Sunnycrest had relatives living in Syracuse, while only 35% of the people in Ballantyne had the same kind of opportunity for social contact outside the project, but within the city. From this observation it might easily be inferred that the major reason for the low level of project socializing in Sunnycrest as opposed to Ballantyne is that project socialization serves as a substitute for the kinship contacts that the people in Sunnycrest have. If this were true it would follow that the people in Ballantyne who are low-sociables would tend to be the ones with relatives in the Syracuse area, while those who are high-sociables would tend to be those in Ballantyne Gardens who have no relatives in the city. An examination of the numbers of persons in Ballantyne with and without relatives in Syracuse according to their level of project socializing refutes this argument however.

<table>
<thead>
<tr>
<th>Ballantyne</th>
<th>relatives in Syracuse</th>
<th>no relatives in Syracuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>low-sociables</td>
<td>3 (27%)</td>
<td>8 (73%)</td>
</tr>
<tr>
<td>high-sociables</td>
<td>4 (44%)</td>
<td>5 (56%)</td>
</tr>
</tbody>
</table>
It can be seen in the table above that among people living in Ballantyne there is a slight tendency for those with relatives in Syracuse to be higher in project socializing, and for those who do not have relatives in Syracuse to be low in project socializing. These findings, although probably not statistically significant, lend no support to the argument that the explanation for the low level of project socializing is the proportion of tenants in Sunnycrest that have relatives in Syracuse. A similar comparison of the level of project socializing to the presence of relatives is not possible for Sunnycrest since all but one of the respondents there were classified as a low-sociable. Once again it is necessary to seek an explanation for the differences between the two projects in some factor other than the attributes of their inhabitants.

No explanation has been found for the difference in the level of project socializing between the two projects among factors relating to the kind or amount of contact the residents have with other persons, relatives, or organizations in Syracuse. Despite the similarity of respondents in the two projects with respect to socio-economic and demographic characteristics, a brief examination of the differences between the projects in these attributes must be made as well.

**Family Composition**

With regard to the number of households in which there is someone home during the day, the situations in the two projects are quite similar: 65% of the households in Ballantyne have someone home all day and 70% of the households in Sunnycrest report the same characteristics. Of those households in Ballantyne that have at least one person at home during the day, there is an equal distribution of high-sociables and
low-sociables. This factor cannot account for the high level of project socializing within Ballantyne Cardens.

Since children are often cited as the cause for the manner in which neighborhood friendships develop, the effect of children on the interaction cannot be fully ruled. A relatively small number of people reported that they had met neighbors through children, 20% in Ballantyne and 23% in Sunnycrest. Even among the few persons reporting the influence of children not all of the people had children of their own. For these two projects, making friends does not seem to be nearly as dependent on children as previous studies would have one believe. This is probably due in large part to the fact that in neither project do the majority of households have children. In Ballantyne 30% of the households include children, while in Sunnycrest 46% include children. Among the families in Ballantyne with children, half of them are high-sociables and half are low-sociables. According to the tenants, the relatively low number of families is due to the small number of three bedroom apartments, 20% in Ballantyne and 33% in Sunnycrest.

In general, questions asked of people with children to determine whether or not children affected project socializing by influencing their parent’s acquaintance patterns produced negligible results. While parents know who their children play with, they are somewhat uncertain, especially in the case of older children, as to exactly which apartments these children live in. This seems like a good indication that there is little or no visiting among the parents. Generally when respondents acknowledged that they had met neighbors through their children, they said that they did not see them on a social basis.
Differences in Population Characteristics

Since Sunncrest is twelve years old and Ballantyne is only three some discrepancy in the average number of years that the tenants had lived in the project would be expected. It has already been pointed out that on the basis of Caplow's work, the difference between an average length of residence in Ballantyne of 2.35 years and in Sunncrest of 3.54 years should not be a significant determinant of neighboring. Further support for this argument may be found in the fact that the average length of residence for high-sociables is 2.55 years and the average for low-sociables is 2.18 years. Except by hypothesizing a uni-modal curve for interaction related to the length of residence peaking at between 2 and 3 years, which there is no reason to believe would be so, there is no way of implicating this variable as relevant.

Also mentioned previously is the fact that the only marked difference in previous type of residence is that 40% of Ballantyne tenants had moved there from garden apartments or other multi-family housing other than highrise apartments, while only 23% of Sunncresters had moved from garden apartments. It might be argued that previous garden apartment experience predisposed the people in Ballantyne to engage in a high level of project socializing. However, the low-sociables in Ballantyne have a higher rate of previous garden apartment dwelling than the high-sociables, so it cannot be inferred that prior garden apartment experience is relevant to level of project socializing.

The previous place of residence was Syracuse for 55% of the people

in Ballantyne and for 38% of the people in Sunncrest. One might suppose that people who were previously from Syracuse would do more socializing with old friends and make fewer social contacts in a new neighborhood so that the difference in the direction of this trait is unexpected but supports the idea that there is some reason outside of personal characteristics that causes the difference in the two projects. It also could be that, having a greater number of people from Syracuse in Ballantyne, more of the tenants already knew someone when they moved in. This is not the case as 25% of Ballantyne people knew someone in the project when they moved in and 38% of the Sunncrest people already knew a neighbor. The remaining possibility is that being from Syracuse created a homogeneity that encouraged project socializing. This does not seem to be valid either since only 4 out of 9 of the high-sociables were previously from Syracuse and 7 out of 11 of the low-sociables were previous Syracuse residents. In general it is necessary to discard this variable as having value to this study.

The Educational Factor

The average number of years in school is 14.7 in Ballantyne and 13.2 in Sunncrest with standard deviations of 2.88 and 2.04 respectively. This might not be considered a significant difference except in the light of a recent study done in Puerto Rico by Caplow reported in *The Urban Ambience*. His findings there were that among other factors, neighboring was positively associated with increased education. His report does not indicate how much difference in education was required to cause

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a perceptible change, so it is necessary to assume that any increase, even the difference of 1.5 years is potentially significant. Comparing the average number of years in school for the high-sociables and low-sociables in Ballantyne, the score for the respondents in the two groups was almost equal. However, there was a substantial difference in the average number of years in school of the other adult in these households. The average for the other adult among the high-sociables was 17.2 years, and for the low-sociables was 13.4 years. This would tend to substantiate Caplow's report on increased neighboring being associated with increased education, in that those people who exhibited the characteristic of high project socializing tended to have a higher average number of years of education. However, despite the fact that the average number of years of education is slightly lower in Sunnycrest, there are people in Sunnycrest with educational characteristics identical to the high-sociables in Ballantyne and they are not high-sociables.

Some effort has been made to account for the difference in level of project socialization between residents in the two projects in terms of the characteristics of the residents themselves. No explanations based upon these factors appear to hold up under close examination. Having failed in this attempt it seems logical to conclude that the explanation for the differences does not lie with the residents but is to be found in the difference in design characteristics between the two

20. Several other factors including expectation of moving, presence of relatives within the project, tenants' rating of the project as friendly or cold, increased or decreased contact with neighbors since the beginning of individual tenancy, mention of specific features as undesirable, etc., were also investigated and found to be unrelated to project socializing.
projects. This is basically our original hypothesis. The ways in which the design features affect the level of project socializing will be explained in a subsequent chapter.
VI. CASUAL NEIGHBORING

Having searched unsuccessfully through many variables that seemed as if they might be explanations for the differences in project socializing in the two projects, it seems worthwhile to turn to the differences in casual neighboring as this might provide insight into the type of explanation we are looking for. It should be remembered from an earlier discussion that Sunnycrest had a higher average number of neighbors mentioned in answer to questions regarding borrowing, emergency aid, etc., and that more people in Sunnycrest reported that they chatted with some neighbor every day. The label given to this type of contact which does not include getting together socially, was casual neighboring. Before beginning further investigation of variables as an explanation for the higher level of casual neighboring in Sunnycrest, an explanation of the nature of the difference is in order. The following table shows the responses upon which the judgment was made that a stronger casual neighboring pattern exists in Sunnycrest.

<table>
<thead>
<tr>
<th>Casual neighboring</th>
<th>Ballantyne</th>
<th>Sunnycrest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average no. of responses to &quot;Which of your neighbors would you say you know best?&quot;</td>
<td>1.35</td>
<td>1.77</td>
</tr>
<tr>
<td>Average no. of responses to &quot;How many of your neighbors would you borrow...from?&quot;</td>
<td>2.75</td>
<td>2.62</td>
</tr>
<tr>
<td>Average no. of neighbors mentioned to call in emergency</td>
<td>4.15</td>
<td>4.77</td>
</tr>
<tr>
<td>Average total number of neighbors mentioned</td>
<td>3.70</td>
<td>4.85</td>
</tr>
</tbody>
</table>
Though not as startlingly divergent as the figures for project socializing, it was felt that the differences in response indicated a tendency that warranted investigation, especially since the figures seemed to indicate a level of social interaction which contrasted in its occurrence to project socializing.

The responses to the question on borrowing were very nearly the same in the two projects. Many people indicated that they do not borrow simply as a matter of principle, so this did not turn out to be as accurate a measure of neighborliness we had hoped it would be. Another measure on which the two came out surprisingly similarly considering the other disparities in neighboring was in answer to the question "Over the past four of five months have you gotten together with any of your neighbors informally just to talk like having coffee during the day? How often?"

<table>
<thead>
<tr>
<th></th>
<th>Rarely or Never</th>
<th>Several times/yr.</th>
<th>1/month times/mo.</th>
<th>2 or 3 times/mon.</th>
<th>1/week</th>
<th>More total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballantyne</td>
<td>35%</td>
<td>5%</td>
<td>10%</td>
<td>5%</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Sunnycrest</td>
<td>31%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>31%</td>
<td>8%</td>
</tr>
</tbody>
</table>

As the table indicates, 45% of the people in Ballantyne and 39% of the respondents in Sunnycrest reported getting together with neighbors informally during the day in the winter months when it is too cold in Syracuse to be outside for very long, thus cutting off this avenue of contact.

Another question which produced a somewhat ambiguous response
considering the relative number of people mentioned in the other specific
neighboring pattern questions, was "How many people in Ballantyne Gardens
(Sunnycrest) do you know well enough to chat with when you run into
them?". Except for those people who indicated that they knew almost
everyone there were no responses of over 20, and there were many replies
of ten or fewer. For this reason the averages were computed using the
more or less arbitrary number of 30 for those responses of "hundreds"
or "almost everyone." (This seemed to give an accurate measure of the
number of chatting neighbors per person.) Computed in this way, the
Ballantyne average was 13 and the Sunnycrest average was 11. These
may be considered essentially the same since recollection of how many people
one knows well enough to chat with could not be expected to be precise,
and the difference between chatting with eleven people or thirteen people
is probably not very important.

Despite these similarities, there is still the difference in the
total number of neighbors mentioned as "best" neighbors, neighbors to
borrow from, neighbors to call in emergency, neighbors to talk with in-
formally during the day and neighbors to care for in illness. Besides
the difference in these figures in the two projects (3.7 for Ballantyne, 4.85
for Sunnycrest) there are other indications that casual neighboring
is stronger in Sunnycrest. One is in the answer to the question "If
you wanted to post a notice that all the tenants would see, such as if
you had lost something valuable, what places would you pick to put it?"
Several of the respondents in Sunnycrest stated that it would be un-
necessary to post a notice, that word would just spread. There was no
indication of this kind of communication in Ballantyne. There was a
much greater tendency for people in Ballantyne to know no one outside their building. In Ballantyne 55% of the respondents mentioned no one outside of their building as neighbors, while in Sunnycrest only 15% of the people mentioned no one outside their building. This seems to be an indication of greater general contact between parts of the project.

Many of the variables that might presumably affect casual neighboring have already been discredited in the discussion of project neighboring by showing that in most respects the aggregate characteristics in the two projects are the same. One possibility for the difference in casual neighboring might be that people in Sunnycrest have more children. (It has already been pointed out however, that the effect of children on parents' friendship patterns is quite small in these two projects.) Furthermore in the questions relating to where people met their neighbors, and where people usually chat, out of 40 responses from Sunnycrest residents, only four mentioned outdoors with children, indicating the small role that children play in acquaintance formation. No explanations were found for the variance in project socializing among the social characteristics of the residents, and none seem appropriate as explanations for the differences in casual neighboring either. These differences are not as strong, but they do seem to be important. Therefore, an explanation must be sought in the design features that will explain not only the differences in the level of project socializing, but also the difference in casual neighboring.
Other factors having failed to produce satisfactory explanations for the difference in interaction patterns, it is time to investigate the one major variable that was built into the study: the difference in building and site design. It is not necessary to prove that the design forces the people to act in a certain way in order to prove that design is an effective influence. It is enough to show that it encourages behavioral patterns to which the people may be already pre-disposed.

Ordered listing of locations

Several place-naming questions were dispersed throughout the interview. These are listed in Chapter Three. Their general purpose was to determine where people meet, and where people gather to chat in the two projects. The questions were open-ended, and often more than one response was received in answer to a question. For coding purposes the answers were reduced to nine alternatives. This was sufficient to cover all the answers given, though the nine categories varied slightly between the two projects. The responses to all the place-naming questions were consolidated and tabulated. From this, ordered lists were made for each project ranking the answers with the response mentioned most often listed first. This gave an indication of the relative importance of the various ways of meeting and places for gathering and chatting. These lists will be referred to in subsequent
discussions of the design variable.

Frequency of Response to Points and Sources of Interaction

<table>
<thead>
<tr>
<th>Bellantyne</th>
<th>Number of Responses</th>
<th>Sunnycrest</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Court</td>
<td>23</td>
<td>1. Hallway</td>
<td>9</td>
</tr>
<tr>
<td>2. Mail boxes</td>
<td>18</td>
<td>2. Outside</td>
<td>8</td>
</tr>
<tr>
<td>3. Laundry</td>
<td>16</td>
<td>3. Laundry</td>
<td>7</td>
</tr>
<tr>
<td>4. Hallway</td>
<td>13</td>
<td>4. Parking lot</td>
<td>6</td>
</tr>
<tr>
<td>5. Incinerator</td>
<td>6</td>
<td>5. Outdoors with children</td>
<td>4</td>
</tr>
<tr>
<td>6. Outdoors with children</td>
<td>5</td>
<td>6. Through other people</td>
<td>3</td>
</tr>
<tr>
<td>7. Outside of project</td>
<td>5</td>
<td>7. Mailboxes</td>
<td>3</td>
</tr>
<tr>
<td>8. Through other people</td>
<td>3</td>
<td>8. Outside of project</td>
<td>1</td>
</tr>
<tr>
<td>9. Cars, parking lot</td>
<td>2</td>
<td>9. Taking out garbage</td>
<td>0</td>
</tr>
</tbody>
</table>

The Five Contact Group

One of the initial differences in the two projects is the number of households that share a stairwell. This builds in a bias in computing the relative number of people who are known on a floor or in the same stair hall, since opportunities for contact are numerically fewer in Sunnycrest than in Bellantyne. For this reason each person was initially assumed to be a member of a "five-contact group," a group of five households including that of the respondents which, on the basis of propinquity alone, were assumed to have approximately the same opportunity for interaction. In Bellantyne Gardens the five-contact groups consist of the five units on each floor. The Sunnycrest equivalents are the stair halls. In actuality, some of the stair halls in Sunnycrest serve four dwellings and some serve six, but the average number of dwellings per stair is five.

Given the similarities between the two projects populations which have been demonstrated above, it could be expected that if the physical layout had no effect on interaction the average number of people within
same floor do not necessarily use the same stair. The only facility which all five people on the floor have in common is an incinerator. While the incinerator room was mentioned in response to the questions on where people meet and where people chat, it was not high on the list, ranking fifth in the ordered list of nine places which were mentioned in Ballantyne Gardens.

In Sunnycrest on the other hand, the five-contact group is much more intimately connected. They have one hall and stair which these five and only these five use. The stair, as may be seen from the drawing, is open to the hall, unlike the one in Ballantyne which is enclosed in a fireproof core. In addition, the Sunnycrest groups also share a mailbox. The hallway ranks first on the ordered list in Sunnycrest as a place to meet and chat. It seems apparent that the number of accidental contacts which the design encourages in the five-contact group in Sunnycrest results in the higher intensity of casual neighboring in this situation.

Sunnycrest residents also mentioned more neighbors outside the five-contact group than Ballantyne tenants, though the difference here was less marked. Sunnycresters mentioned an average of 2.8 people outside their stair hall; Ballantyne residents mentioned an average of 2.2 people outside their floor. It was hypothesized that these differences also result from a greater number of accidental contacts. The overlay maps indicating the routes that must be followed in everyday activities (Figure 5) show a slightly higher number of intersections and common paths outside the five-contact area in Sunnycrest than in Ballantyne. These findings substantiate the kind of results that were
obtained in the M.I.T. study. In that study the authors concluded that "there can be little doubt that in these communities passive contacts are a major determinant of friendship and group formation." The building and site design in Sunnycrest are such that they facilitate accidental contact which leads to casual neighboring. The design in Ballantyne, particularly the enclosed stairway system, discourages passive contact and accounts for the lower level of casual neighboring.

Design and Project Socializing

Obviously, all friendships within the project which were not formed prior to arrival, are due to some kind of contact. The crucial question which arose during this study was whether or not the contacts which result in friendship are all accidental or if some of them are in fact intentional. On the basis of the data gathered in this study, it appears that perhaps the kinds of contacts which result in project socializing are not the accidental type of contacts previously isolated as determinants of casual neighboring. There is reason to believe that there is a second kind of contact that accounts for the second type of interaction which has been called project socializing. Furthermore it seems that the site design in Ballantyne Gardens makes this kind of contact possible, while the site design in Sunnycrest discourages it.

The buildings in Ballantyne are grouped around a courtyard which is free of automobile traffic and which contains some benches to sit on. The court ranks first on the ordered list of ways to meet people and places to chat. It was mentioned in answer to the place-naming

questions by 90% of the people in Ballantyne as a whole and by every one of the high-sociables. Even the one "social isolate" who knew no one at all in the project mentioned the court as a place to chat. One seventy-five year old woman living with her brother volunteered that in the summer her brother often went out to sit on the benches in the court because he liked to talk; he therefore knew many people in Ballantyne Gardens. She claimed that she herself was not interested in meeting new people so she never went out to sit in the courtyard.

In further support of this hypothesis of the importance of the courtyard to project socialization is in the relative location of neighbors mentioned by the high-sociables and low-sociables in Ballantyne. In answer to the question "Which of your neighbors do you feel you know best, and where do they live?" the low-sociables from Ballantyne mentioned no one outside their building; high-sociables indicated that 43% of their "best" neighbors live in other buildings. Of the total number of responses to questions on specific neighboring patterns, the eleven low-sociables in Ballantyne mentioned only one person outside their own building, while the nine high-sociables mentioned 35 people outside their own buildings. This means that 70% of the people whom the high-sociables in Ballantyne consider to be their best neighbors, those whom they would borrow from, would call in an emergency and help in case of illness, live outside the respondents building.

In addition to the court, Ballantyne Gardens has other facilities which are common to the entire project, and which might be implicated as the points of general project interaction. The laundry is one of these. In Ballantyne 65% of the people use the laundry facilities in
in the project. Among these 38% are high-sociables and 62% are low-sociables, which lends no support to the idea that the laundry is an active gathering point for encouraging project socializing. It is third on the ordered list compiled from place-naming questions; however, twelve out of the sixteen times that it was mentioned were in response to the question on places to post a notice. In Ballantyne Gardens 40% of the respondents said that people chat with others they see at the laundry, but as one woman put it "it's not the kind of place you like to hang around." This response seems to reflect the unappealing atmosphere of the laundry room. No correlation was found between use of the laundry and the number of people that each individual knew well enough to chat with. It seems that the laundry is a facility which might have potential as a common gathering place, but that it does not serve this function in Ballantyne Gardens.

The parking lot is another possibility. However, in Ballantyne where parking is peripheral and somewhat dispersed, it ranked ninth out of nine on the ordered list. In Sunncrest, where there is an interior parking lot, this ranks fourth out of nine as a place to meet people and chat. None of the alternatives on the ordered list for Sunncrest received substantially more responses than any other as was the case with the court in Ballantyne. The hallway in Sunncrest was mentioned eight times, the laundry was mentioned seven times, and the parking lot was mentioned six times. It is clear that there is no place in Sunncrest that people in general identify as a place to meet or chat with neighbors.

No correlation could be found in Ballantyne Gardens between the
level of project sociability and the floor of the respondent, or the location of the building, since the high-sociables were distributed randomly with regard to both of these factors. It is the conclusion of this study that the court provides a means by which those tenants who wish to become closely acquainted with their neighbors may do so, at the same time allowing those who prefer to keep to themselves to avoid contact with other residents without being conspicuously unfriendly. This is not to say that the easily identifiable central place for meeting people, in conjunction with a low level of accidental or passive contact, is the perfect answer to design for medium density housing. Some of the people in Ballantyne complained that it was too cold. They specifically missed the accidental kind of meeting in the halls and at the mailboxes. In Sunnycrest, where casual neighboring is higher than in Ballantyne, no one complained that it was too friendly, a choice specifically suggested in the interview.

Conclusions

Still unanswered then is the question of optimum quantity. How much opportunity for passive contact is ideal? Is there a point at which there is too much or too little? What character of space and how much is ideal to allow for intentional contacts. If there were more than one such place, would that negate its effectiveness? It is obvious that further study is required if the architect and planner are to be provided with enough information that they can design for social factors with the confidence that the programing elements with which they are working will actually facilitate the desired social patterns whatever they may be. It is hoped that this study will be an impetus to further
investigation in this field as it is clear that the initial hypothesis regarding the effect of building and site design on social interaction has been substantiated. The conclusions of earlier studies regarding their effect among homogeneous populations do hold up for heterogeneous populations as well. Furthermore two distinct types of social interaction have been isolated and both of them have been shown to be related to design characteristics.

As a conclusion to an article called "Planning and Social Control"

Herbert Cans states:

The planner has only a limited influence over social relationships. Although the site planner can create propinquity, he can only determine which houses are to be adjacent. He can thus affect visual contact and initial social contacts among the occupants, but he cannot determine the intensity or the quality of the relationships. This depends on the characteristics of the people involved.22

This study, however, indicates that the planner can do more than create propinquity. By providing places that people can readily identify as places for developing more than accidental acquaintances, he can foster relationships which will result in a more highly integrated community. That is not to say that he can produce effects counter to the pre-dispositions of the people involved. However, site planning can encourage or discourage more intensive neighboring patterns where there is any potential for them. The residents in these two study projects seem to be very similar, and should react in approximately the same manner under a given situation. The results of the interviews indicate

a very different set of neighboring patterns. Since the only variable uncovered by the study that is essentially different is the building and site design, it must be concluded that this is the relevant variable.
BIBLIOGRAPHY


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Respondent
Address

1. How long have you lived here?
2. How long have you lived in Syracuse?
3. Before you moved here, did you live in ______ a house ______ a two-family house ______ a garden apt. ______ a highrise ______ or something else
4. Was that in Syracuse?
   If not, was it ______ another large city ______ a small city ______ a small town ______ or open countryside
5. Where did you spend most of your childhood? ______ Syracuse ______ another large city ______ a small city ______ a small town ______ open countryside
6. What about your husband (or other adult member of the household)?
   ______ Syracuse ______ large city ______ small city ______ small town ______ open countryside
7. Did you know anyone in ________________ before you moved here?
8. How many bedrooms does this apartment have?
9. Would you please give me the number of people who live here and their ages?
   AGE ____________________________
   ____________________________
   ____________________________
   ____________________________
   ____________________________
10. Are you satisfied with your apartment location within ________________ or is there some other place you think you would like better?
14. How many of your neighbors do you know well enough to chat with them when you run into them? ______ _chat with everybody
   Do you usually chat with some neighbor every day? _____Y____N
   How did you meet them?

   I am going to ask you a series of questions about your neighbors. We don't need to know their names, but we need some way of identifying them. Is it all right if we use their apartments numbers?
15. Which of your neighbors do you know best? Where do they live?

16. Do you get together with them socially either going places or getting together in each others homes? ___Y____N
   How often would you say that you get together with them socially, using this scale? (hand card) 1 2 3 4 5
   Did you know any of them before you moved here? ____Y____N
   How did you happen to become acquainted?

17. How many of you neighbors do you know well enough that you occasionally borrow something like a cup of sugar, tools or books?
   Where do they live?
18. How many of your neighbors do you know well enough to call on in case of an emergency, such if your car won't start at a crucial time, or there is sudden illness or accident?
   Where do they live?
19. Over the past four of five months have you gotten together with your neighbors informally just to talk like having coffee during the day?
   Where do the people live?
   How often would you say you do this? Is it a regular thing? 1 2 3 4 1 2 3 4 5
20. Do you know any of your neighbors well enough that you would care for them if they were ill?
   Where do they live?
21. Does your husband have any friends here that would be different from the ones that you have mentioned?
   Where do they live?
   Do you know how they became acquainted?

   (place any additional comments on neighbors in this space)

22. Are there children here that your children play with regularly? ____Y____N
   Where do they live?
23. Since you have been in ___________ have you gotten to know any people well because they are the parents of your children's friends? ____Y____N
   Do you ever see them socially? ____Y____N
   How frequently would you say that you get together with them? 1 2 3 4 5
   Where do they live?
24. Do you have any neighbors you don't particularly get along with? __Y__ N
Where do they live?

25. Sometimes when people move they notice a change in the behavior of their children. Did you notice any such change when you moved here?

26. Are there any regular events such as annual parties or a Fourth of July parade when you and several of your neighbors see one another?

27. Have you thought recently of moving?
   If yes, where do you wish to move?

   Why do you want to move?

   What kind of housing do you think you might move to?
   _house _ two-family house _ a garden apt. _ highrise _ other

28. Do you ever expect to move?

   Why?

   What type of housing do you think you would move to?
   _house _ a two-family house _ a garden apt. _ highrise _ other

29. Do you think that you are getting your money's worth here? __Y__ N
   What do you think you should be getting?

30. How would you rate your privacy here? __too much __ just right
   __ too little

   What things disturb you?

32. Would you say that ______________ is well managed? Why or why not?

33. If some one were talking about putting up something which you considered a nuisance, such as an undesirable factory near here, what would you do?

   Would your reaction be the same if it was something like a highway that would be a safety hazard?
34. About how often do you get together with friends socially either going 
places or getting together in each others homes? (hand card) 

1 2 3 4 5 
Do any of them live here in ___________? 
Do you get together with them more often than with your other friends 
less often or about the same? 

If more often, where do they live? 
How did you meet them?

35. About how often do you attend meetings of organizations like PTA, church, 
civic organizations or professional associations? 1 2 3 4 5 

36. How often do you get together socially with people within __________? 
1 2 3 4 5 
How did you meet them?

37. Do you have any relatives in the Syracuse area? (Onondaga county) Y N 

How much time do you spend with them? 1 2 3 4 5 
Do any of them live in __________? 
How often do you get together with them? 1 2 3 4 5 

38. What do you think are the most desirable features of __________? 

39. What things seem most undesirable?

40. Are there any places in __________ where people usually get together and chat, or where they can meet socially?
42. Do you use any of the laundry facilities provided by the management, or do you have your own? own Management other
If management's, would you prefer to have your own? Why?

Do people often chat with others they see at the laundry?

43. Would you say that ____________________ is friendly or cold? Would you say it is too friendly or too cold?

44. If you wanted to post a notice that all the tenants would see, what places would you put it?

45. Has your relationship with your neighbors changed during the time that you have lived here?
Would you say the amount of time you spend with them has increased or decreased?

46. We are interested in getting some idea of your total family income, would you please tell me which category yours would fall into?
(hand card) 1 2 3

47. Census Data
What is your husband's occupation?
What is your occupation?
How many years did you complete in school?
How many years did your husband complete? (or other adult living in household)
Do you have a car? More than one?

48. Is there anything that I haven't asked that it is important to know about __________________________?
Design Implications

A final consideration of this study must be the possible ways in which the results could be applied to specific design recommendations for the development of medium density housing projects. It should be clearly recognized that these results are based on a limited series of observations and that further investigation should be undertaken, but some preliminary suggestions seem in order. First it is necessary to establish some goal designating the type of interaction pattern that is desired. The four "model" types of social environment which the designer may wish to create are (1) a situation in which there is a minimum of interaction of any sort among the people in the immediate neighborhood; (2) one in which project socializing is maximized and casual neighboring is kept to a minimum; (3) one in which casual neighboring is encouraged and project socializing is discouraged; (4) a final possibility in which both project socializing and casual neighboring are encouraged concomitantly.

In order to achieve the first objective of the social isolation of each household within the neighborhood, it would be desirable to eliminate all common facilities, and to focus each dwelling outward to the city as a whole rather than into the project itself. By avoiding the use of common facilities such as shared laundries, shared parking lots and common points of mail delivery, etc., the possibilities for contact, either active or passive among the residents is minimized. Not only will people be prohibited from becoming acquainted with their neighbors while engaging in such activities as doing the laundry, but they will not form nodding acquaintances with people they see often when
using common pathways, few there would be no such pathways that were exclusive to the project. With no central focus or gathering point, people will not make the intentional kinds of contacts that lead to project socializing, and without passive contacts, casual neighboring will not be encouraged either.

In order to create housing which encourages project socializing but not casual neighboring, it would be necessary to incorporate at least one element to serve the same purpose as the court in Ballantyne Gardens. This would be a place common to the whole project where people can go to see neighbors with an excuse to stay long enough (in this case the simple excuse of sitting outdoors) that they can become acquainted with people in the project with whom they have something in common. In order to discourage casual neighboring, some system must be used such as the present stairway system which keeps the number of passive contacts to a minimum. The design of Ballantyne Gardens is presumably not the only way to achieve this specific type of social environment, it is only necessary to design spaces which function in the same general way.

To design for high intensity casual neighboring while discouraging project socializing, one would use abstractions of the elements which seem to cause this pattern in Sunnycrest. The higher number of opportunities for repeated visual contact between neighbors in Sunnycrest because of the arrangement of the stairways, and the number of intersecting pathways seems to be the cause of the high intensity casual neighboring. The lack of a single central space which all the residents can identify as a place to meet neighbors, discourages project socializing very effectively.

Finally, in order to create a design environment conducive to
In order to facilitate socializing and casual neighboring, it would be necessary to
provide some of the features of both Ballantyne and Sunnycrest which
facilitated each of these types of interaction. Thus, such a project should
provide a series of common networks of movement such as stairwells,
pathways, mailboxes, etc., within which residents of the project would
meet each other casually and arrive at a low level of visual acquaintance
and occasional chatting with their neighbors as they went about their
daily business. At the same time, some form of facilities should be
provided which more intensive contacts could be sustained, facilities
such as the courtyard benches in Ballantyne or possibly a common terrace
or other feature to which residents would be drawn for the major purpose
of meeting other residents and establishing more than casual contacts.
The existence of both of the types of features would seem likely to
enable a level of project socializing equal to the levels which exist
in Ballantyne while still providing for the level of casual acquaintance
with many of the neighbors which characterized Sunnycrest. It could
then be expected that individual residents could develop for themselves
the level of social activity which best suited their own interests and
some mixture of both activities would be developed in the project.