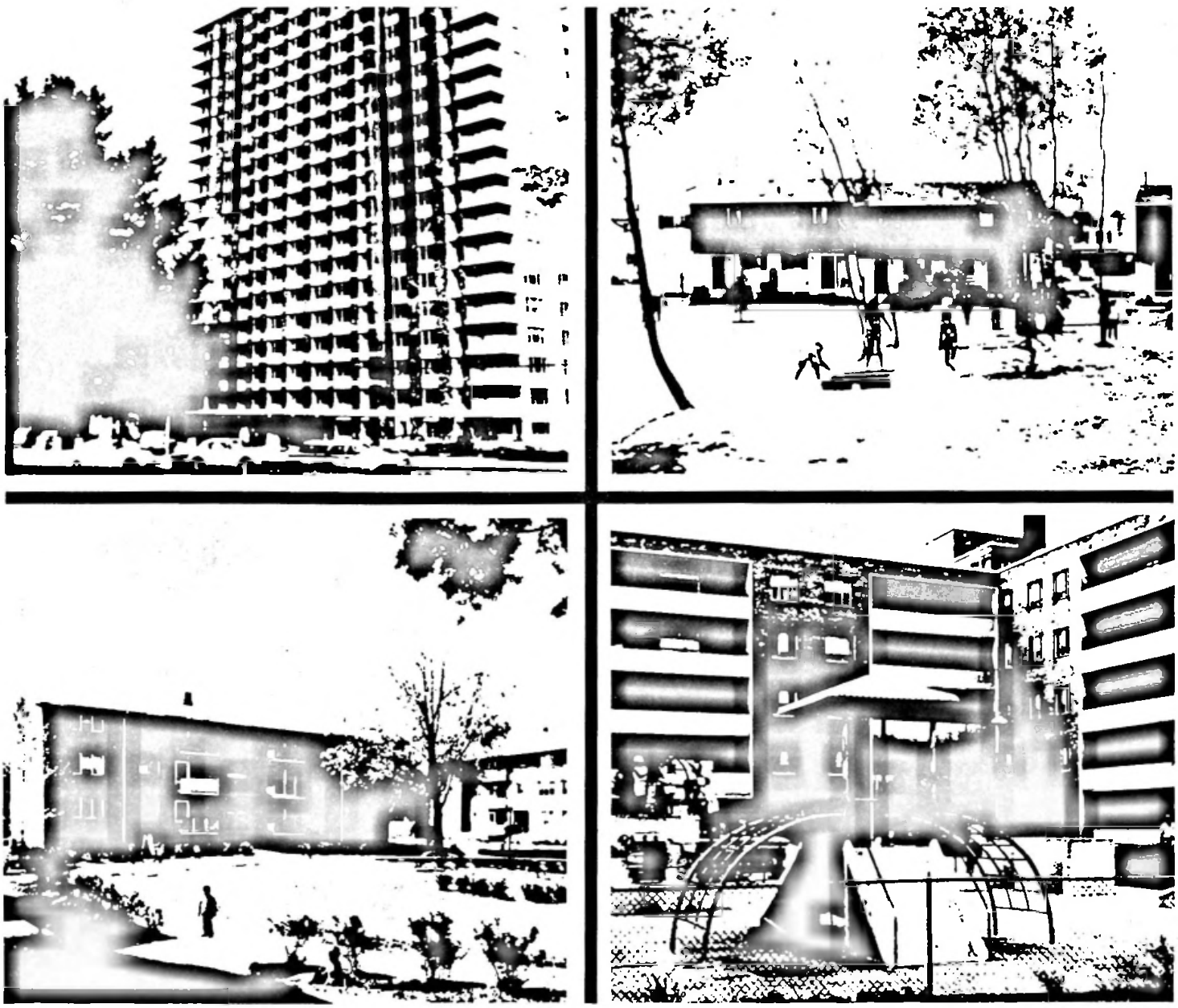
Department of Housing and Urban Development
Office of Policy Development and Research

Residents' Satisfaction in HUD-Assisted Housing:

Design and Management Factors



Residents' Satisfaction in HUD-Assisted Housing: Design and Management Factors

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Prepared for the Office of Policy Development and Research,
U.S. Department of Housing and Urban Development

Prepared by the University of Illinois,
Housing Research and Development Program,
under Contract H-2653

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

FOREWORD

Between 1972 and 1977, the University of Illinois Housing Research and Development Program conducted research under a Ford Foundation grant to determine the degree of residential satisfaction in housing developments for low- and moderate-income families. In 1977, HUD's Office of Policy Development and Research asked the University to synthesize current knowledge of the relationship between residential satisfaction and the planning, design, and management of the housing developments. This report brings together both research efforts.

Since residential satisfaction is an area in which there has been little research, and the report was not intended to be definitive, readers should be aware of both its strengths and its weaknesses. The report is not intended to be a "how-to" manual providing design and management standards or guidelines or suggesting ways to change them. Rather, based on an analysis of questionnaires, interviews, direct observation, and archival records, it discusses those factors that are important in fostering residents' satisfaction. While the report is based on scientific research that may be of a better technical quality than some earlier studies, additional corroboration is needed before broad conclusions can be drawn.

The 37 housing developments selected for evaluation in the initial research represent a limited sample, and some of the characteristics they share may not be common to all assisted housing. The report does attempt, however, to integrate what was learned from the 37 developments with findings of other researchers. In some cases, the report's recommendations run contrary to established policy or commonly held views. These results, in particular, should be subjected to more extensive analysis based on larger sample sizes. Meanwhile, implementation of the recommendations should be done in an experimental mode.

Some of the limitations of the report are matters of omission. For example, the contractor did not consider the important financial and business factors associated with the provision and operation of housing. Other limitations result from the complexity of the questions addressed--questions involving human behavior and the variety of manifestation it entails-- and the scarcity and discontinuity of research in the area. A very large amount of information was gathered in the course of evaluating the housing developments. To keep the report from being unnecessarily bulky, a number of statistical results have been omitted. If the above caveats are kept in mind, this report can be of use to its intended audience: housing planners, designers, managers, and HUD staff. In addition, many topics covered in the report are relevant not only to HUD-assisted housing but to multifamily housing in the private sector. I am pleased to share this report with you.

Donna E. Shalala

Donna E. Shalala
Assistant Secretary for
Policy Development and Research

Acknowledgements

We wish to thank the Ford Foundation, Division of National Affairs, for the financial support that made it possible to conduct the research on which this report is based. The Foundation contributed a grant in excess of $260,000 over a period of three-and-one-half years. In particular, we wish to thank Louis Winnick and Thomas V. Seessel, Foundation Program Officers, who provided encouragement and advice.

The University of Illinois Research Board and the Housing Research and Development Program of the University of Illinois at Urbana-Champaign provided additional financial support.

The report itself was made possible by a contract from the U.S. Department of Housing and Urban Development. Charles A. Gueli and Samuel J. Hodges III were Government Technical Representatives for this contract.

The collaboration of residents, owners, managers, and operating staff in the developments studied is gratefully acknowledged. A number of Housing Authorities, State Housing Development Agencies, and staff in the central and field offices of the U.S. Department of Housing and Urban Development were instrumental in facilitating the task of site selection and in providing permission for on-site work.

We gratefully acknowledge the encouragement and support of Robert D. Katz, chairman of the Housing Research and Development Program of the University of Illinois.

Many individuals contributed valuable comments and suggestions. In particular, we wish to acknowledge the contributions of Bernard Spring, City College, City University of New York, and Morton Isler, Robert Sadacca and Frank de Leeuw, Urban Institute, for comments made in the research stage.

Valuable comments and suggestions were also made, in reviewing a draft of the report, by Mary K. Nenno, of the National Association of Housing and Redevelopment Officials (NAHRO); Powell Lawton, of the Philadelphia Geriatric Center; Robert Sadacca, of the Urban Institute; Louis Sauer, Architect; and Ralph Warburton, of the University of Miami at Coral Gables. In addition, numerous HUD officials participated in the review of the draft. Among them were: Kenneth J. Alles, Elmer C. Binford, W. K. Cameron, Nancy S. Chisolm, Deborah Dewar, Andrew Euston, Milton J. Francis, E. Quinton Gordon, Patricia G. Hampton, Steven J. Hans, Feather O'Connor, Philip M. Stillman, Bernadetta M. Svrcek, and William Wisner.

We also wish to thank Wendi Argyilan, Mary Beth Balika, Timothy Berkesch, Della Boswell, John Crues, Debra Cryer, Martha Cushman, Donald Foster, Ernest Freeman, Margaret Goldberg, Stephen Golding, Diane Hauck, June Hawkinson, Ellen Jacobsen, Suzanne Johnson, Freddie Lambert, Michael Leonard, Michael McMillen, Timi McNeese, Mary Jo Mihalek, Christine Moore, Arvid Osterberg, Trudy Patton, David Saile, John Selby, Rosemary Selby, Wendy Singer, Sandi Stephens, Ann Talbott, Barbara Weaver, David Wolowitz and Robert Young for their assistance in various stages of the study. Kay Valentine typed the manuscript. Joseph Kolman, of the Statistical Services Division of the University of Illinois, provided valuable aid in computer programming.

EXECUTIVE SUMMARY

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The focus of the research on which this report is based has been the concept of *residents' satisfaction* with their living environment. We asked the questions: what factors contribute to make residents satisfied with the place in which they live? which of these factors are amenable to manipulation by government agencies, planners, designers, and managers?

The reasons for using the residents' satisfaction concept as a criterion for evaluating housing developments are explained in greater detail in the report, but they can be summarized here as follows: 1-2

a) traditionally the point of view of the residents has not been sufficiently stressed either in research or in the formulation and evaluation of policy, and

b) a number of undesirable social and operational consequences of ignoring the residents' point of view have become apparent.

Of course, it is necessary, particularly at the policy level, to take into account other criteria, in addition to residents' satisfaction. For instance, economic soundness or political viability cannot be ignored. Nevertheless, in light of the available experience with existing housing it seems clear that these and other desirable criteria are unlikely to be met when the residents are not satisfied with their housing.

The study from which this report originates had three major goals. The first was a methodological objective: the development of valid and reliable research measures for assessing residents' satisfaction. The second objective was substantive: the evaluation of a number of projects for the purpose of identifying and measuring aspects of the residents and their neighbors, of the physical environment, and of management that influence residents' satisfaction. These first two objectives were achieved with the assistance of a $261,000 grant from the Ford Foundation. 1-1

The third objective was to make the findings of the study available to government agencies, legislators, planning and architectural firms, management firms, owners, and others involved in publicly assisted housing. This report, made possible by a contract from the Department of Housing and Urban Development, is intended to fulfill this third objective.

In order to conduct the evaluation mentioned above, we developed a variety of research instruments such as questionnaires and interviews (administered both to tenants and to managers), direct observations of physical housing characteristics, observations of residents' behavior, and examinations of records held by managers, housing authorities and architectural firms. These instruments were used to collect data in 37 developments located in a variety of settings -- from central city to rural locations -- in 10 states ranging from New York to California. Ten of these developments were Public Housing, the other 27 were privately owned (including 11 owned by state housing development agencies and 2 owned by a city housing development corporation) and had received public assistance under Titles 221(d)3, 221(d)4 or Section 236 of the National Housing Act. The length of time these developments had been occupied varied between 33 years and three months. All projects had been designed for general occupancy, with the exception of one that had been designed exclusively for elderly occupants. Racial composition of the population, within developments, varied between totally white and totally black. Two sites had a substantial Spanish-speaking population and one had an American Indian population. Twenty-nine sites had low-rise (one-to-three stories) construction, five were high-rise apartment buildings (with some low-rise mixture), and three were rehabilitated medium-size (three-to-five stories) structures.

2-1

2-4

These developments were extensively studied, by using the research instruments mentioned previously. The research produced a very large amount of information. For instance, by using four different questionnaire forms, responses were obtained to a total of 319 items from over 1900 residents. The managers' questionnaire contained responses to 466 items. More than 18,000 behavioral observations were recorded. Social status and demographic information was obtained for 3900 residents.

2-5

The data thus obtained were analyzed by means of multivariate procedures, including factor analysis, multiple regression, and path analysis. Results of these analyses are described in detail in the body of the report. Whenever possible, these results were compared with findings from other studies.

2-9

Because our study was carefully conducted in a methodologically sound manner, a high level of confidence can be placed in these findings. However, as in any scientific research, corroboration of these results will depend, to some extent, on their being supported by findings of other studies. Our findings and recommendations are outlined below.

7-1

1. MOST RESIDENTS (66 PERCENT, VS. 19 PERCENT) WERE SATISFIED WITH HUD-ASSISTED HOUSING. 3-1

The overwhelming negative image of assisted housing frequently encountered in impressionistic and journalistic accounts is not deserved by these developments.

Based on the experience of Public Housing, 221(d)3, 221(d)4, and Section 236, supply side assistance programs should continue to be pursued as a viable means of providing housing which is satisfactory to its occupants, in addition to other assistance efforts such as housing allowance or other types of direct assistance.

2. WHEN PROPERLY DESIGNED AND MANAGED, HUD-ASSISTED HOUSING WAS AS SATISFACTORY AS, OR MORE SATISFACTORY THAN, HOUSING IN THE OPEN MARKET. 3-5 4-8

In a number of the 37 assisted developments we studied, the residents appeared to be more satisfied than residents in open market housing, particularly when assisted developments were perceived to represent a "better buy" than other housing.

Successful design and management features of existing developments should be applied both to present and future housing in order to bring all HUD-assisted developments to the levels of satisfaction now attained in only a limited number of projects.

3. THERE WERE NO SIGNIFICANT DIFFERENCES IN LEVELS OF SATISFACTION THAT WERE ATTRIBUTABLE TO DIFFERENCES IN ASSISTANCE PROGRAMS. 3-3 7-9

Differences in satisfaction among residents assisted by different programs were very small and in most cases not statistically significant.

HUD should concentrate on strengthening and fine-tuning existing and past programs rather than pursuing the hope that new types of assistance programs, per se, will result in greater satisfaction. However, results from other studies tend to indicate that, under certain conditions, cooperative developments may be somewhat more successful. Thus, further research involving larger co-op samples is needed.

4. WHILE MANY INTERRELATED ASPECTS INFLUENCED RESIDENTS' SATISFACTION, THREE MAJOR FACTORS EXPLAINED A HIGH PROPORTION (74 PERCENT) OF THE TOTAL VARIANCE IN OVERALL SATISFACTION. THESE WERE: SATISFACTION WITH OTHER RESIDENTS, PLEASANT APPEARANCE, AND ECONOMIC VALUE. 3-5 4-6 7-3 7-5 7-7

Our data corroborated the hypothesis that residents' satisfaction with housing is influenced by both physical and non-physical aspects. A model containing 16 indices pertaining to these aspects showed a high degree of complexity and interdependence among characteristics of the residents and their neighbors, of the physical environment, and of management.

Simplistic approaches that concentrate on one aspect of housing to the detriment of other satisfaction-related factors should be avoided. The policies and strategies most likely to be successful are those in which the complexity and interdependence of residents' characteristics, physical environmental attributes, management factors, and economic value are taken into account. Specifically, assessments of housing quality should include not only "objective" physical measures but also perceptions of both physical and non-physical aspects.

5. AS A WHOLE, THE RESIDENTS IN OUR SAMPLE OF HUD-ASSISTED HOUSING WERE A NON-HOMOGENEOUS POPULATION WITH RESPECT TO A NUMBER OF SOCIO-DEMOGRAPHIC CHARACTERISTICS INCLUDING INCOME, EDUCATION, VALUES, AND LIFESTYLES. DIFFERENCES IN THESE CHARACTERISTICS WERE RELATED TO DIFFERENCES IN SATISFACTION LEVELS AND IN ASPECTS PREDICTING SATISFACTION. DIFFERENCES IN SOCIO-DEMOGRAPHIC CHARACTERISTICS WERE PERCEIVED MORE ACCURATELY BY TENANTS THAN BY MANAGEMENT. 4-1 4-3

Socio-demographic differences among households in HUD-assisted housing should be brought to the attention of designers and managers. For designers, the implication of socio-demographic differences may involve greater flexibility and variety of design solutions. For managers, it should result in increased readiness to perceive tenant heterogeneity, thus making it easier to tailor management's policies and practices to the various subgroups living in a development.

6. THE MORE OTHER RESIDENTS IN THE DEVELOPMENT WERE PERCEIVED TO BE SIMILAR TO ONESELF, THE HIGHER THE LEVEL OF SATISFACTION WITH OTHER RESIDENTS AND WITH LIVING IN THAT DEVELOPMENT. 4-5

Both our data and the comments from our respondents indicate that satisfaction with one's neighbors in the development and overall satisfaction were higher when other residents were perceived as having similar beliefs about right and wrong, similar childrearing ideas, similar interests and similar education.

A re-examination of policies fostering deliberate socio-economic mix should be undertaken, including further research on this aspect. Presently available findings (discussed more fully in the report) suggest that mixing households having widely different moral beliefs, life-styles, and education, should be avoided within a single development.

7. THE PERCEPTION THAT OTHER RESIDENTS WERE FRIENDLY AND WELL-BEHAVED WAS A VERY IMPORTANT COMPONENT OF OVERALL SATISFACTION. 4-5 4-7

Satisfaction with other residents as neighbors was closely related to similarity, friendliness and trustworthiness, the degree to which they cared for upkeep and cleanliness, the degree of privacy, lack of crowding, and protection from crime and vandals, and the degree to which management rules and performance were perceived to have an effect on these aspects.

Within our sample we found different policies and practices concerning applicants. For instance, in a number of projects, credit and reference checks on new applicants were not carried out. But even when some kind of screening of new applicants existed, it was not always effective in keeping undesirable tenants from being admitted.

Admission and eviction policies and practices should be continuously re-examined and re-evaluated in terms of their effectiveness in fostering acceptable residents' behavior. In the case of developments targeted to dependent households, appropriate social service programs together with firmness by management in enforcing behavior rules appear to be needed.

8. NOT FEELING STIGMATIZED FOR LIVING IN ASSISTED HOUSING WAS STRONGLY ASSOCIATED WITH OVERALL SATISFACTION, BUT ONLY 15 PERCENT OF OUR RESPONDENTS FELT THEY WERE SO STIGMATIZED. 4-10

Design features and management attitudes similar to those expected by housing consumers in the private sector should be encouraged.

9. THE APPEARANCE OF THE PHYSICAL ENVIRONMENT WAS AN IMPORTANT COMPONENT OF RESIDENTS' SATISFACTION. 5-10

Attractive appearance was a strong predictor of overall satisfaction. It was not associated with any particular architectural style, but rather with the specific treatment of buildings, units, and grounds. Variety in shapes and materials, bright colors, good landscaping and pleasant views, a sense of elegance and newness and the lack of an institutional look were strongly associated with pleasant appearance. Maintenance, as influenced by management's and residents' care, was also related to appearance. These findings indicate that attractiveness of the physical environment should be considered as a social need and not just as an abstract esthetic concern.

The attitudes of designers and their clients should reflect a greater concern with those visual aspects that appear to be important to the residents themselves. These attitudes are likely to be reinforced if the process by which submissions are reviewed and approved by HUD included stronger consideration of these visual attributes. Post-occupancy evaluations and in-depth assessments of innovative designs can help in uncovering such attributes.

10. PERCEPTIONS OF SPACIOUSNESS AND PRIVACY WERE MODERATELY STRONG PREDICTORS OF OVERALL SATISFACTION. 5-22 5-23

More attention should be paid to matching space needs of tenants to the number and size of rooms. In terms of design, kitchens and storage rooms appear frequently to be too small. In the area of management, assignment of units that do not contain sufficient number of rooms, particularly for families with several children, should be avoided. There is a need for improving aural and visual privacy. Sound transmission standards should be upgraded, possibly by more stringent performance specifications. Fences and screens around patios, backyards and balconies should be provided as a means of achieving visual privacy.

11. LOCATION WAS FOUND TO BE ASSOCIATED WITH OVERALL SATISFACTION, BUT IT WAS NOT A CONTROLLING FACTOR. 5-1

Locational factors, particularly in regard to crime, vandalism and other socially undesirable behavior in the neighborhood immediately surrounding a development, should receive more careful attention before a decision is made to build. When undesirable neighborhood characteristics exist, design and management features will have to compensate for such undesirable conditions if a satisfactory environment is to be obtained.

12. DENSITY, PER SE, WAS NOT A PREDICTOR OF RESIDENTS' SATISFACTION. 5-2

Measures of density should not be used in assessing the potential for residents' satisfaction of design proposals. Rather, specific solutions to problems of spaciousness and privacy should be evaluated.

13. SMALLER DEVELOPMENTS TENDED TO BE ONLY SLIGHTLY MORE SUCCESSFUL. 5-3

The relative weakness of size as a predictor should serve as caution, however, against making undue generalizations. All that can be said is that for smaller developments certain design and management issues appear easier to deal with.

In most instances, keeping the size of a development relatively small should make it easier to cope with factors associated with overall satisfaction.

14. THE TYPE OF SITE LAYOUT WAS NOT RELATED TO RESIDENTS' SATISFACTION. 5-4

In assessing the site plan of a proposed development, the type of site layout should be considered in connection with the manner in which it may solve specific problems offered by a particular site, rather than in regard to a preconceived notion of its intrinsic advantages.

15. THERE WAS NO SIGNIFICANT DIFFERENCE IN OVERALL SATISFACTION BETWEEN SUBSAMPLES OF RESIDENTS LIVING IN HIGH-RISE AND LOW-RISE DEVELOPMENTS. 5-8

Our analyses indicate that well designed and well managed high-rise housing can be as satisfactory as any other well designed and well managed building type. Indeed, in our sample the high-rise residents were more satisfied than low-rise residents with privacy from neighbors, recreation facilities and parking arrangements. We also found that aspects of privacy from neighbors, having desirable neighbors in the 2-3 block area around the development, and being secure from crime and vandalism were more important for residents of high-rises than for those living in low-rise developments.

When high-rise housing is contemplated as a result of economic or planning conditions, it should not be rejected off-hand as inherently unsatisfactory. Rather, it should be assessed in regard to specific satisfaction-related aspects that are important for the residents.

16. THE TYPE AND QUALITY OF THE FACILITIES AND AMENITIES PROVIDED WERE MODERATELY STRONG PREDICTORS OF RESIDENTS' SATISFACTION. 5-29

All efforts should be made to provide more than minimal facilities and amenities. Landscaping and recreation areas should be treated as an integral part of the necessities of a satisfying residential environment. Whenever possible, private or semi-private parking and laundry facilities should be provided. HUD policies and practices should support reasonably high levels of facilities and amenities.

17. MANAGEMENT ASPECTS WERE STRONG PREDICTORS OF RESIDENTS' SATISFACTION. 6-1 6-2 6-17

Among specific aspects highly associated with satisfaction with management were perceptions that management was respectful, friendly and cooperative, that the policies and rules were appropriate and were being fairly and equally enforced, that repairs were made promptly, that maintenance was adequate, and that there was good protection from crime and vandalism.

Housing authorities and other owners of assisted housing developments should place greater emphasis on tenant-oriented management practices. Management professionalization efforts, including management training and certification, should be stepped up.

18. A NUMBER OF MANAGEMENT POLICIES AND RULES WERE PERCEIVED AS UNSATISFACTORY BY THE RESIDENTS. 6-3 6-5 6-23

Rules should be aimed at insuring orderly and peaceful coexistence and reasonable upkeep, not at making management's job easier. Rules should respect tenants' privacy and permit reasonable decoration and personalization by tenants. Enforcement of rules should be fair and equal.

19. MANAGEMENT'S PERFORMANCE IN PROVIDING ADEQUATE MAINTENANCE AND IN RESPONDING QUICKLY AND EFFECTIVELY TO TENANTS' COMPLAINTS WAS GENERALLY NOT SATISFACTORY. 6-11 6-12 6-17

Only about half of our respondents were satisfied with management response to complaints, and only 30 to 50 percent of respondents considered that a number of specific items in the development were well maintained.

The delivery of management services should be improved to insure more prompt and effective responses to tenants' complaints and higher maintenance standards.

20. PROTECTION FROM CRIME AND VANDALISM WAS INADEQUATE. 6-16 6-21 6-23

Less than half of our respondents were satisfied with the protection they received from crime and vandalism. Although the responsibility for this protection was perceived to be shared among management, residents and police, there were numerous complaints regarding the lack of effectiveness of security systems and security guards, and the lack of screening of undesirable tenants by management.

Security measures, including both physical environmental security and protection by guards and police, need to be applied in a more rigorous and widespread manner.

21. ON-SITE RESIDENT MANAGERS WERE NOT PERCEIVED AS PERFORMING BETTER THAN MANAGERS LIVING OFF SITE. 6-23

Having the manager live in the development should not, by itself, be considered an effective way to increase residents' satisfaction.

22. HUD MANAGEMENT GUIDES RECEIVED MIXED EVALUATION. 6-24

Although about half of the managers who answered questions about HUD management guides found them very helpful, approximately 31 percent found them not helpful or not very helpful. These results suggest that the guides may require some improvement.

A survey of housing managers should be conducted to ascertain specific improvements that they may suggest in HUD management guides.

23. RENT POLICIES WERE A FREQUENT CAUSE OF COMPLAINTS. 6-5

At the policy level, a re-examination of the rent system seems necessary. Such examination should attempt to simplify the system and to prevent the eviction of tenants that become more independent from subsidies. At the project level, communication about rents and rent policies between management and tenants should be improved.

In addition to the findings and recommendations summarized above, our research suggests the continuing need for consulting the residents and for feeding back the results of these consultations into the housing delivery and operating process. Specific steps taken to ameliorate the shortcomings indicated by research should be implemented, together with a mechanism for evaluating the impact they may have on residents' satisfaction. 7-12

As more fully discussed in chapter 7, a program of education stressing the residents' viewpoint and sensitizing all people concerned to the residents' needs and expectations would, in our opinion, have great potential in ensuring more satisfactory housing for low and moderate income households. 7-15

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Introduction

One of the concerns frequently expressed by professionals and practitioners is that a gap exists between the generation of knowledge pertaining to a field and the application of that knowledge to the solution of real world problems. In the field of housing, this gap is perhaps even wider than in other areas for a number of reasons, one of which is that only recently has a tradition of systematic and relatively rigorous research begun to emerge in this field. One aspect contributing to the existence of the gap between research and application is that the results of research are often presented in a language and format that, though necessary for precise communication among the scientific community, tend to discourage reading by practitioners and professionals.

This report is written in response to the need for bridging the gap in the area of housing for low and moderate income families, particularly in regard to factors of planning, design, and management. It is directed to government officials who deal with housing both at the policy and at the operational level, to planners and architects, to housing authority officials and owners of assisted housing, and to managers of housing developments.

The report is based primarily on a study in which 37 HUD-assisted multifamily developments were evaluated against the criterion of *residents' satisfaction*. This study, which included development of research methodology, in-situ data collecting, and extensive data analysis, was carried out between 1972 and 1977 with the assistance of a grant from the Ford Foundation.

In addition to presenting findings from this study, the report attempts to compare these findings with those of other researchers so as to provide, as much as possible, a synthesis of current knowledge.

The focus of our research has been the concept of residents' satisfaction. We asked the questions: what factors contribute to make residents satisfied with the place in which they live? what is the relative degree of importance among these factors? which of these factors are amenable to manipulation by government agencies, planners, designers, and managers? We asked these questions because we believe that providing housing that satisfies its residents is important not only from the point of view of social equity, as established in the well known goal of "a decent home and suitable living environment" (Section 2 of the Housing Act of 1949), but also from a practical point of view and from the point of view of maximizing the benefits of public investments. Housing that does not meet the users' expectations and quality criteria tends to remain vacant or to become vacant long before it becomes structurally unsound or, when it is occupied, becomes a source of constant dissatisfaction for the occupants. These conditions can--and often do--lead to destructive behavior such as crime and vandalism, or to less violent but still undesirable consequences such as high turnover rates and high concentration of "problem tenants."

In the course of evaluating the 37 HUD-assisted developments in our sample, a very large amount of information was gathered. For instance, by using four different questionnaire forms we obtained responses to a total of 319 items from over 1900 residents. A managers' questionnaire contained responses to 466 items. More than 18,000 behavioral observations were recorded. Social status and demographic information was obtained for 3900 residents. To present this information in an exhaustive and comprehensive manner would add unnecessary bulk to this report. For this reason we have omitted a number of statistical tables and other information not directly related to the purpose of this publication.

This report is organized in three parts. In the first part we describe the purpose of the study and the research process, and we discuss the reasons for having selected residents' satisfaction as a criterion for evaluating success in the 37 housing developments.

In the second part we present research findings. We report levels of satisfaction for the total sample of residents and for sub-samples of the population. We present results of analyses which identify the "dimensions" or components of residents' satisfaction and the degree to which each of these components contributes to overall satisfaction. We present and discuss specific results related to three domains: residents, physical environment, and management.

In the third part we discuss the implications of research findings for the formulation and evaluation of housing policy as well as for the planning, design and operation of assisted housing developments.

The reader should be aware not only of the strength of a publication of this kind, i.e., its being based on relatively rigorous scientific research, but also of its limitations. Some of these limitations are a matter of content. For instance, we did not consider in our research and we do not discuss in this report the very important financial and business aspects of the provision and operation of housing. But some of these limitations are a result of both the complexity of the questions addressed--questions that directly involve human behavior and the variety of manifestations that it entails--and of the scarcity and discontinuity of research in this area. Even though we feel that our research is of a better technical quality than most earlier studies, and therefore that a relatively high level of confidence can be placed in our findings, nevertheless we caution the reader against making extensive generalizations without the benefit of further corroboration. For instance, in our study we evaluated 37 carefully selected developments. This is a better research condition than obtained in some other studies in which one development or a small number of projects were studied. But we have no way of determining to what extent the conditions found in these 37 developments can be expected to exist in all other assisted housing. Moreover, our study was conducted at one time. We do not know to what extent these conditions would be different at some other time. We sincerely hope that this type of research can be pursued more consistently and on a larger scale in the future so that stronger conclusions can be generated from research findings.

On the other hand, if the above caveat is kept in mind we believe that this report can be of use to its intended audience. Indeed, we feel that many of the aspects covered here are relevant not only to HUD-assisted housing, but also to multifamily housing in the private open market sector. In view of the recent escalation in the price and rents of single family homes it may very well be that multifamily housing will become a more common housing type. If this were the case, then these concerns would certainly extend to a much larger sector of the population.

The reader should also be aware of the limitations placed on this report by its intended format. As mentioned earlier, detailed documentation of findings and comprehensive substantiation of results by presenting all available data would result in a much longer publication. Such length would certainly diminish the usefulness of the report for its intended audience. However, for those who may be interested in pursuing in greater detail some of the issues discussed in the text, we have provided appendices in which bibliographical and statistical information may be found. In addition, a number of published papers are available and a book-length research report is being prepared (see Bibliography in Appendix A).

Finally, it should be understood that it is not the purpose of this report to specify in detail how problems in assisted housing should be solved. Rather, the purpose of the report is to facilitate a sharper definition of the issues (particularly stressing the residents' viewpoint) and to discuss the implications of these issues for housing policy, planning and design, and management. To the extent that recommendations can be based on research findings, such recommendations are found in chapters 7 and 8.

PART I: THE STUDY

Chapter 1

Purpose and Scope of the Research

To a builder or developer, the most important information about a customer is not so much who he is, but how satisfied he is after he has lived in his new house.

(Norcross, 1973)

1.1 Objectives

The main purpose of the study on which this report is based was to evaluate a number of publicly assisted housing developments in such a manner as to build on the findings of prior studies while avoiding some of the methodological weaknesses from which these studies frequently suffer. This purpose follows from the notion that results from evaluative studies can be fed back into the process of providing and operating housing so as to result in residential environments more responsive to the desires and expectations of the occupants.

More specifically, the research had the following objectives:

a. To develop reliable and valid measures for the assessment of residents' satisfaction with their housing.

b. To identify and measure physical, managerial, social and psychological factors that influence the degree of residents' satisfaction.

c. To make both the measurement procedures and the substantive findings available to government agencies, legislators, planning and architectural offices, management firms, and others involved in making policies and decisions about housing.

1.2 Residents' Satisfaction as an Evaluation Criterion

To evaluate is to measure performance with respect to a criterion. When we set out to evaluate the 37 HUD-assisted developments which serve as a basis for the discussion presented in this report our first problem was to choose an evaluation criterion. Because we intended that our research be not only interesting but also useful, we needed a criterion that would be, as much as possible, relevant to the formulation and evaluation of policy, important both in social and practical terms, and sensitive to changing circumstances and expectations. The criterion we chose was *residents' satisfaction.*

Before discussing in greater detail the advantages and limitations of using our evaluation criterion, it is of interest to examine a number of other criteria by which housing is often evaluated. Note that the selection of any one particular evaluation criterion is a reflection of the perspective from which the evaluation is made. In turn this perspective is influenced by the goals that one has in mind for the specific policy, program, or situation that one is evaluating. Therefore there are no "right" or "wrong" criteria. There are, however, criteria that are more or less appropriate to the task at hand, i.e., criteria that, when used, will be more likely to provide answers to the questions one is asking.

The first group of criteria often found in the housing literature is linked to an *economic perspective* of housing. This is of obvious importance when one considers: a) the magnitude of public and private investments in the housing sector, b) the rapidly escalating costs of building and operating housing, and c) the increasing demands for fiscal accountability in the public sector.

In practical terms, an economic criterion (often expressed as "economic viability" or "economic soundness") is attractive because it reflects familiar market notions in which a commodity or service is considered acceptable or successful to the extent that people are willing or able to pay the price.

Because policies and programs must be related to available resources, economic criteria cannot be ignored. However, economic criteria are not, per se, adequate for evaluating housing success in social terms. Particularly in publicly assisted housing, it is not sufficient for a development to be economically sound in order to be considered successful. Because the low and moderate income residents typically served by programs of housing assistance do not have the degree of housing choice available to other sectors of the population, an indicator that may measure success in the open market (e.g., full occupancy) will not reliably measure success in assisted housing.

A second set of criteria with which housing has been frequently evaluated reflects a *social effects perspective.* In this perspective, it is assumed that the degree to which a housing development is successful is a function of the desirable social effects it has on the occupants. Historically, this perspective stems from the observation that "slums," that is, collections of substandard housing brought about by industrialization and urbanization, were associated with hazards to the health and well-being of the residents.

It was assumed that the replacement of slums with decent homes and a suitable living environment (i.e., "standard" housing) would bring about a reduction of problems connected with diseases and social maladjustment. In turn, if these "social effects" could be found to have occurred as a result of living in a development, then that development could be considered successful. The social effects criterion, however, seems to suggest that unless housing can be demonstrated to have desirable effects on health and social adjustment it cannot be considered successful. Thus, this criterion by-passes the issue of what constitutes a decent home and a suitable living environment in the first place. In practical terms, the measurement of social effects is also an extremely complex and time consuming activity, particularly if a wide range of social benefits is to be considered.

A third group of criteria that has been used in evaluating housing is tied to a *physical conditions perspective.* The criteria that may be utilized in this perspective may measure such things as the structural integrity of the dwelling, the provision of sanitary services, the visual appearance of housing and neighborhood, etc. Again, as in the case of economic criteria, the attractiveness of these measures is in large part to be found in their apparent objectivity and relative ease of measurement. For these reasons, they have been used extensively in the decennial Census and, in part, in the Five City Survey and in the Annual National Housing Surveys conducted for HUD by the Bureau of the Census. However, the validity of these criteria (that is, the degree to which they actually reflect housing quality or success) has never been corroborated.

On the contrary, there are several studies which suggest that physical condition criteria do not adequately discriminate between satisfactory and unsatisfactory housing (e.g., Mendelsohn and Struyk, 1975; Bureau of the Census, 1975).

The difficulties with the three types of criteria briefly discussed above have been noted by numerous researchers. It has frequently been pointed out that one major weakness of these criteria is that they ignore the criteria held by those who are, after all, the very target of the assistance programs, namely the residents themselves. A number of authors have stressed the need for investigating the perceptions and/or behavior of housing occupants. This suggested focus on the housing *users* stems in part from the realization that often there are important social, cultural and economic differences between those who make housing policy and operate housing assistance programs and those who are the target of such policies and programs (e.g., Michelson, 1968; Lansing and Marans, 1969; Duncan, 1971; Troy, 1971; Cooper, 1975). A study by the United Nations (U. N. Economic Commission for Europe, 1973) pointed out, moreover, that even such practical matters as the estimation of quantitative housing needs are intimately bound up with the determination of what the residents regard as acceptable housing quality.

The criterion of *residents' satisfaction* appears to respond to these concerns and to have a number of advantages over economic, social effects, or physical standards types of criteria. The first advantage is related to the need that housing studies be relevant to public policy. If the objectives of Federal housing policy are examined, it is noticeable that the Housing Act of 1949, in which the goal of a "decent home and suitable living environment for every American family" is stated, uses language that conveys a clear social meaning, implying a concern for the well-being of those intended to be the target of the legislation. Although many ancillary objectives have been ascribed to Federal housing policy (e.g., Downs, 1974), the primary stated reason for programs of public assistance remains the well-being of the residents. Thus, the recognition by the affected population that the outcome of these programs is satisfactory to them is an important criterion for policy evaluation. It seems reasonable to conclude that the greater the number of low and moderate income families that are satisfied with their living environment, the more successful the policy of housing assistance that made that housing available. This is also consistent with the recommendations of the National Commission on Urban Problems (1968) which, after careful study, stated that we have yet to deal adequately "with the whole problem of a *satisfying* living environment" (p. 1, emphasis added).

The second advantage of the residents' satisfaction criterion is that it has been used with increasing frequency in a number of recent studies. Thus a certain amount of comparability with the findings of other researchers becomes possible. For instance, Campbell, Converse and Rodgers (1976) in their extensive study on the quality of American life also adopted the concept of satisfaction as an overall criterion, as well as a criterion for each of the life domains that they studied (which included the domain of housing). Because they investigated a national sample representative of all income ranges, we can compare the degree of residential satisfaction in the population at large with the degree of satisfaction in the 37 HUD-assisted developments we studied. Indeed, we feel that the criterion of residential satisfaction will be consistently used in future research, thus permitting more reliable and precise comparisons and even the monitoring of residential environmental quality over time. This could have very real practical advantages for administrators and managers by providing a reasonably sensitive "early warning system" of impending problems, as well as a better sense of the conditions under which such problems may be minimized.

Finally, a third advantage of the residents' satisfaction criterion is that it permits the development of a conceptual framework, or model, that may be useful in improving our understanding of the many interrelated aspects which bear on one's living environment. This advantage is perhaps of more interest to researchers than to government officials, professionals and practitioners. However, it seems to us that a better theoretical understanding can have important practical consequences.

For instance, it may be useful in terms of intervention strategies to find out which aspects not normally considered to be a part of the housing environment itself, or not normally considered manipulatable (e.g., a residents' perception of his or her personal achievement in life) actually play a part in contributing to satisfaction with one's housing. One social implication of a conceptual model based on the residential satisfaction criterion, as noted by Taube (1972), is that "it presupposes that the tenants [in assisted housing] are people in a residential setting--not unlike their counterparts in the private sector--and, therefore, can be studied as people are in other residential contexts" (p. 37).

Some authors have raised objections to using residents' satisfaction as a criterion. One objection is that residents' perceptions are influenced by past experiences and expectations and thus do not provide for a stable criterion (Schorr, 1966). In our view, this seems to be more an advantage than a disadvantage, as it tends to stress the importance of evaluating housing *in the context* of social expectations.

A second objection is that, when asked about their satisfaction, people will respond with unreasonable demands and unbounded expectations. There seems to be no evidence to support this concern. On the contrary, the literature points to the reasonableness with which people will assess their needs and expectations. For example, in a study of residential aspirations of tenants of a publicly assisted development, Cooper (1975) concluded that "people's desires were modest and in many cases realizable, and reflected very clearly the drawbacks they perceived in their current situation" (p. 165).

A third objection to the use of residents' satisfaction as a criterion for housing evaluation is that the residents themselves are not a reliable and valid source of information about their housing precisely because they are limited to their own knowledge, insights, and experience. In this view, the judgment of experts is presumed to be superior to that of the lay population because of the experts' knowledge of a wider range of housing alternatives and because of their professional objectivity. The perceptions and opinions of experts certainly deserve consideration. But, as mentioned previously, there are two factors that limit the usefulness of quality assessments made by experts: a) the cultural distance between experts and low income residents, and b) the lack of appropriate data on which to base those assessments. Evaluations made by residents have been shown to differ substantially from those made by experts (Michelson, 1968; Lansing and Marans, 1969; Troy, 1971; Cooper, 1975; Carp et al., 1976).

To summarize, our perspective is that it is not sufficient for a development to be economically viable or to comply with physical standards in order for it to be considered successful. On the other hand, it is not necessary to demonstrate that living in that development has any particular desirable social effects on the population. What *is* necessary is that the development residents be reasonably satisfied. Measures of residents' satisfaction with their living environment have the potential of providing a useful and socially acceptable criterion for evaluating housing and for assessing the importance of various characteristics of that housing in meeting residents' expectations.

There are a number of implications of this perspective. Because the population is not homogeneous, the satisfaction of an individual or a group may come at the price of dissatisfaction in other groups. The issue of low income housing in the suburbs is an example of this type of conflict. But conflicts such as this are essentially of a political nature. Measures of residents' satisfaction cannot be expected to resolve such conflicts, only to provide the knowledge necessary for well-informed political solutions.

Although the satisfaction of the residents should be a primary evaluation criterion for policies and programs, it is plain that in decision making trade-offs may have to be considered in light of what may be practically, politically, and economically possible. For instance, in formulating policy, cost/benefit analyses may need to be performed to determine what levels of resource allocations are tolerable by the economy to produce the desired level of residential satisfaction. Again, the formulation of national policy is a political process in which goals of many kinds and interests of competing groups must be integrated, and as such it is only in part influenced by data-based information. But having a social yardstick with which to measure success should make economic and political decisions more rational and responsive to the needs of the people.

Chapter 2

The Research Process

2.1 Research Stages

From knowledge of past research, four facets of the problem of assessing residents' satisfaction were identified as critical: 1) types of multifamily housing sites that should be considered, 2) potential sources of information, 3) measurable components of housing potentially relevant to residents' satisfaction, and 4) different methods of measurement which could be adapted to research in the field of housing.

The relationships between these facets of the problem are shown in figure 2-1: within any given housing site, there were several possible sources from which information could be obtained about each of several categories of variables, and this could be accomplished by the use of several different methods of measurement.

Multifamily Housing Sites 1, 2, . . . n	Sources of Information											
	Occupants		Managers		Researchers		Architects		Community			
Components of housing / Measurement methods	Direct Observations	Questionnaires Interviews Archival Records Photography	Direct Observations	Questionnaires Interviews Archival Records Photography	Direct Observations	Questionnaires Interviews Archival Records Photography	Direct Observations	Questionnaires Interviews Archival Records Photography	Direct Observations	Questionnaires Interviews Archival Records Photography		
Physical Characteristics -Public Spaces -Semi-public Spaces												
Occupants -Characteristics -Perceptions -Behaviors												
Management -Characteristics -Perceptions -Policies -Regulations												
Surrounding Community -Characteristics -Access to -Perceptions -Behavior												

Figure 2-1: Facets of the research problem

Once these facets were identified, the research proceeded in three stages. In the first stage, choices were made, within each facet, from the universe of possibilities. Thus decisions were made about which sites to include in the sample, which sources of information to utilize, which variables to measure, and which methods of measurement to employ.

In the second stage of the research process, variables were given operational definitions, measurement instruments were constructed and pretested, procedures were developed, and data were collected.

In the third stage of the research process, the data were subjected to descriptive statistical analyses and to multivariate analyses designed to 1) reduce the data to more manageable (smaller) sets within each instrument, and 2) to uncover relationships between various aspects of multifamily housing and residents' satisfaction.

2.2 Sample of Sites

Because knowledge of all low and moderate income multifamily housing developments was not available and access to those selected could not have been guaranteed in advance, no formal method of site selection was followed (e.g., random sampling or stratified sampling). Instead, HUD regional offices, housing authorities, developers, and others who could assist in locating diverse housing developments were contacted and a list of potential sites was compiled. There were two ways in which this initial list was reduced to a final sample of thirty-seven sites: either a given site did not meet the criteria for selection or, the site having met the criteria, the management or owners would not permit the study to be conducted.

There were three criteria for selection. The first, and major criterion, was diversity. The dimensions along which diversity was sought were location, age of occupancy, characteristics of the population, overall site design, building types, and assistance programs. The second criterion was one by which some sites were selected within a defined metropolitan area to allow for comparison between developments within that area. The third was an economic criterion by which some geographically clustered sites were selected, thus reducing travel expenses. Figure 2-2 shows the approximate locations of those sites included in the final sample.

Sixteen of the selected sites were located in the central city zone of major metropolitan areas.[1] Another sixteen housing developments were located in metropolitan areas outside the central city zone but not in the suburbs. These were termed urban areas. Of the remaining five sites, two were located in the suburbs of metropolitan areas and three were located in rural areas. The sites were located in Illinois, Indiana, Kentucky, Michigan, Minnesota, New York, Ohio, Pennsylvania, Tennessee, and California. The length of time developments had been occupied varied between thirty-three years and three months.

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[1] The classification used here is intended to give the reader a general idea of where the sites are located on an urban-rural dimension; this classification does not necessarily correspond to standard political or economic dimensions.

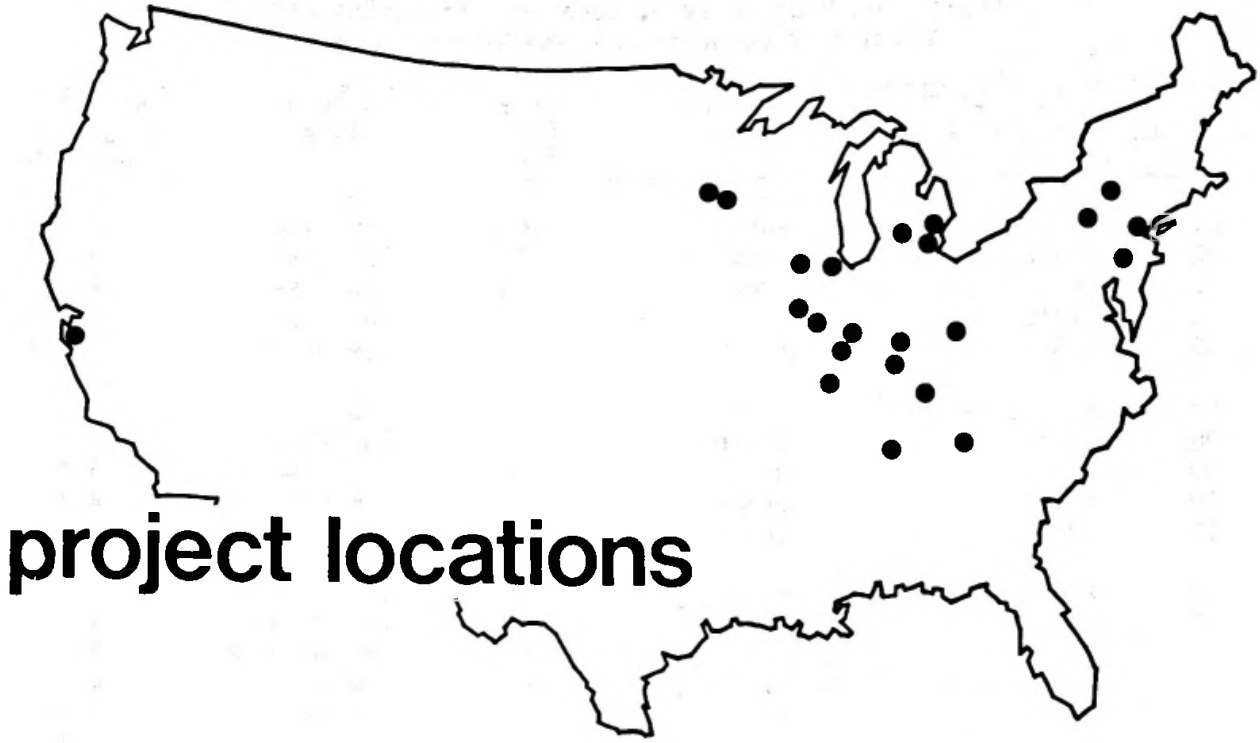

Figure 2-2: The sites studied were located in ten states, mostly in the East, Southeast and Midwest.

All projects were designed for general occupancy with the exception of one designed for elderly occupants. Racial composition of the population, within developments, varied between totally white and totally black. Furthermore, two sites had a substantial Spanish speaking population and one had an American Indian population. Twenty-nine sites had low-rise (one-to-three stories) construction, five were high-rise apartment buildings (with some low-rise mixture), and three were rehabilitated medium-size (three-to-five stories) structures. In terms of assistance programs, ten projects were Public Housing, the other twenty-seven were built under Titles 221(d)3, 221(d)4, and Section 236 of the National Housing Act.

Of the twenty-seven nonpublic housing developments, eleven were built through state housing development agencies, two by a municipal housing development corporation and the rest by private, limited-profit, or nonprofit developers. Table 2-1 shows the diversity of the sample with regard to assistance program, location, size, types of buildings, and age of occupancy.

This sample cannot be described as representative of publicly assisted housing in the United States. While identifying a representative sample should be fruitful for future research, the great variety exhibited by housing projects would undoubtedly require a much larger total sample than that which it was possible to assemble and examine in our study.

Table 2-1
Assistance Program Type, Location, Size, Building Type, and Age of Occupancy of the 37 Developments

Development Code No.	Assistance Program Type[a]	Location	Size (No. of D.U.)	Building Type	Age of Occupancy (years)[b]
01	State HDA	Rural	160	low rise	4
02	State HDA	Urban	246	low rise	5
03	FHA	Urban	100	low rise	4
04	State HDA	Urban	240	low rise	5
05	FHA	Central City	192	low rise	5
07	Public Hsg.	Urban	50	low rise	6
08	Public Hsg.	Urban	68	low rise	3
09	FHA	Urban	150	low rise	5
10	FHA	Urban	240	low rise	4
11	FHA	Urban	150	low rise	4
12	FHA	Central City	344	low rise	5
13	FHA	Urban	250	low rise	7
14	Rehab	Central City	64	medium rise	5
15	Public Hsg.	Central City	202	low rise	4
16	FHA	Urban	206	low rise	5
17	FHA	Suburban	115	low rise	3
18	Scat.Site PH	Urban	100	low rise	16
19	State HDA	Rural	150	low rise	3
20	State HDA	Urban	424	low rise	4
21	State HDA	Urban	172	low rise	6
22	State HDA	Central City	209	mixed	3
23	State HDA	Central City	214	high rise	3
24	State HDA	Central City	332	high rise	3
25	State HDA	Rural	317	low rise	4
26	State HDA	Urban	303	high rise	3
27	FHA	Central City	212	low rise	3
28	FHA	Urban	192	low rise	3
29	FHA	Suburban	200	low rise	3
31	Public Hsg.	Urban	320	low rise	22
33	Rehab/City HDA	Central City	44	medium rise	6
34	Rehab/City HDA	Central City	28	medium rise	3
35	Public Hsg.	Central City	1122	low rise	21
36	Public Hsg.	Central City	462	low rise	20
37	Pub.Hsg./Elder	Central City	704	high rise	8
38	Public Hsg.	Central City	786	low rise	36
41	Public Hsg.	Central City	854	low rise	22
42	FHA	Central City	298	low rise	12

[a]"FHA" indicates financing was 221(d)3, 221(d)4, or 236.

[b]As of August 1975.

2.3 Sources of Information

Information could have been obtained from numerous sources such as the residents, the management personnel, the planners and architects, the community surrounding the developments, and the researchers themselves.

In this study the occupants, management, and the researchers were chosen as the primary sources of information. The architects were used only as a source of records (in the form of construction drawings). Originally, it seemed interesting to examine the extent to which the architects' perceptions of satisfactory housing were congruent with those of the residents and to identify obstacles in the housing production process from the architects' point of view. For these reasons open-ended interviews were conducted with the architects of four developments in the study sample. The interviewed architects, however, seemed to have considerable difficulty in recalling the projects that were several years old, and tended to respond primarily in terms of their current work. For this reason the architects were not used as a direct source of information.

The surrounding community was also considered to be an important source of information. In this case, however, the available resources simply did not permit any data collection. Nevertheless, we feel that future studies should attempt to remedy this omission. The perceptions of persons living in the neighborhood about the development and its residents appear particularly relevant for a better understanding of residents' satisfaction, especially when compared with the perceptions that development residents have about the neighborhood.

2.4 Selection of Variables

Previous studies in housing have often had a limited scope of information. One study may have concentrated on management factors, another on residents' behavior in public spaces, etc. This piecemeal approach to housing research makes it impossible to consider potentially important aspects of housing simultaneously. Taken together, however, these studies indicate that a comprehensive research effort should include information about a number of components of housing. Among these, four components appeared to be the most important:

1. the physical characteristics of the housing development;
2. the residents' perceptions, behaviors, and demographic characteristics;
3. the management's perceptions, characteristics, policies and regulations; and
4. the surrounding community.

Once these components had been identified, a search was made for concepts potentially useful in understanding the relationship of the components to satisfaction. First, concepts were extracted from previous studies. Second, residents and management staff of sites outside the study sample were encouraged to discuss what they felt were major factors contributing to the success or failure of multifamily housing. Finally, discussions were held among members of the research team and with professionals in the field of housing research.

The information obtained from this search was summarized into the following 18 general concepts hypothesized to be related to residents' satisfaction:

1. density/crowding
2. safety/security
3. aesthetics/appearance
4. site facilities
5. access to friends
6. site location/access to community
7. maintenance
8. economic cost
9. sense of community
10. management policy
11. personal freedom/privacy
12. residents' perception of surrounding community
13. perception of neighbors
14. personality characteristics of residents
15. demographic characteristics of residents
16. behavior in public spaces
17. comparison of the current residence to prior residence
18. future aspirations of the residents

The identification of these general concepts was useful for the development of the measurement instruments. For each concept, a variety of operational definitions was created in order to reflect important aspects of that concept.

2.5 Data Collection

Three criteria were used to select data collection methods from those available in the social and behavioral sciences. First, since information was to be collected on a large number of variables, it was imperative that the chosen methods be economical. Second, it was desirable that the instruments should not require an inordinate amount of special training in order that they could be used by nonresearchers. The third criterion was that an attempt should be made to measure as many variables as possible by more than one method of measurement. As a result of these considerations, the instruments represented three methods of measurement: direct observations, archival records, and self-reports (both questionnaires and interviews).

More specifically, the following data collecting instruments were used:

Resident Application Data Survey (RADS). RADS was a procedure whereby information about selected characteristics of the families living in the study sample was retrieved from archival records kept at the housing sites. These characteristics included the age and sex of the household head, the race, income, occupation, and size of the family, and the amount of rent.

Depending on the size of the housing development, the sample varied between 30 percent and 100 percent of the households. When less than 100 percent of the site population was selected, sampling was achieved by systematically selecting every *n*th file. At least 100 files per site were obtained whenever possible.

Physical Attributes Recording System (PARS) and *Building/Unit Maintenance and Resources (BUMAR)*. In PARS and BUMAR, trained observers recorded their direct observations of physical design characteristics and the maintenance of the public and semi-public areas of the housing site.

Behavioral Observations Recording System (BORS). In BORS, trained observers recorded information about behaviors occurring in the public and semi-public areas of each housing development. There were two steps involved in the use of BORS. In the first step, observations of behavior were obtained by the use of lapse-time black and white photography. In order to accomplish the collection of observations, the entire site was divided into a number of observation areas and behavior at each location was filmed at least six times during each of two days (one weekday and one weekend day).

In the second step, the observations recorded on film were converted into data through the use of a coding manual. For each behavioral occurrence captured on film, judges used the coding manual in order to extract information in four general categories: 1) observable characteristics of the residents, 2) behaviors of the residents in public spaces, 3) personal resources utilized by the residents, and 4) site resources utilized by the residents.

Landscape and Architectural Photographic Survey (LAPS). This instrument consisted of photographic recordings, on 35 mm color slides, of various features of the landscaping, design characteristics of buildings, open spaces, parking lots, recreational facilities, tenants' personalization, and the surrounding environment. The slides provided illustrations of particular design solutions and problem areas.

Occupant Satisfaction and Perception Survey (OSAPS). This survey consisted of questionnaires that were mailed to residents. The questionnaire contained items intended to measure each of the concepts mentioned previously in discussing the selection of variables.

Because it was thought that the large number of potentially important variables would have resulted in an excessively long questionnaire, three separate questionnaires were developed. Demographic questions, questions about prior housing, and questions about satisfaction with specific features of the housing environment were the same within all three questionnaires; other items differed. This arrangement produced three questionnaires of different length and of partly different content. The three questionnaires were named OSAPS I, II, and III and they contained 121, 120, and 187 items respectively. Questionnaires were mailed to those residents for whom RADS data was collected and others systematically selected. Thus, at least one-third of the adult population in each of the thirty-seven developments were selected. Within this sample, each potential respondent was randomly assigned to receive either OSAPS I, II, or III. In addition, a questionnaire containing all items from OSAPS I, II, and III was constructed and sent to a small sample of residents. This questionnaire was labelled OSAPS IV and was utilized for methodological reasons. Consequently, it was possible to study the influence of questionnaire differences upon rate of return, willingness of respondents to answer all questions, and inter-item consistency. A total of 1907 usable questionnaires were returned, resulting in an overall return rate of 32 percent.

In selected sites certain other procedures were carried out for methodological reasons. Questionnaires were adapted to an interview format and administered by trained interviewers to residents who had not received an OSAPS and to residents who had received an OSAPS but had not responded. Yet another group of residents received a second OSAPS questionnaire for test-retest purposes.

Management Operations and Perception Survey (MOPS and MMOPS). These instruments were designed to measure some of the variables covered by the instruments already described plus certain specific aspects related to management operations such as tenant selection practices, financial arrangements, professional qualification of the staff, etc. Some of the variables found important in a series of management studies by the Urban Institute were replicated (Sadacca, Isler and Drury, 1971; Sadacca, Drury and Isler, 1972; Sadacca and Isler, 1972).

Prior to mailing out the MOPS questionnaire, managers of the developments were telephoned in order to 1) inform them that the questionnaire would be mailed to them shortly, 2) request the names of their staff, so that they could also receive MOPS and 3) insure them that all responses would be kept confidential. After the telephone calls were made, MOPS questionnaires were sent to managers and staff.

The response rate of managers and assistant managers to this questionnaire (MOPS), even after telephone follow-ups, was disappointing (50 percent).[2] In order to remedy this situation, a shorter interview was developed (MMOPS) which could be administered by telephone. This instrument measured variables dealing with the manager's experience, staff size, location of management office, and age, size and vacancy rate of the development. Thirty-six interviews were completed; one manager refused to provide the desired information.

Site Information Measure (SIM). Archival records of the architects of the housing developments formed the basis for this instrument. Trained personnel recorded measures taken from drawings made available by the architects. The measures were of such physical characteristics as gross site area, number of parking spaces, floor area ratio, and other measures commonly used by planners and architects to describe properties of sites.

Data Collection Procedures. The collection of data consisted of on-site field work and work conducted at the Housing Research and Development Program of the University of Illinois at Urbana-Champaign.

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[2]Reasons given for not completing the longer MOPS form included: too much other paper work, fear of job loss if truthful, and rapid manager turnover. (See page 6-17 for a discussion of the relationship between residents' satisfaction with management and return rates of managers' questionnaires.)

The major part of the field work was completed during the summer and fall of 1973. There were three field research teams, each comprised of two graduate students. Typically a research team traveled to a site on Thursday, collected data on Friday and Saturday, and returned to Urbana-Champaign on Sunday.

Each team was equipped with the necessary forms for the collection of RADS, PARS, and BUMAR data, 8 mm camera and tripod for the collection of BORS data, and 35 mm camera for the collection of LAPS data. During the site visit, one member of the research team did the filming necessary for the collection of BORS data while the other recorded RADS data, scored the public and semi-public spaces on PARS and BUMAR forms, and took the photographs prescribed by the LAPS procedure. Each member of the research team was trained in the use of all instruments, thus permitting them to switch tasks during the course of the site visit.

Among the major tasks accomplished in-house were the mailing of OSAPS questionnaires, the mailing of MOPS, telephone calls for MMOPS, converting site plans into data for SIM, and converting information from the BORS films into data. Finally, the data from all measurement instruments were transferred to data processing cards.

2.6 Data Analysis

The data collected by means of the measurement instruments described above were subjected to statistical analyses directed at two objectives: 1) to reduce the data to smaller, more manageable sets within each instrument, and 2) to uncover relationships between various aspects of multifamily housing and residents' satisfaction. These objectives were reached in four steps.

Data Reduction. The first step in the analytic process was one of reduction within data sets from each measurement instrument. The practical reason for this step is that it would have been difficult to create parsimonious explanations of relationships between variables when one considers the large number of variables measured. In addition, data reduction, when accomplished statistically, provided a way to examine empirically certain a priori assumptions about the grouping of variables into a set of major concepts. Specifically, it was expected that many of the individual items in the questionnaires would be highly correlated with each other, forming sets of variables which would represent a number of different concepts related to multifamily housing (e.g., appearance, safety and security, privacy, etc.).

When statistically appropriate, the large number of variables was reduced to a smaller number of factors by using principal component analysis. Principal component analysis is a mathematical means of identifying variables that have something in common with each other. When they do, a factor (or component) is said to exist. The specific identification of what a set of variables has in common is a matter of interpretation. Factor loadings, which are indices of the degree of relationship between a variable and a factor, aid in this interpretation.

The statistical procedure of principal component analysis was not appropriate for those data sets in which the number of observations was the total number of 37 sites. In these cases, data reduction was accomplished by combining variables, on the basis of a priori concepts, into indices.

Predicting Satisfaction. The second analytic step was directed at determining the degree to which factors and indices predicted residents' satisfaction with their living environment. (Predicting, in this sense, means accounting for the variability in the criterion variable.) To this end, stepwise multiple regression analysis was used. Stepwise multiple regression is a mathematical procedure in which a regression equation is obtained. This equation expresses the linear relationship between a criterion variable and those variables used to predict the criterion. There are two aspects of this relationship. The first concerns the degree to which the predictor variables, taken together, predict the criterion variable. This degree is expressed by the squared multiple correlation coefficient, symbolized by "R^2". The second aspect concerns the relative importance of each of the predictor variables in accounting for the variation in the criterion. This is expressed by the standardized regression coefficients, termed "beta" weights. A beta weight is an estimate of how much change in the criterion variable is produced by one unit of change in a predictor variable. Thus, the greater the absolute value of the beta weights associated with a predictor variable, the better that predictor variable accounts for variations in the criterion.

Comparison. The third step in the data analysis was concerned with uncovering differences in levels of satisfaction and in factors predicting satisfaction between groups of residents differing in education, age, type of building in which they lived, etc. Differences in factors predicting satisfaction were examined by comparing the results of regression analyses. Differences in levels of satisfaction between groups were ex-examined by analysis of variance. Analysis of variance compares the variation of scores within groups to the variation of scores between groups in order to determine if the observed differences between group scores could be due to chance.

Modeling. In the fourth step the procedure of path analysis was used to test several hypothetical relationships among a number of variables and residents' satisfaction. The result is a set of diagrams in which the variables are represented by nodes and the relationships by links. The strength of each relationship can be estimated by the size of the "path coefficient" for each link. Thus, a representation (model) of variables and their interrelationships is obtained.

PART II: FINDINGS

Chapter 3

Residents' Satisfaction

In this chapter we report levels of overall satisfaction both for the total sample of our respondents and for subsamples of residents living in housing that had received assistance under a variety of HUD programs.

We also report the results of regression analyses in which the significant predictors, or components, of satisfaction, and their relative importance, were identified. As mentioned in chapter 2, a set of "predictors" is a set of variables which accounts for the variability in the criterion, that is, a "bundle" of variables which is significantly associated with overall satisfaction.

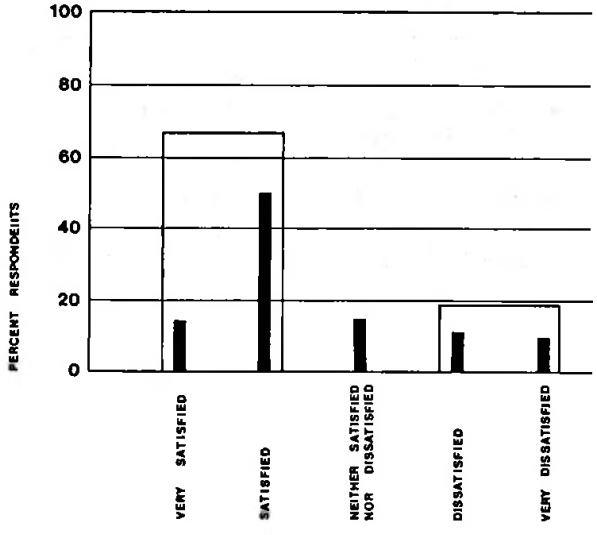

Figure 3-1: Satisfaction with "living here"

3.1 Levels of Residents' Satisfaction

In our study of HUD-assisted housing we asked the residents to indicate on a five-point scale whether they were very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied with "living here." As shown in figure 3-1, 66 percent of the respondents indicated feelings of satisfaction and only 19 percent answered that they were dissatisfied with where they lived.[1] As a whole, then, *the developments studied were considered to be successful by a substantial majority of the respondents.*

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[1] Five-point scales were generally used in the questionnaires. Thus, the reported percentages of satisfied respondents include both "satisfied" and "very satisfied." Similarly, the percentages of dissatisfied respondents include "very dissatisfied" as well as "dissatisfied."

Of course, it is possible to ask whether these relatively high levels of *reported* satisfaction are a valid reflection of the satisfaction that people feel with their residential environment. Campbell et al (1976) have discussed this problem extensively and have pointed out the general tendency of human subjects to use positive ratings more frequently than negative ones regardless of the phenomenon being rated. On the other hand, these authors have also suggested that there is no clear evidence that high levels of reported satisfaction cannot be taken at face value. They have concluded that, while satisfaction reports may contain an edge of positive bias, this edge is probably not very large.

In order to test further the overall reaction of residents to their housing, we asked three other questions that seemed related to a general sense of satisfaction. These questions were: "How long do you want to live in this development?"; "If you move again, would you like to live in another place like this?"; and "Would you recommend this place to one of your friends if they were looking for a place to live?" As shown in figure 3-2, responses to these questions were also generally positive. Forty-five percent of our respondents were so satisfied that they wanted to live in their housing development for as long as possible, 53 percent would have liked to live in a similar development if they had to move, and fully 73 percent would have recommended their development to a friend. These results confirm the overall positive assessment of HUD-assisted housing obtained from analyses to the direct question about satisfaction with "living here." Because these three items and satisfaction with "living here" were highly intercorrelated, an index criterion composed of all of them was used in subsequent analyses in lieu of the criterion: satisfaction with "living here."

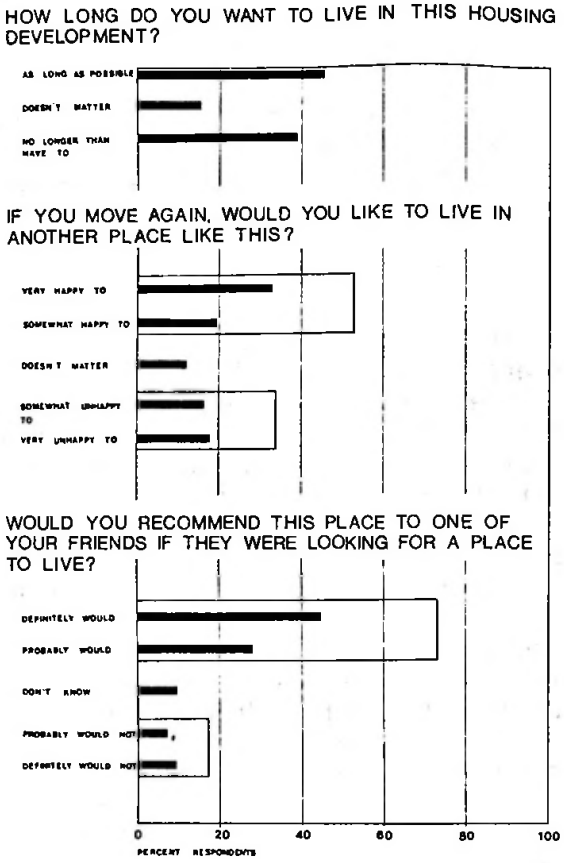

Figure 3-2

This rather positive assessment, however, does not mean that all is well. A number of individual developments, as reported below (page 3-4), performed at significantly lower levels of satisfaction. Furthermore, as discussed in Part II (page 7-10), there is some evidence that, as a group, HUD-assisted developments are somewhat less satisfying than open-market housing.

So far, we have looked at the entire sample, but, as mentioned earlier, our investigation included housing built under a number of different assistance programs. For this reason, it is of interest to see if there were differences in levels of reported satisfaction among the different programs. In figure 3-3 we show these differences, in terms of percentages of satisfied and dissatisfied residents.

Another way of examining the responses to the general satisfaction question is to look at the mean scores obtained in each housing development. These scores are shown in figure 3-4 for each development and assistance program. Note that a score of 1 indicates "very dissatisfied" and a score of 5 indicates "very satisfied."

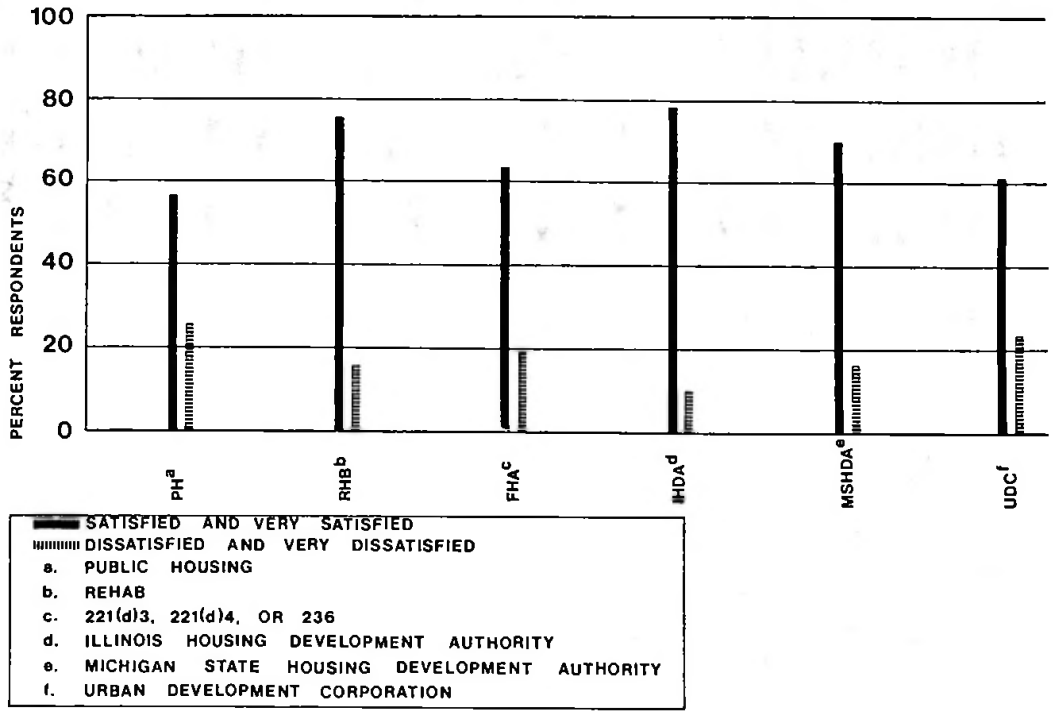

Figure 3-3: Satisfaction and dissatisfaction with "living here" by assistance program

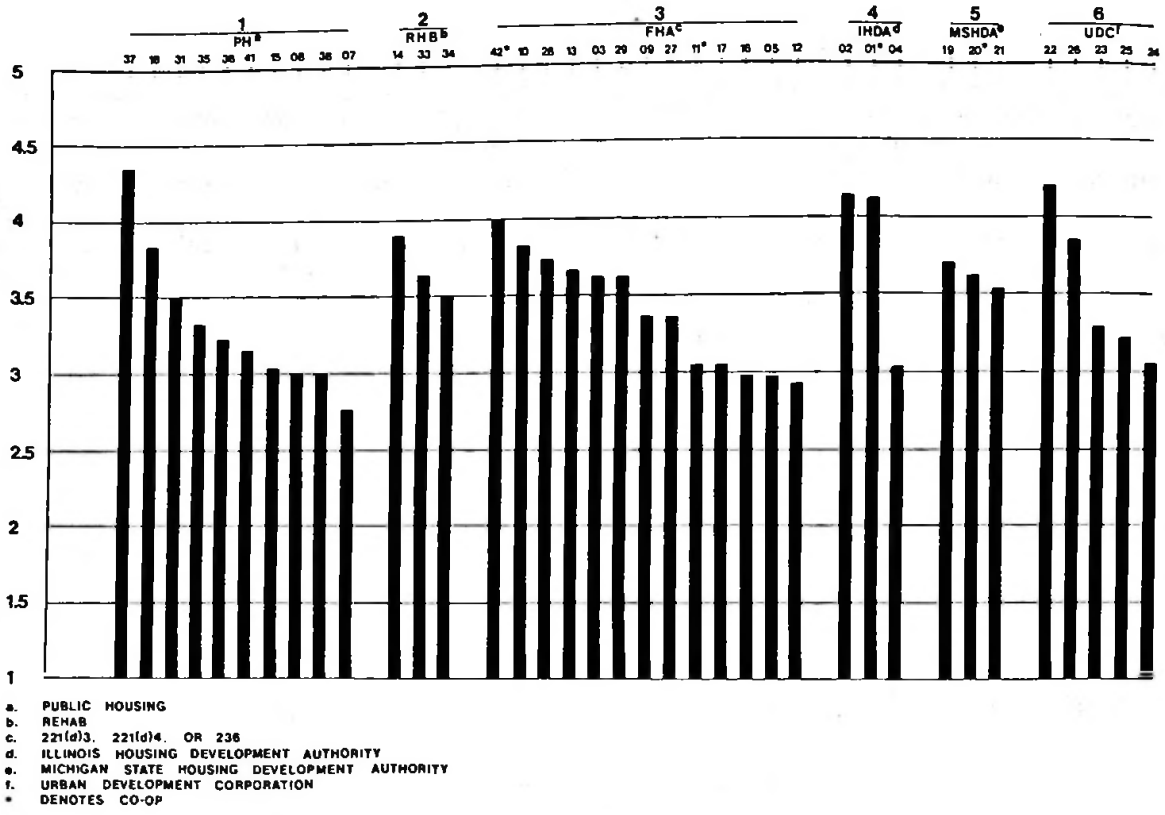

Figure 3-4: Satisfaction with "living here." Mean scores by sites and programs

In comparing performance of assistance programs, as shown in figures 3-3 and 3-4, it would appear that respondents in public housing are somewhat less satisfied than those in other programs. However, this difference in satisfaction is very small. A significance test of the difference between the *percentages* of satisfied residents in public housing and private developments showed that the difference in satisfaction was statistically significant.

However, when a similar analysis was performed on the *mean satisfaction scores* (which can be considered a more sensitive test since it accounts for the effect of response distribution over the entire range of possible answers) we found no statistically significant differences between the public housing and private subsamples. The only differences that were statistically significant were those between the total sample and projects of the Michigan State Housing Authority (MSHDA) and of the Urban Development Corporation (UDC). Even in these cases, though, the differences were not large and thus cannot be considered meaningful.

Perhaps a more interesting result shown in figure 3-4 is that in practically every assistance program there were projects scattered all over a similar range. Even in public housing there were some "good performers," though it must be noted that the highest rated public housing development (mean score = 4.32) is a project for elderly occupancy and that the next development (mean score = 3.83) is of the scattered housing type.[1] Thus, at least these two projects cannot be considered typical of the public housing group. At the lower end of the satisfaction range there were also "poor performers" in all programs.

In summary, from the results reported in this section we can conclude that:

1. *The overwhelming negative image of assisted housing that one frequently encounters in impressionistic and journalistic accounts was not deserved by these developments.*

2. *The type of assistance program, per se, was not strongly related to general satisfaction.*

3. *A number of HUD-assisted developments were excellent performers. This suggests that lessons learned from these projects could be applied in improving the performance of less satisfactory developments.*

3.2 Components of Residents' Satisfaction

When discussing the components of housing that are associated with residents' satisfaction, one point to keep in mind is that a successful housing development will always be the result of having achieved high performance levels on *a number* of aspects. In spite of the diversity of approaches and methodologies in housing research, one important message that comes through is that *a blend of factors is responsible for creating a satisfactory living environment, not a single aspect,* no matter how excellently that single aspect may have been treated. So, the most careful and sensitive attention to matters of planning and design, for instance, will have practically no bearing on the final success of the development, unless attention is also paid to the other important ingredients, namely the characteristics of the residents themselves, the attitudes and performance of management, and the attributes of the surrounding neighborhood or community.

To many with experience in the housing field this consideration may seem such a self-evident proposition as to require no further comment. Yet there are many examples in which predominant attention has been given to only one aspect to the detriment of others, both at the levels of policy making and implementation. These examples are so numerous as to suggest that this point cannot be overemphasized.

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[1] This project consisted of 5 separate sites each containing from 10 to 20 units.

For the purposes of our study and of this report, we classified the variables potentially relevant to resident satisfaction in three main categories: people, objects, and organizational structures (institutions). Thus the basic ingredients that we hypothesized to be the components of satisfaction included the residents themselves, their neighbors (both in the development and in the surrounding community), factors of planning, design, and construction (including the location of the development), and factors of management (both managerial organization and actual performance).

It is not the purpose of this report to describe in detail the various statistical procedures used to transform the large amount of information we collected into results. This has been done elsewhere (see bibliography in Appendix A). Here it is sufficient to examine the results of these analyses and particularly the results of stepwise multiple regression carried out on a number of data sets. These results suggest that certain aspects are indeed more important than others in "predicting" residential satisfaction.

Figure 3-5 presents the results obtained from analyzing only the data contained in the residents' questionnaires. There were three questionnaire forms, each containing some items in common with the other forms and some items unique to that form. Thus, it would not be appropriate to compare results across questionnaire forms except for items common to all three forms. Nevertheless, taken as a whole, the results in figure 3-5 begin to show the relative degree of importance of the various components of residential satisfaction. Note that satisfaction with neighbors, with management, and with various aspects of the physical environment were all strong predictors of general satisfaction (that is, they accounted for a high proportion of variance in the criterion variable).

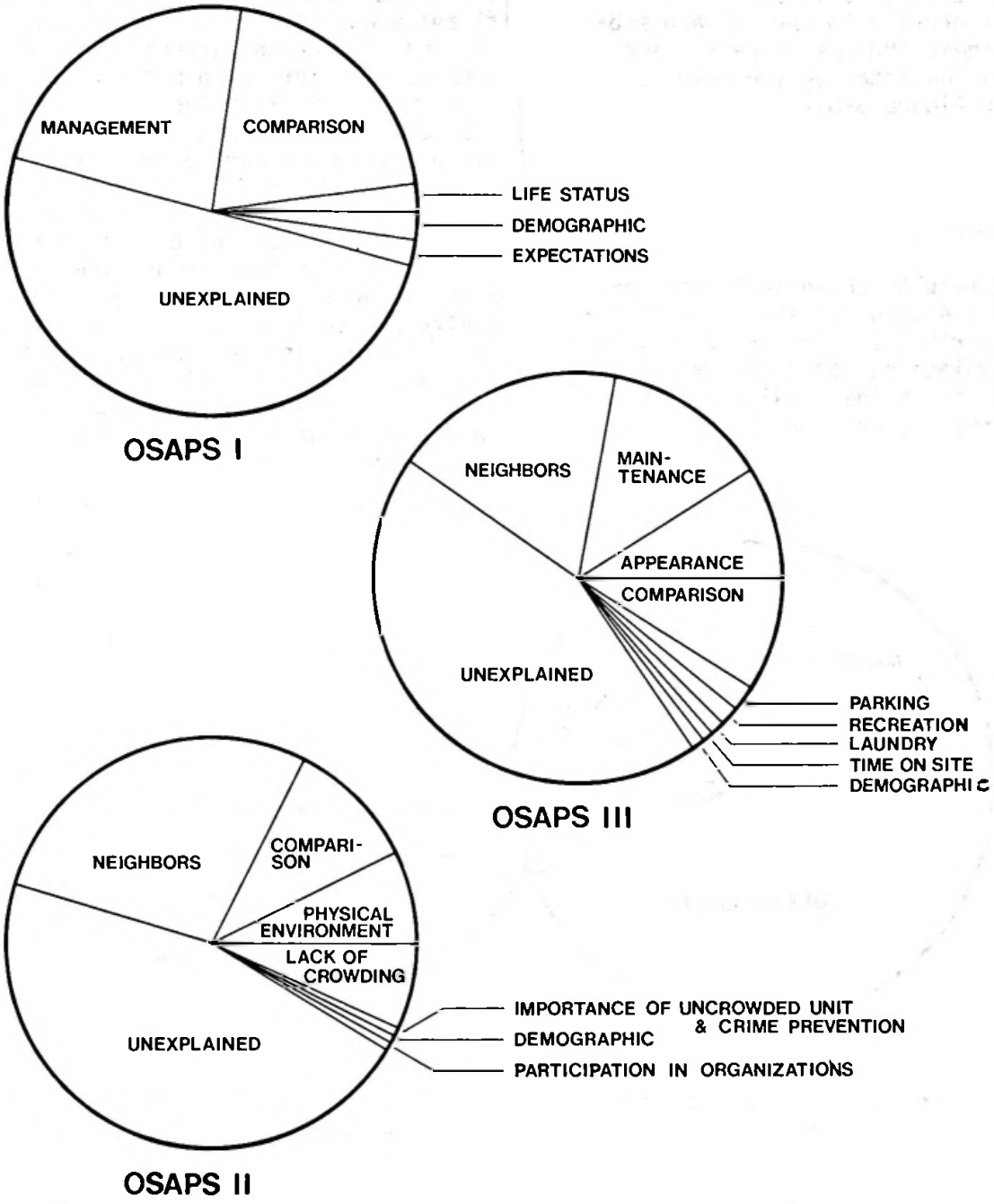

Figure 3-5: Predictors of residents' satisfaction from responses to residents' questionnaires

When we combined data from various instruments (managers' and tenants' questionnaires, observations of the physical environment, and architectural records) into indices, and submitted these indices to regression analysis, we obtained the results shown in figure 3-6.[2]

These results suggest that a number of aspects, cutting across the three domains of residents, physical environment, and management, are significant predictors of general satisfaction. Among the strongest predictors were satisfaction with management, with the rules, with the degree of protection from crime, with other residents in the development, with the appearance of the development, home and grounds, with privacy from neighbors and family, and with freedom to make changes inside and outside the home. Aspects of the surrounding community and satisfaction with recreation, laundry and parking facilities were also predictors of general satisfaction. Finally, the size of the development was a somewhat weaker predictor.

[2]The results shown in figures 3-5 and 3-6 are each obtained from analysis of partial sets of variables. A more complete set of variables was used to obtain the results presented in figures 7-1 and 7-2.

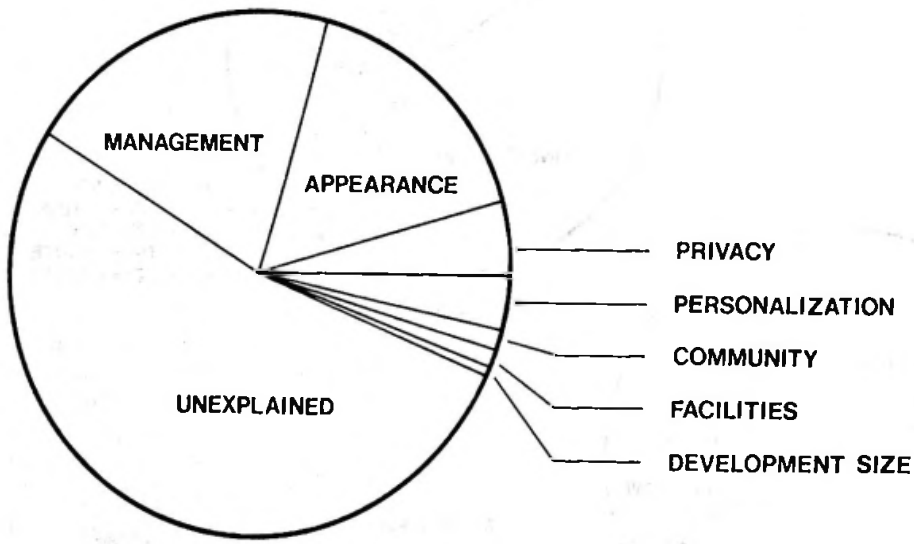

Figure 3-6: Predictors of residents' satisfaction from various instruments (MMOPS, PARS, SIM, and OSAPS)

Note that in both figure 3-5 and 3-6 each predictor has been identified by a label which attempts to summarize a large number of variables combined into that predictor. A list of these variables by components is provided in Appendix B.

In summary, regression analysis shows that specific aspects of the residents, the physical environment and of management all contribute to generate residents' satisfaction. Because of the importance of aspects in these three domains it is likely that successful developments will score highly on all three. Likewise, it is unlikely that attempts at improving performance in one domain will increase residents' satisfaction if attention is not paid to the other domains as well.

In the next three chapters we examine in greater detail specific aspects of each domain which appeared to be associated with general satisfaction.

Chapter 4

The Residents

Characteristics, perceptions, and behavior of the occupants comprise an important domain of inquiry within the total housing environment. This chapter describes social, demographic, and income differences among the residents, and the relationships between such differences and overall satisfaction. Various aspects related to satisfaction with neighbors and safety from crime are also examined. The importance of comparisons with prior residence and with other housing available in the community is noted.

In addition, in this chapter we discuss the relationship between housing choice and satisfaction and report the degree to which our respondents felt stigmatized for living in assisted housing.

4.1 Social and Demographic Differences

In the literature on publicly assisted housing, two views of the social characteristics of residents can be found rather frequently. One view considers residents as a relatively homogeneous social group. Because these residents share the characteristic of low income, particularly among the public housing population, it is assumed that they also share most other social characteristics, interests, and lifestyles.

A second view recognizes the existence of two major lower income groups: those who, although poor, share middle class values and attitudes, and those who do not. In the extreme version of this view these two groups are labelled as "deserving" and "undeserving" on the basis of a moralistic judgment about what is considered desirable social behavior. It is not our purpose to discuss the question of values that may be tied up in these categorizations. Rather, we examine some of the residents' social characteristics as they objectively exist, as they are perceived by the residents, and as they are perceived by the management staff. As an example, we can take the level of formal education achieved by the respondents in our sample.

Overall, there were considerable differences among the respondents: 12 percent had only a grade school education, 15 percent had some high school, 16 percent had graduated from high school, 23 percent had some college or technical school training, 7 percent were junior college graduates, 10 percent were college graduates, and 14 percent had post-graduate college education. Three percent had other education.

When we compared the public housing residents with those living in 221(d) 3, 221(d)4, and 236 developments (figure 4-1), we found that in public housing 36 percent had a grade school education (but only 6 percent in privately assisted housing had stopped their education at this level); 31 percent had some high school (10 percent in the private group); 17 percent were high school graduates (16 percent in the non-public housing group); and only 14 percent had gone beyond high school (while 65 percent had in private housing). It is clear that the respondents in our sample were a very heterogeneous group on the dimension of educational attainment. Moreover, it is clear that there were considerable differences between public housing residents, on the one hand, and residents in privately owned assisted housing, on the other.

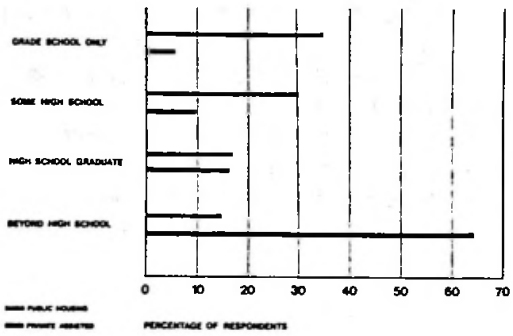

Figure 4-1: Educational attainment of respondents in public housing and private assisted housing.

When we asked the residents whether they thought most of their neighbors within the development had the same education as they had, more people (39 versus 22 percent) felt that their neighbors had a different education from their own (39 percent said they had a different education, 22 percent said they had a similar education).

Both level of satisfaction and importance of certain aspects of housing appear to be related to demographic characteristics of the residents. For instance, when we compared three subsamples of residents of different ages (under 35, 35 to 64, and over 65 years of age) we found that aspects of appearance and management were more important for the two younger groups, while adequate facilities and protection from crime were more important for the elderly group. However, adequate privacy was an important predictor of satisfaction for all age groups.

When the total sample was partitioned into subsamples by age, sex, and education, we found that satisfaction levels varied among subsamples. Women who had a college degree and were between the age of 30 and 59 were the most satisfied group (mean score = 3.9). By contrast, men between the age of 30 and 59 with a high school degree were the least satisfied (mean score = 3.0).

For the same subsamples a pattern of shared and nonshared aspects relating to residential satisfaction was found. While results are more complex, certain factors such as privacy from neighbors, appearance of the development and unit, and management aspects were shared as predictors of overall satisfaction by at least half of the 10 subsamples examined. In contrast, other features (such as perceptions about people outside the development and access to the community) were predictors of residential satisfaction for only one of the subsamples (women between the age of 30 and 59 who had a high school education).

So far, we have established that residents in our sample of HUD-assisted developments were dissimilar on a number of socio-demographic dimensions other than income, that residents were aware of such dissimilarities, and that differences in satisfaction levels and in the importance ascribed to various housing aspects were related to these dissimilarities. Thus, it is of interest to examine whether tenants and managers agreed or not on their perceptions of socio-demographic differences.

A comparison of data from residents' and managers' questionnaires shows that managers perceived their tenants as a more homogeneous population than the residents did. For instance, more managers perceived their residents as having similar education (48 percent) than as having different education (30 percent), while, as reported earlier, 39 percent of the tenants felt the education of their neighbors was different from, and 22 percent felt it was similar to, their own.

A similar pattern of responses developed when we asked both residents and managers a number of questions dealing with similarities in interests, housekeeping standards, and ideas about rearing children. Consistently, more residents perceived their neighbors as different while more managers perceived their tenants as similar to one another on these dimensions.

4.2 Income Differences

Although the population in our study was defined as "low and moderate income families" our sample contained a range of income groups within this income definition. A very large proportion of the 3743 households for which income data was collected (91 percent) had a total annual income of less than $10,000 (1971-72). Figure 4.2 shows the distribution of income for the entire sample of assisted households.

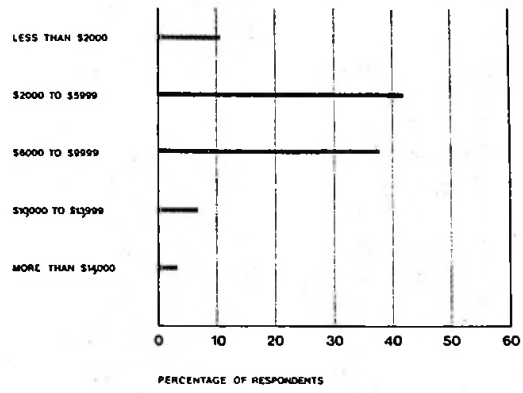

Figure 4-2: Total annual household income (in 1971-72 dollars)

As expected, there were considerable differences in income ranges between public housing and private assisted housing. These differences are shown in figure 4-3.

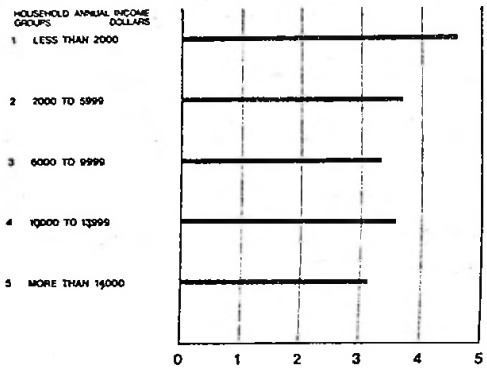

Figure 4-3: Total annual household income by assistance programs (1971-72 dollars).

Although the overall proportion of households having an income of less than $10,000 per year was not very different between the two groups (97 percent in public housing, 89 percent in private developments), the distribution of income groups was. Almost 30 percent of the public housing households were below the $2,000 level, while only 4 percent were below this level in private housing. Fully 86 percent of public housing households were below the $6,000 level, but only 41 percent fell below the same level in private housing. Overall, the average annual household income for the public housing families was approximately $3,600; the average income for families in private housing was approximately $7,100.

Are the differences in income related to differences in overall satisfaction? When we compared total annual household income with responses to the question about satisfaction with "living here" we obtained only a weak *negative* correlation (-.12). This suggests that, as a whole, the lower income residents were slightly more satisfied with their housing.

Another way of examining the relation between income and satisfaction is to compare satisfaction levels of various income groups. As can be seen from figure 4-4, households in the lowest income group (below $2,000) were the most satisfied; those in the highest income group (about $14,000) were the least satisfied. The differences in overall satisfaction between groups 1 and 3 and 1 and 5 were statistically significant at the 0.05 level (less than 5 percent probability of these differences occurring by chance).

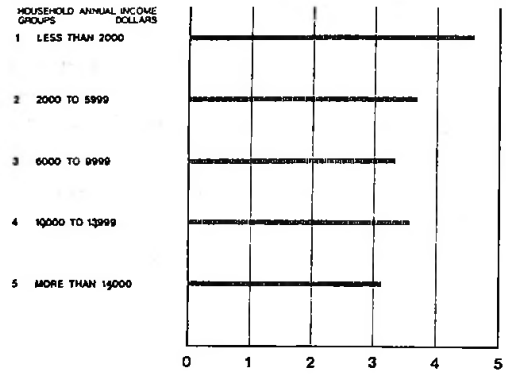

Figure 4-4: Levels of satisfaction with "living here" by household income groups.

We can conclude from these results that there was a tendency for the lower income subgroups, and in particular for the households making less than $2,000, to be somewhat more satisfied with their housing than those in other income groups.

4.3 Satisfaction with Neighbors

As discussed in chapter 3 (section 3.2), satisfaction with other residents living in the development was a strong predictor of satisfaction with one's housing. For this reason it is of interest to examine those aspects that were shown by principal component analysis to be strongly associated with satisfaction with "other residents." Items measuring these aspects can be grouped into six main classes:

1. Similarity with one's neighbors.
2. Friendliness and trustworthiness of neighbors.
3. Neighbors' care for upkeep and cleanliness.
4. Privacy from neighbors and lack of crowding.
5. Protection from crime and vandals.
6. Managements' rules and performance.

The above list is arranged in order of importance based on factor loadings from principal component analysis.

In order to test further the relative importance of aspects impinging upon satisfaction with "other residents," the data were subjected to additional regression analyses. From these procedures (described more fully in chapter 7, section 7.2), an index of items measuring similarity with neighbors was found to be the strongest predictor of satisfaction with "other residents." Items in the index were:

Neighbors and I have similar beliefs about right and wrong
Neighbors and I have similar childrearing ideas
Neighbors and I have similar interests
Neighbors and I have similar education

Numerous comments from our respondents illustrate the degree to which sociodemographic differences and differences in lifestyles and values are associated with dissatisfaction.

"The only thing I don't like about this development is that some people won't make their kids mind."

"I feel that the older people living here should be moved to a settlement of their own. They are very rude and nasty toward all children."

"Sometimes we do get into the building a wild young woman who throws loud parties until 4 o'clock in the morning."

"The people around me are pigs, very sloppy. They throw garbage around our yard and step on our plants. They throw rocks and snowballs at our house and cut our screens."

"I would like to say that I think college people are real snobbish. There are more college people in this place. They seem to think they are so much better than everyone else. I wasn't raised that way."

"I feel that single people should have a separate area of the development because often their life styles are different."

"All our lives we worked with Black people and we were willing to live with them but it seems they can't live with us. We are being harassed by them."

"There are certain families that are not desirable. They do not teach their children to respect people and other people's property."

"Good" neighbors are probably an important component of satisfaction in any residential setting. In multi-family housing, however, to have good neighbors acquires a special importance because of greater proximity of dwellings, sharing of common spaces, and less individual control over one's environment. The respondents in our sample were clearly more satisfied both with neighbors and with place of residence the more they perceived their neighbors to be similar to themselves, friendly and trustworthy, doing their part in upkeep in cleaning, and generally being well-behaved.

4.4 Comparison with Prior Residence and Other Housing

As mentioned earlier, residents' satisfaction is not an abstract concept that exists in a vacuum. It contains, on the contrary, an important element of *comparison* between what one has, what one has experienced in the past, and what one expects to have in the future. Thus, it can be expected that the extent to which the present residence is perceived to be better or worse than the previous one would influence residents' overall satisfaction.

In our study, we found that this comparison with previous residence was consistently among the three most important factors associated with residents' satisfaction. People frequently mentioned differences they perceived with previous housing or with other housing available to them in the same community.

"Generally speaking it's the nicest home I have had in many years, well kept and very clean."

"It is better than other projects in Louisville, Kentucky."

"Better schools here than where we were before. Not quite so much vandalism."

"Much better place than where I used to stay."

"I feel rather cramped. I am used to living on plenty of land. Here we worry about backyard privacy."

When answering specific questions posed to them, residents mentioned more frequently certain items that they perceived to be better than at their previous place. These items included the appearance of the home, the grounds and the development, other residents in the development and a sense of privacy from other residents and from family members, better protection from crime, better parking, laundry and recreation facilities, better management and management rules, and a greater freedom to make changes inside and outside the dwelling.

A housing development that is perceived as better than other places in the same neighborhood and price range will generally be considered successful by the residents even though, in absolute terms, it may fall short of the ideal in one or more important categories. For instance, a number of residents in our study mentioned their initial delight in moving to a new, clean and reasonably well-maintained development in spite of their perception that the management was rather hostile and threatening. Conversely, in some developments in which the physical plant was not better than in similar housing in the community, a friendly and cooperative management or the presence of effective tenant organizations were cited by the residents as reasons for their preferring that particular development to their previous housing.

4.5 Crime and Vandalism

In this section we look at the concept of *safety* from crime. The reason for including this discussion in this chapter is that analysis of the responses from tenants' questionnaires suggests that a sense of safety from crime and vandalism is associated not only with feelings of being adequately protected, but also with a number of measures related to satisfaction with other residents and neighbors. (The design implications of crime and vandalism are discussed in chapter 5; in chapter 6 we examine the residents' perceptions of the protection from crime and vandals that they receive from management and police.)

A sense of safety from crime, per se, was not a predictor of overall satisfaction. Rather, satisfaction with crime protection and safety from crime appeared to be associated with a number of other measures in factors that strongly predicted satisfaction.

When we combined two measures of safety (of respondents and of children) from "being the victim of a crime such as robbery, vandalism, fighting, hustling, etc.," we found that, overall, only 39 percent of the respondents felt they were safe from crime and vandalism, 28 percent felt unsafe. (Mean scores by sites and programs are shown in Appendix B, figure B-1.) Only a slightly better result was obtained with regard to children's safety: 45 percent of the respondents felt that children were safe; 16 percent felt they were unsafe.

In order to get a better sense of whether perceptions of a lack of safety were attached to living in a particular place or whether lack of safety was thought to be a somewhat inevitable condition, we asked our respondents to say whether they agreed or disagreed with the statement: "My family and I are as safe and secure here as any place we might live." Twenty-seven percent disagreed and 60 percent (a much higher percentage than those who felt safe) agreed. These results suggest that a certain amount of crime is probably taken for granted and can be attributed to societal factors that would be present in most housing environments. On the other hand, almost one third of the respondents associated their lack of safety with the place in which they lived.

Our respondents offered many comments about crime and vandalism. Some of these, which seem more concerned with locational or design aspects, are reported in chapter 5. We reproduce here some of the comments that are related primarily to other residents in the development or neighbors living in the surrounding area.

"In this development I didn't find out until after I moved in that there are too many people on relief and not enough working people; the working people have to put up with people breaking into their apartments while they are at work."

"The thing I dislike about living here is the people living at M. Avenue. They are very rough, and I feel unsafe whenever I come home at night."

"I don't like hearing gunshots from neighboring apartments and being told of robberies in the area, and especially having our own screen (to the front window) pushed in."

"Many of the children are not disciplined at all and vandalism is a rather common occurrence."

"There appears to be a low caliber of people living in the majority of the apartments. Parents don't supervise their children well. The city police hesitate to stop disturbances such as loud parties."

Although safety from crime and vandalism was associated by our respondents with a number of aspects, as mentioned earlier, some of our data analyses suggest that residents perceived a much stronger association between safety and the characteristics of other residents than they did between safety and the characteristics of people living outside the development.[1]

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[1]The percentage of explained variance (r^2) obtained from bivariate correlations was 10 percent and 4 percent respectively.

This result may explain, at least in part, the finding that a number of sites located in areas that are notorious for their crime rates, nevertheless obtained positive mean scores on safety from crime and vandals. While certain design-related aspects or the presence of adequate security measures may have helped in obtaining relatively good safety scores, it is also probable that the residents themselves, in these developments, were not prone to engage in criminal behavior and vandalism, and that management admission and eviction practices screened out those families who may have otherwise caused a lower sense of safety to prevail.

4.6 Housing Choice

It has often been mentioned in the housing literature that housing choice is an important element in generating residents' satisfaction. When we examined the relation between the residents' perceived amount of choice and satisfaction on the basis of correlational analysis, we found only a weak relationship (r=.15). However, it must be remembered that our sample included a high percentage of people for whom such a choice would be in fact extremely limited. Approximately one third of our respondents indicated that they had no choice at all in selecting the development in which they lived. Another third reported that they had only one or two places to choose from, and only about one fourth of the residents perceived that many choices were available to them. Thus, the weak correlation between degree of choice and satisfaction may be simply a function of the low variability of the choice actually available.

However, in spite of this weak relationship, there was a trend indicating that housing satisfaction increased as the amount of choice increased. Only 56 percent of the respondents who had no choice were satisfied with the development, but this proportion rose to 62 percent for those who had even a modest choice (1 or 2 places), to 71 percent for those with a choice of 3 to 4 places, to 74 percent for those with a choice of 5 to 6 places, and to 77 percent for the people who had many places to choose from.

It is not appropriate to infer from these findings that increasing the choices available to people will necessarily result in higher levels of housing satisfaction. Nevertheless, these results suggest that, other things being equal, residents who perceive that they have a range of choices will tend to be more satisfied with their housing.

A number of open-ended comments supplied by the residents in our study suggest that often only the low rent and the person's inability to obtain any other housing were the reasons for that person's "choice."

"I like the amount of rent I pay, but I would rather live in a single house."

"I don't like anything about this development and I wish I had my own house."

"The rent is cheap, and the development is close to stores and laundromat. I would rather live in this project than any other. But the waiting list is too long and they only gave me one bedroom. I have two children and it is really bad when three people are trying to sleep in a small bedroom."

"I like the safety and privacy of this place, but it isn't like living in your own house."

"It's convenient to downtown areas and work--this is the only reason I chose this place. But I hate apartments."

"I like the low rent, but you only get what you pay for. For a new complex the material used in the construction seems to be of a very poor quality."

"The only thing that I like about the development is I am an unmarried woman on A.D.C. and I don't have much rent to pay and right now I couldn't afford anything else."

Many residents, particularly in the lower income brackets usually found in public housing, were grateful to have been able to secure a roof over their heads and a dwelling that was warm during the winter, even though the associated conditions of crime, mistrust and dilapidation that they frequently described were, by any standards, quite appalling.

A message that seems to flow from many of the open-ended comments to our questionnaires is that people with very limited choices are forced to adapt to conditions that others would not tolerate. In some of the developments we studied it is clear that management has indeed perceived this message, to the extent that it has been doing little or nothing to relieve problems that could conceivably have been ameliorated. Pointing to long waiting lists, some housing authorities could convince the general public that they are offering an attractive residential alternative. This is not always the case. The management that depends on tenants with little housing choice to fill their development may very well be contributing to the eventual downfall of the place.

Choice in housing can be considered to be linked to mobility, as well as to income and education of a household. Analyses of data from our study confirm the expectation that these aspects are related to one another. Moreover, a factor combining degree of choice, mobility and education were associated, though not very strongly, with overall residents' satisfaction.

4.7 The Stigma of Assisted Housing

It has often been postulated, particularly in journalistic accounts of life in publicly-assisted housing, that one of the components of residents' dissatisfaction with this type of residential environment is the feeling of stigmatization that is presumably attached to living in public or subsidized housing.

In our study, we asked the residents a number of questions related to feelings of stigmatization. Among these questions, two were shown by principal component analysis to be highly associated with items measuring desirable characteristics of other residents and neighbors, privacy from neighbors, safety from accidents, security from crime, and pleasantness of the surrounding neighborhood. The factor in which these measures were included, in turn, was a strong predictor of satisfaction. Thus it is clear that, for our sample, a lack of stigmatization feelings was strongly associated with satisfaction with neighbors both in the development and outside, and ultimately with overall satisfaction.

But how strongly did our residents feel they were "looked down upon" because of their living in a publicly assisted housing development? One of the two stigmatization items was: "I feel that people living outside this development look down on me because I live in this housing development." Overall, only 15 percent of our respondents agreed with this statement; 73 percent disagreed. We do not have equivalent data from the population living in non-assisted housing to use as comparison. But, in absolute terms, it does not appear that the percentage of people who felt stigmatized is unduly high. (See Appendix B, figure B-2, for the mean scores for this item by sites and assistance programs.)

As a group, the public housing sites appeared to have a greater stigma attached to them than the non-public housing developments. While the mean score for the group of privately owned projects was well into the positive half of the scale (3.90), that for the public housing group was on the negative half, albeit by a small margin (2.96). This difference in scores was statistically significant.[2]

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[2] This difference was statistically significant at the .001 level, that is, the probability of this difference occurring by chance is less than 1/10th of 1 percent.

The other item measuring stigmatization was the statement: "Even though the housing itself is quite adequate, I do not like living here because of what other people think about it." Overall, even fewer respondents concurred with this statement: only 7 percent agreed, 77 percent disagreed. (See Appendix B, figure B-3 for the mean scores on this item for the 37 developments in our sample.) Again, there is a statistically significant difference between the public housing sites and the privately owned developments, although the difference is smaller than in the item of figure B-2.

These results suggest that a relatively small percentage of the residents do feel a certain stigma attached to living in assisted housing. An even smaller percentage feel that such stigma is important enough to offset the advantage of otherwise "adequate"[3] housing.

4.8 Summary

The information presented and discussed in this chapter shows that, as a whole, residents in our sample of HUD-assisted housing were a non-homogenous population with respect to a number of socio-demographic characteristics, including income, education, values, and lifestyle. Moreover, differences in satisfaction levels and in the importance of various aspects in predicting residents' satisfaction were related to these socio-demographic dissimilarities. These socio-demographic differences were perceived more accurately by tenants than by management.

Satisfaction with other residents as neighbors, which was a strong predictor of overall satisfaction, was associated with similarity, friendliness and trustworthiness of neighbors, the degree to which they cared for the upkeep and cleanliness of the development and of their dwelling, the degree of privacy, lack of crowding, and protection from crime and vandals, and the degree to which management rules and performance were perceived to have an effect on these other aspects.

Among such aspects, similarity (of beliefs, childrearing ideas, interests, and education) between the respondent and his or her neighbors was found to be the aspect most strongly associated with satisfaction "with other residents."

The experience of our respondents with prior housing and the comparison between the development in which they lived and other housing available in the community were also strong predictors of overall satisfaction.

Comparatively few low and moderate income households (approximately 25 percent of our respondents) seemed to have a reasonably wide range of housing choice available to them. While we found only a weak correlation between available choice and overall satisfaction, a factor containing measures of choice, mobility, and educational attainment was associated, though not very strongly, with general satisfaction.

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[3] Because of the slightly ambiguous wording of this item, it is possible that some respondents disagreed not with the feeling of stigma, but with the qualification of adequacy.

A perception of being "safe from crime, vandalism, and hustling" was not, per se, a predictor of overall satisfaction. Rather, this perception was associated with other aspects which, in turn, were predictors of overall satisfaction. These aspects were mainly related to having similar, friendly and trustworthy neighbors in the development, feeling that management and police were providing effective protection, and feeling that management was effective in screening away potential troublemakers.

Only 15 percent of our respondents felt stigmatized because they lived in HUD-assisted housing. However, absence of stigmatization feelings was positively related to overall satisfaction. In turn, stigmatization was likely to be avoided when residents were satisfied with their neighbors, felt they had sufficient privacy from them, and perceived the surrounding neighborhood as pleasant and safe.

Chapter 5

The Physical Environment

This chapter deals with the physical aspects of housing. Specifically, we discuss those physical aspects that are associated with planning, design, and construction, rather than those (such as maintenance) that are related to management, considered in chapter 6. In other words, most of what we discuss in this chapter is directed to planners, architects, and landscape architects, and to those who interact with these professionals in making decisions that affect the physical environment of housing.

5.1 Location

There is an adage in the real estate business that there are three important aspects in the success of a housing development: location, location, and location. This may be overstating the case, but it is nevertheless a reminder of the fact that, in the open market, people who can exercise a choice tend to place great importance on locational factors, particularly in the presence of good schools (if they have children), the general upkeep of the neighborhood, the kind of people living in the immediate neighborhood, etc.

In our study, a "community" factor was a significant predictor of residents' satisfaction in multiple regression analyses of 16 factors and indices which included both perceptions and objective data (page 3-8). This "community" factor included responses to questions about satisfaction with neighbors outside the development and about ease of access to the surrounding community.

The importance of locational factors should not be construed to mean that a development cannot be successful if located in an undesirable neighborhood. For instance, in our sample of 37 developments, of the 16 sites in which satisfaction with "living here" was above the mean score of the total sample, almost half (seven sites) were located in a neighborhood perceived as unsatisfactory by the residents.

Occupants of the five most satisfactory developments offered the following comments (among others) about undesirable characteristics of the neighborhood in which they development was located:

"It is very unsafe to walk alone to town or grocery. Many of our elderly men and women have been knocked down and robbed in daytime while walking in the neighborhood."

"The major and possibly overriding drawback is the area outside the housing development. Aside from the general hostility I feel when I walk a block away from the development, this is unqestionably a high-crime neighborhood. My husband has been held up often -- once with a gun -- once with a knife. We have witnessed more purse-snatchings than I can recall and many of our neighbors have been burglarized. We do not walk anywhere at night but dash to our car and back. The last straw was my husband's witnessing of [a] murder in front of our house. Since then we have begun to question whether all the benefits of living in this development are worth living in fear."

"I don't like the many vacant lots nearby which still haven't been redeveloped and which attract junkies and the like."

"The police are very slow to respond to a call. Which is to be expected. Of course, if we lived in an 'elite' part of town they would respond much sooner."

These comments suggest a particularly strong concern with security from crime. Yet, even in the presence of these perceptions about the surrounding community, these developments were the top five (in our sample of 37) in terms of overall satisfaction. This can be explained by the fact that compensatory aspects existed in these projects in the form of design features and management practices.

Crime is not the only locational problem that may be, at least in part, compensated for by careful design and sensitive management. For example, the lack of adequate recreational facilities for teenagers and adults in the immediate neighborhood, particularly in developments in which the population is not highly mobile, may be offset by providing at least some of these facilities within the development itself.

5.2 Density

Some design consequences of location involve decisions of a general nature, which tend to be made at the early stages of design. Among these decisions, the density of the development, and the choice between low rise and high rise, have often been mentioned in the literature and elsewhere. Among design professionals, in particular, some of these issues have been dicussed with great passion. Incontrovertible, definitive answers to these questions cannot be obtained from present research. However, a number of our research findings in these areas have strong implications that are worth considering.

Because of the apparent public preference, at least in the open market, for low density residential environments, and because of the pressures for higher densities due to high land costs, density has received considerable attention as an aspect potentially related to residents' satisfaction. For this reason we included a measure of density[1] among sixteen potential predictors of satisfaction with "living here." When we performed a step-wise multiple regression analysis on these variables, we found that density was not a significant predictor of satisfaction. In other words, density, as such, was not associated with satisfaction with "living here." This, of course, does not mean that density is not an important parameter in the design of a housing development. It is obvious that certain design aspects, for example, visual and auditory privacy, become more difficult to obtain as densities increase. But we can conclude from the results of our analyses that both high and low densities can be satisfactory when a development is adequately designed and managed.

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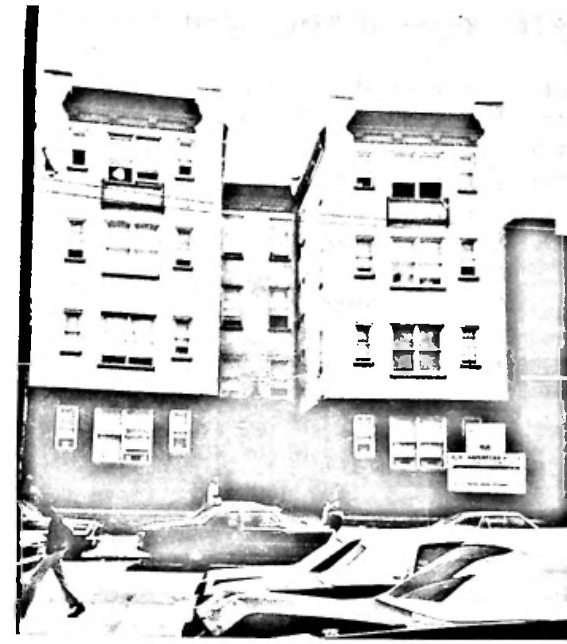
[1] For our purposes, density was defined as the number of dwelling units divided by the entire surface area of the development site. This area included internal roadways, parking, etc. In our sample, density ranged from 6.3 to 163.1 dwelling units per acre.

5.3 Size

In our study we included the size[2] of the development among 16 potential predictors of satisfaction with "living here" in a stepwise multiple regression analysis. Size of the development was the last of the seven predictors that were found to be significant: the greater the number of dwelling units in a development, the lower the degree of satisfaction with "living here." We can conclude, then, that for our sample, small size was predictive of general satisfaction, though not very strongly.

Among the 16 developments in which residents reported satisfaction at a level higher than the mean level for the entire sample, 4 had 100 units or less, 5 had between 101 and 200 units, 4 had between 201 and 300 units, 1 had 303 units, 1 had 424 units, and 1 had 704 units (the latter was totally occupied by elderly). These data should remind us that, if other aspects are positive, it is possible to obtain high levels of satisfaction even in large projects. Conversely small size, per se, will not help when other aspects are negative: for instance, the development that received the lowest score on satisfaction with "living here" had only 50 units. A general conclusion in regard to size is that developments of a relatively small size (perhaps below 200 units) will tend to make both design and management easier.



Figures 5-1 and 5-2: The smallest development in the study (top) contained 28 units, the largest (bottom) had 1122 dwelling units.

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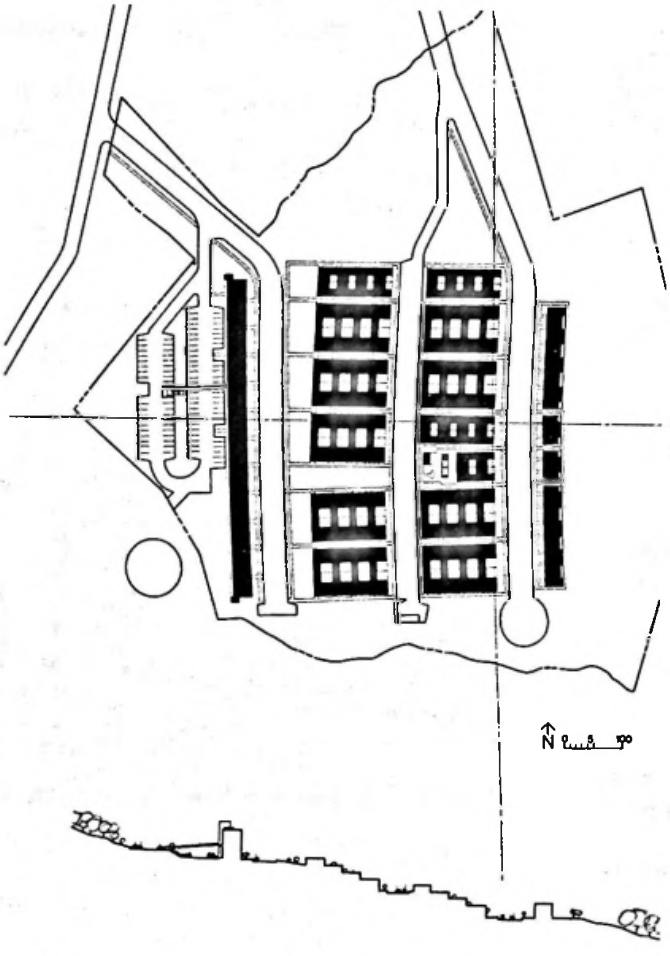
[2]For the purpose of our study, size was the total number of dwelling units in a development. In our sample, size varied between 28 and 1122 dwelling units.

5.4 Types of Site Layout

Just as with density and with high rise construction, there seems to be a conviction among site planners and architects that certain types of layout are inherently better than others. For instance, Frampton (1975), writing about the low-rise, high-density type of layout (known as "carpet" housing) sees in this particular type certain intrinsic virtues of "livability." Our study included a development with this type of layout (see figure 5-3). It ranked 22nd (out of 37) in satisfaction with "living here," which places it below the mean satisfaction level for the whole sample. This development was also rated negatively on privacy and on the facilities provided, such as parking, recreation, and laundry. The open ended comments provided by some respondents did not make any specific reference to the type of layout, in spite of the fact that it is a very unusual one. While certain features were positively commented on, particularly the views and the availability of decks and patios, there were also negative comments about lack of privacy (especially auditory privacy), the inconvenience of parking arrangements, and the fact that dwellings were not spaced far enough apart from each other.



Note: In this site plan, and all others in the report, schematic sections have been shown to give an idea of the topography, relative building height, etc. The location of the section planes is indicated on the plan by dotted lines.

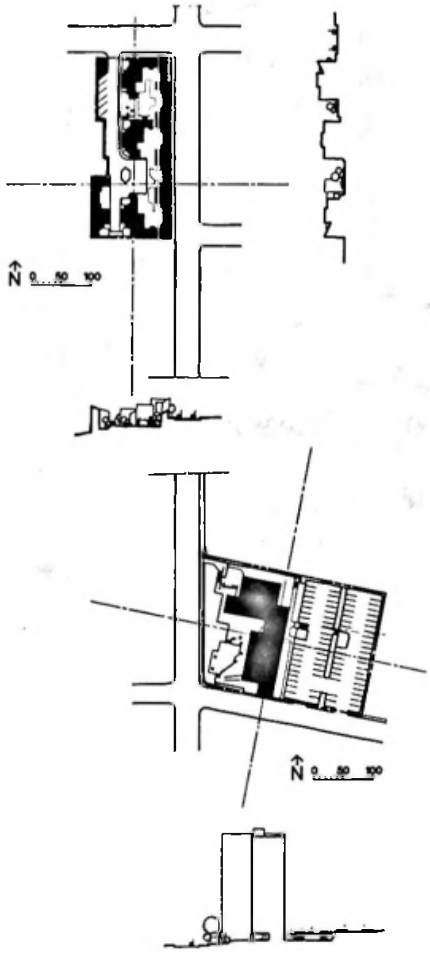
Figure 5-3: Schematic site plan of a low-rise, high-density project of the "carpet housing" type. This development was ranked 22nd (out of 37) in satisfaction with "living here."

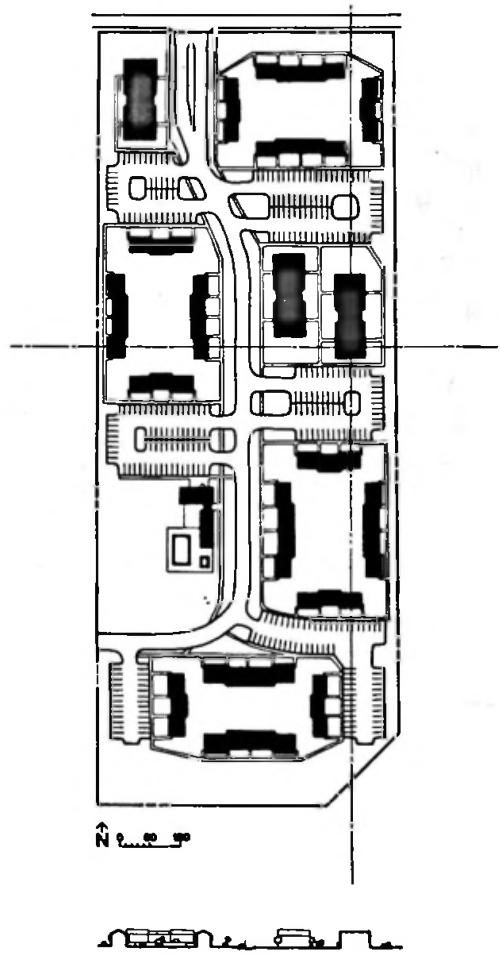
When we examined the layouts of those developments that were ranked highest on satisfaction with "living here," a great variety of layouts became apparent. The most satisfactory development consists of two buildings located at some distance from one another along an urban street (figure 5-4): one of the buildings is a high-rise structure, the other consists of a rather complex, imaginative, and tight arrangement of low-rise walk-ups.

The second ranked development (figure 5-5) has a rather straightforward, uninteresting arrangement in which parking branches off from a central roadway, and low-rise buildings are laid out in "court" fashion, generally facing parking on the one side and the court on the other.

Figure 5-4 (left): The highest rated development on satisfaction with "living here." It consists of two parts, located at some distance from each other alongside an urban street. The first part (upper section) is a low-rise building. The second part (bottom section) is a high-rise structure.

Figure 5-5 (right): This low-rise project was rated second on satisfaction with "living here." It contains townhouses and apartments.

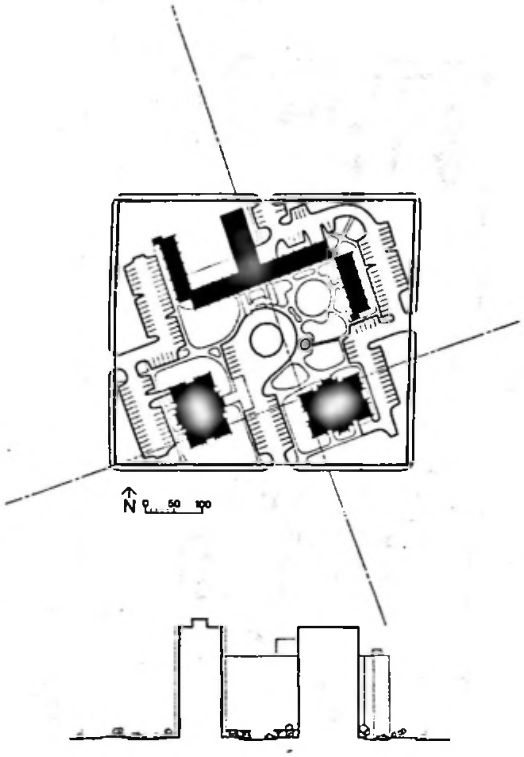


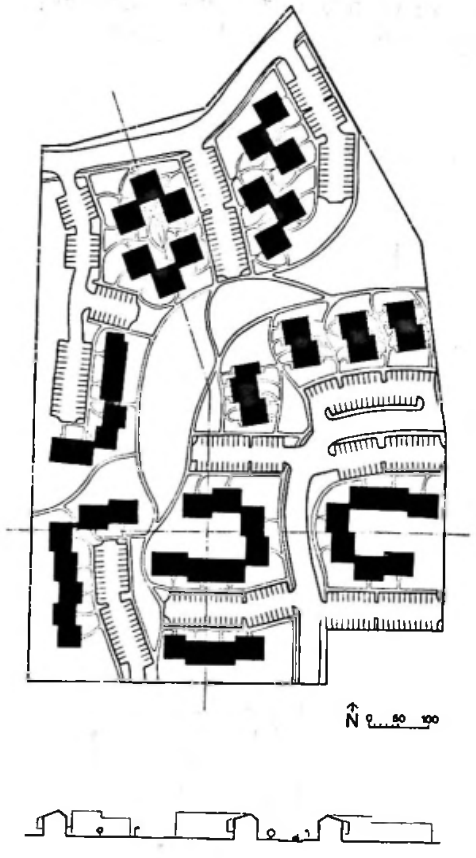


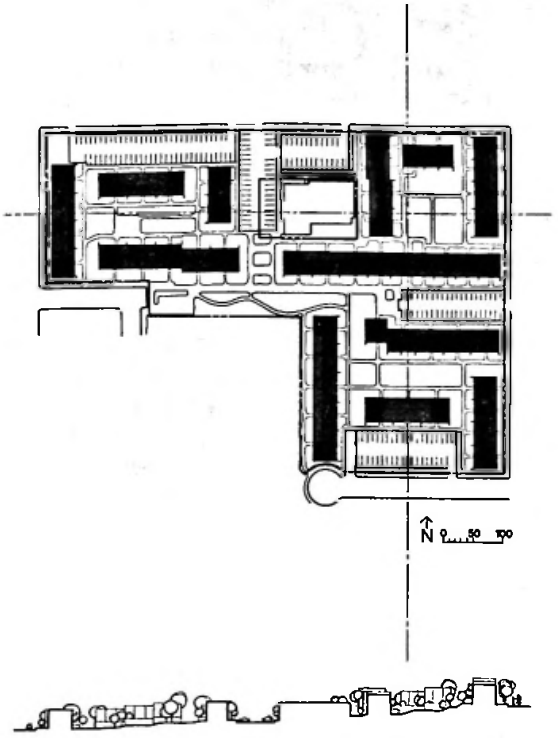
The development that was ranked third on general satisfaction (figure 5-6) is a group of high-rises for the elderly arranged without regard to the surrounding streets, but providing a certain measure of enclosure for a relatively small landscaped open space. The next five developments in which the highest levels of overall satisfaction were obtained also had very different types of site layout (figures 5-7 to 5-11). Indeed, one could hardly ask for a more varied group of layout types.

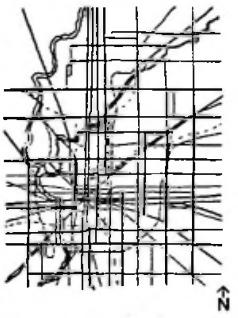
Figure 5-6 (left): The third most satisfactory development was a group of high-rise buildings occupied exclusively by elderly households.

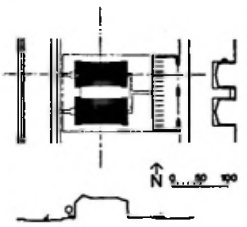
Figure 5-7 (right): Another low-rise development which also contains townhouses and apartments with a common space in the center of the complex and parking on alternate sides of buildings. It was rated fourth on satisfaction with "living here."

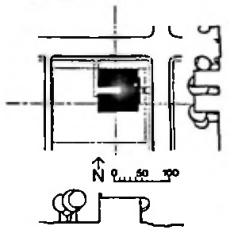












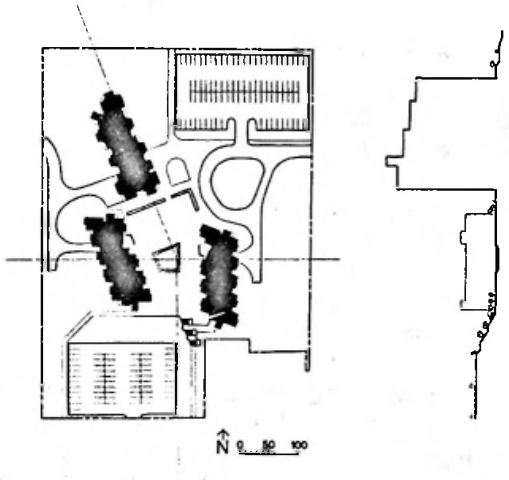


Figure 5-8 (top left): A tight arrangement of walk-up apartment buildings on a limited urban site. This project was still highly satisfactory: it was rated fifth out of 37 on satisfaction with "living here."

Figure 5-9 (top right): A successful development consisting of rehabilitated buildings on three different sites in the central city of a major metropolitan area. It ranked sixth on satisfaction with "living here."

Figure 5-10 (bottom left): Another urban site. This one has three high-rise buildings of different heights grouped around a central plaza. It was rated seventh on satisfaction with "living here."

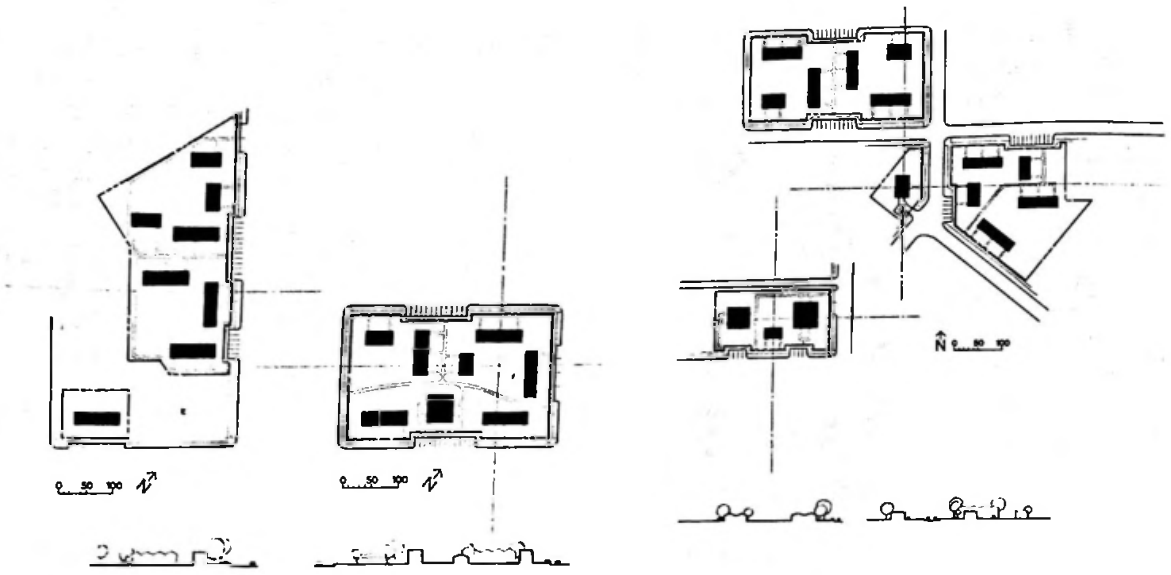


Figure 5-11: The development that ranked eighth on satisfaction with "living here" was of the scattered type. Two-story duplexes, triplexes, and quadruplexes are present on this site.

The conclusion that can be drawn from these examples is not that site layout is unimportant. A particular layout can make specific problems such as parking, recreation, or privacy easier or more difficult to solve and it can reflect on the overall attractiveness of the development. However, no particular type of site layout seems to exist that will be intrinsically better and that will strongly influence residents' satisfaction. No matter what type of layout is chosen, the specific detailed way in which a variety of important attributes is handled is what makes a real difference to people. For instance, there may be sufficient parking space provided, but if the layout makes it necessary to walk long distances between parked cars and dwelling units and does not permit visual surveillance of one's car from the apartment, then parking arrangements will likely be perceived as unsatisfactory.

5.5 High-rise versus Low-rise

There is a widespread notion that high-rise living is unsuitable for most types of occupancy, most particularly for families with children. High-rise developments have been associated with high risks of failure to the extent that in certain types of assisted housing their construction has been expressly prohibited by law. Nevertheless, high-rise housing has been built and will continue to be built for a number of reasons, including the frequent requirement in urban areas for densities well in excess of the level of 50 units to the acre at which low and medium rise-construction become impossible. For this reason, it is of interest to examine the results of research in regard to the high-rise question.

In our study we compared satisfaction levels of respondents in high and low-rise developments. For this purpose we selected a subsample of 135 respondents living in high-rise buildings and 192 living in low-rise housing.[3] This reduction was necessary to avoid comparing responses from urban areas (where all high-rise buildings were located) with those from suburban areas and rural areas. The high-rise developments were located in the state of New York; two were in New York City, one in Yonkers, and one in Utica. The low-rise sites were in the following locations: Chicago, Illinois; Yonkers, New York; Ithaca, New York; Minneapolis, Minnesota; and Knoxville, Tennessee. We compared the demographic characteristics of the respondents in the two subgroups to ascertain whether they were, in fact, different types of populations. Residents in the high-rise developments were somewhat older, less educated, and had lived in the community longer than residents in the low-rise projects. Although these differences were statistically significant,[4] they were very small. There were no differences in family size.

When we compared satisfaction levels between the two groups, we found *no* significant difference in satisfaction with "living here." Among thirteen other measures of satisfaction with other aspects which had been found to be important to residents, only three were significantly different between the two groups: satisfaction with recreation facilities, with privacy from neighbors, and with parking arrangements.[5] The high-rise residents were *more* satisfied than low-rise residents with these three items.

When we compared the two groups by means of multiple regression analysis, we found that a management index and an index of comparison with prior residence were important predictors of satisfaction with "living here" for both groups but, in addition, privacy from neighbors, satisfaction with neighbors in the 2-3 block area around the project, safety, and security were also important predictors for the high-rise residents.

In summary, these results show that, for our sample, high-rise housing did not result in lower levels of satisfaction, that people in high-rises were actually more satisfied with some aspects of their housing and that certain aspects of privacy and security were more important for respondents in high-rises than they were for the low-rise group.

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[3] High-rise were defined for this purpose as buildings in which elevators were present.

[4] At the .01 level, i.e., the probability of these differences occurring by chance is less than 1 percent.

[5] At the .05 level; i.e., the probability of these differences occurring by chance is less than 5 percent.

5.6 Appearance

In the housing research literature there is a remarkable consistency about the importance of the attractiveness of the development and dwelling units in promoting residents' satisfaction. Esthetic attractiveness has been shown to be strongly associated with acceptance of a development by its residents. The results from regression analysis reported in chapter 3, section 3.2 confirm the importance of a set of items measuring visual attractiveness and pleasantness of dwelling units, buildings, and grounds in fostering satisfaction with "living here." The factor containing these items was labelled "appearance."

Principal component analysis of responses to the tenants' questionnaires suggests that residents react to specific features of the architectural design, landscaping, and maintenance. For instance, the color and material of buildings were the two most important items in an appearance factor which was a strong predictor of satisfaction with "living here." Other important items in this factor were perceptions that the outside of buildings was pleasant, that the housing development was beautiful and colorful, and the buildings were generally attractive. Perceptions that the development did not look like military housing, that the view from the apartment was pleasing, that the landscape and the dwelling units were pleasant, that the development was new and "elegant" were also related to appearance. (See Appendix B, Table B-1, for the list of items contained in this factor.)

When we asked the residents in our sample to rate their satisfaction with the "appearance of this development," we found that a substantial majority of the respondents rated it on the positive side of the scale. Approximately 66 percent of the respondents were satisfied, 21 percent were dissatisfied, and 13 percent were neutral.

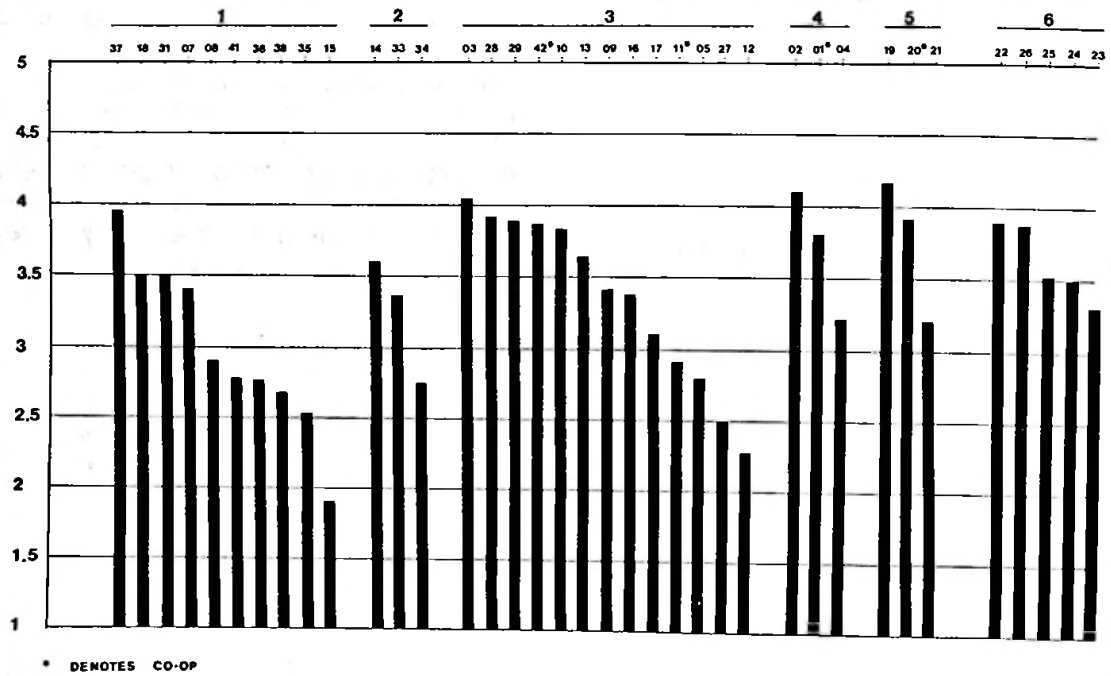

Figure 5-12: Satisfaction with "appearance of this development."

When we broke down these results by sites and programs of assistance, we obtained the scores shown in figure 5-12. Again, as in the case of other responses, there was a wide variety of scores among the 37 sites. As a group, the Public Housing sites scored significantly lower[6] on the dimension of appearance than the private developments, a reflection of the generally lower esthetic concern evidenced by most public housing developments.

This is, of course, also a function of the fact that most Public Housing construction occurred at a time when the concern for environmental attractiveness had not yet emerged as worthy of special attention. In this connection, it is significant that the second highest ranked Public Housing development was a site that had been extensively refurbished by using modernization funds (figure 5-13). The only Public Housing project that was ranked higher on appearance was a development for the elderly, of recent construction.

An important consideration in this discussion is that we are not describing esthetic standards held by designers, but rather the residents' *perception* of a development's attractiveness. Therefore we are interested in investigating what design features (and management practices) contribute to make a development attractive in the eyes of the residents.

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[6]At the .02 level; i.e., the likelihood of this difference occurring by chance is less than 2 percent.

Figure 5-13: This Public Housing development had undergone extensive modernization. It received the second highest rating of all Public Housing projects on satisfaction with "appearance."

One way to identify design features that contribute to attractiveness is to examine a series of photographs of some sites which were rated by our respondents at a higher or lower level on the dimension of appearance.[7] Figures 5-14 to 5-26 show some general views of sites from these two groups.

If we look first at the sites which received the highest scores on appearance, some similarities and differences become apparent. Perhaps the most striking observation that can be made is the great variety of architectural form exhibited by these projects. Both "traditional" and "contemporary" styles are present, both low-rise and high-rise solutions are present and a variety of finishing materials and color treatments is apparent.

In figure 5-14 (showing the development that was rated best on appearance) it is clear that an attempt was made by the architect to treat each dwelling unit as a somewhat different looking row-house. To this end different materials and textures, roof shapes, trim, and even size were used by the designer. The architectural style is somewhat eclectic. The photograph also conveys a broad sense of spaciousness, well-maintained lawns, and relatively well-grown evergreens (an important visual asset in wintertime: the site is in Michigan). Also to be noted is a well-constructed wood fence set in a bed of gravel, which perhaps lends a certain air of elegance to the landscaping. Ninety-five percent of respondents in this development were satisfied with its appearance. No one was dissatisfied and only five percent were neither satisfied nor dissatisfied.

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[7] Unlike in numerous preference studies, in our investigation the respondents rated the development in which they lived rather than a set of pictures of unfamiliar residential environments.

Figure 5-14: A view of the development that received the best rating on appearance. Note the well-kept landscaping.

Figure 5-15 shows an entirely different look. Unlike the previous example, this is a rather tightly laid out development designed very much in a contemporary style with a certain architectural distinction. Variety seems to be achieved not by cosmetic overlays on building facades but rather by varying the shape, size, and placement of windows and balconies and by breaking down the total volume of the buildings into smaller units. The result is a certain amount of complexity in the overall architectural appearance, further emphasized by the slope of the terrain which the individual buildings follow rather naturally. The finish material is all brick of a warm color. The lampposts are also of contemporary design, while the unconcealed transformer boxes appear to have not received any particular design attention. The landscaping, though not as manicured as in the previous example, is well maintained and takes good advantage of the natural asset of the hillside on which the complex is built. In this development, 80 percent of the respondents were satisfied with the appearance of the project, four percent were dissatisfied, and 16 percent were neutral.

Figure 5-16 shows the development that was third highest on appearance. The architectural treatment and landscaping were similar to the site of figure 5-14 (both were owned by the same State Housing Development Authority).

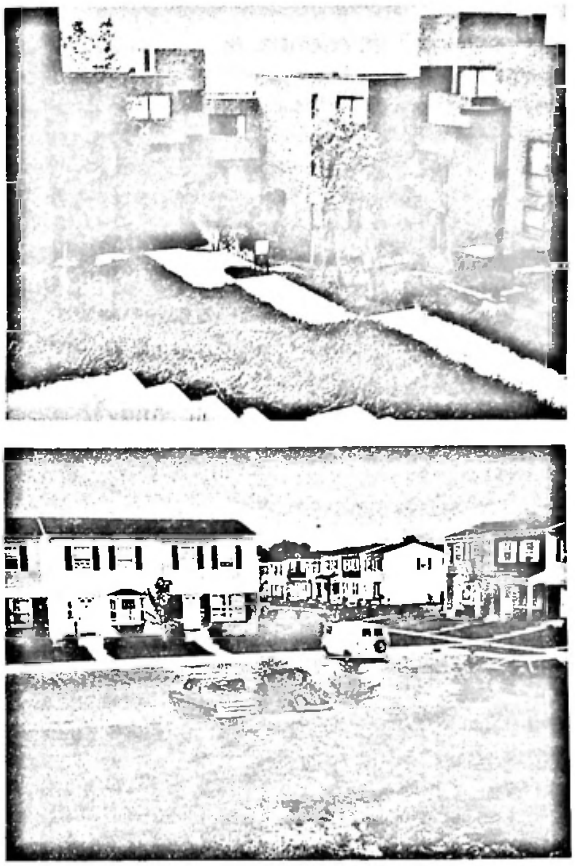


Figure 5-15 (top): A project of contemporary design that was ranked second best on appearance. Variety is achieved by combining the same shapes in different ways, rather than by changing shapes, colors, and materials.

Figure 5-16 (bottom): This development was rated third on appearance. The designers have attempted to achieve variety by different surface treatment of repeated building units.

Figure 5-17 presents a somewhat different approach, in which a greater consistency of design was obviously sought by the architect by using only one surface material for the building facades (cedar shingles), uniform slopes in roof lines, and similarity of forms. Variety was sought by combining buildings in a number of different ways. There were no respondents reporting dissatisfaction with appearance in this development; 82 percent were satisfied and 18 percent were neutral.

The development in figure 5-18 appears to rely on a conventional, middle-of-the-road approach to design. On the other hand, figure 5-19 shows a partial view of a development in which the architecture is certainly conspicuous and bold. The presence of deeply recessed balconies and the manner in which the large bulk of the building has been broken up may have contributed to the positive rating that this development received on appearance. Of the respondents in this project, 76 percent were satisfied with appearance, 12 percent were dissatisfied and 12 percent were neutral.

Figure 5-17 (top): The development that was rated fourth on appearance had some traditional elements (such as roof lines, and a general "suburban" look) treated in a contemporary architectural style and unified by cedar shingle cladding.

Figure 5-18 (middle): A more conventional design that was quite satisfactory. It was rated fifth on satisfaction with appearance.

Figure 5-19 (bottom): A very modern design which was also satisfying to our respondents. It ranked sixth on appearance.

Figure 5-20 (top): Only 33 percent of our respondents were satisfied with the appearance of this development.

Figure 5-21 (bottom): A recent project that received one of the lowest appearance ratings. Its rating might have been better had the landscaping been completed at the time of the survey.

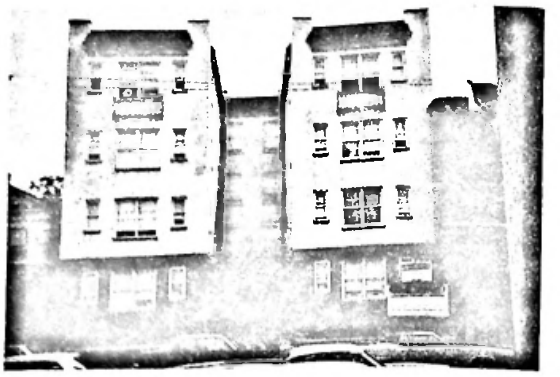
It is also interesting to examine a number of projects that received the lowest appearance ratings. Figures 5-20 to 5-26 show some aspects of this group of projects. Figure 5-20 presents a view of one of the "older" public housing projects (it was built in 1951). The "institutional look" is quite clearly visible in the building facades, fenestration, entrances, the absence of pitched roofs, and in the long rows of dwellings. Maintenance of paved areas and of the landscaping does not appear to be very good. The unscreened clothes drying racks convey a further "housing message" that may have had an influence on the assessment of appearance. Only 33 percent of our respondents reported satisfaction with the appearance of this project, 42 percent were dissatisfied, and 25 percent were neither satisfied nor dissatisfied.

Figure 5-21 shows a development that received an even lower appearance rating: only 28 percent of the respondents were satisfied, 61 percent were dissatisfied, and 11 percent were neutral. At first glance this appears to be a somewhat more attractive project than the rest of those which received the lower appearance ratings. Although there seems to be a certain monotony in the endless repetition of the same design, the architectural features in themselves do not appear sufficiently poor to explain this low rating. It is possible that the fact that landscaping had only begun at the time of the study influenced the residents' responses.

The development shown in figure 5-22 is a rehabilitated structure, and apparently not a particularly attractive one. In this project the respondents were divided fifty-fifty between satisfied and unsatisfied with "appearance." However, among the dissatisfied residents 25 percent were very dissatisfied, but among those who were satisfied no one reported they were very satisfied.

The development shown in figures 5-23 and 5-24 is one which has received national attention because of its reputation for being a "problem project." It consists of both low-rise and high-rise brick faced buildings. The level of maintenance of buildings and grounds is clearly very poor. The presence of pipe railings around grass areas, far from insuring a better lawn appearance, conveys a further institutional message. Unscreened clothes drying racks also are visible. Of the respondents in this development, 54 percent were dissatisfied with its appearance, 23 percent were satisfied (but no one was very satisfied) and 23 percent were neither satisfied nor dissatisfied.

Figure 5-25 shows a view of a recently built development which, however, was already in a state of partial abandonment at the time of our study. Very poor maintenance is apparent. Fully 67 percent of our respondents were dissatisfied with the appearance of this project, 23 percent were satisfied and 10 percent were neutral.



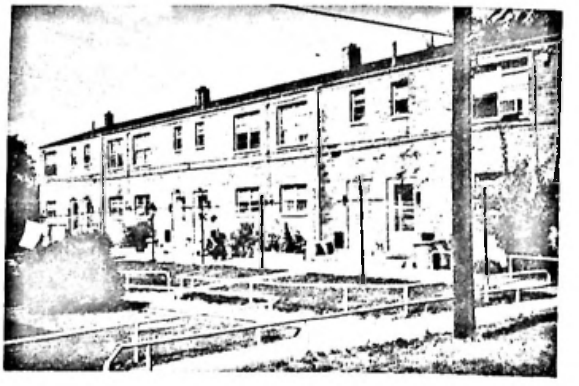


Figure 5-22 (top): A rehabilitated structure which was rated very poor on satisfaction with appearance.

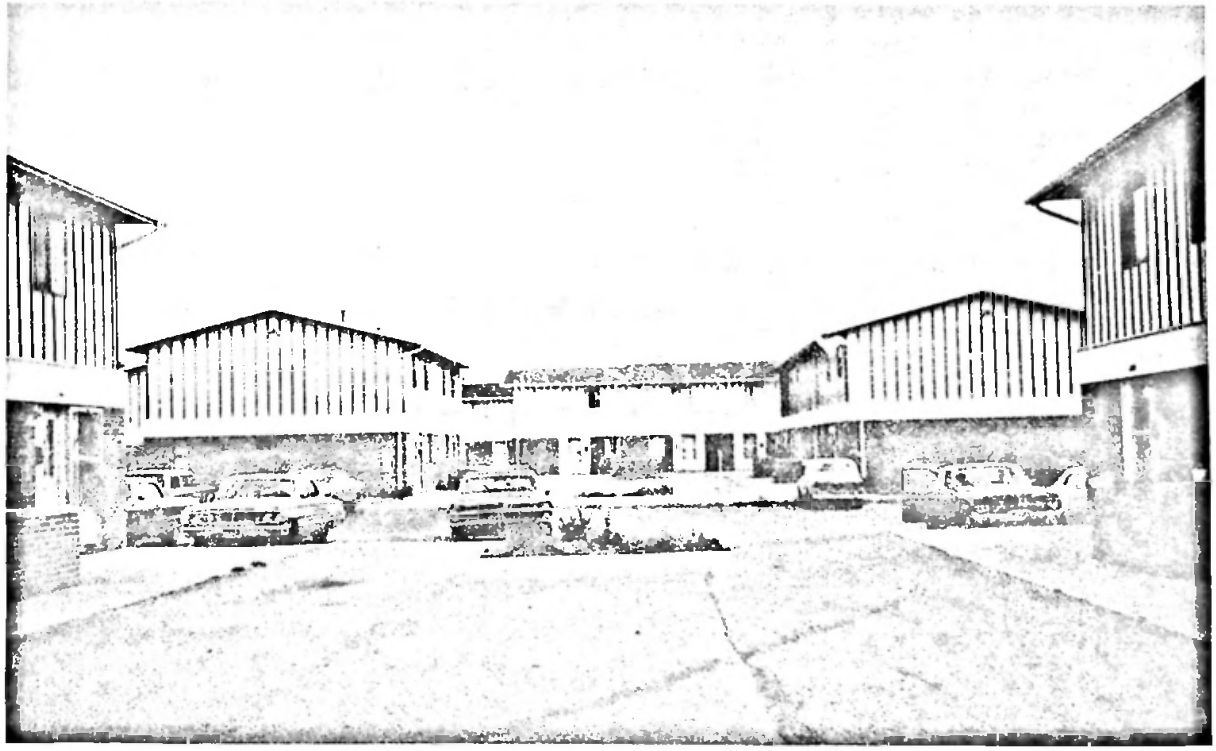
Figures 5-23 and 5-24 (middle): A Public Housing development that was considered unattractive.

Figure 5-25 (bottom): This development had been very poorly maintained and had the highest vacancy rate of our sample (40 percent).

The development which received the lowest appearance rating is shown in figure 5-26. The reasons seem quite obvious when one looks at this photograph, and indeed 77 percent of the respondents expressed dissatisfaction with appearance, four percent were satisfied and 18 percent were neutral.

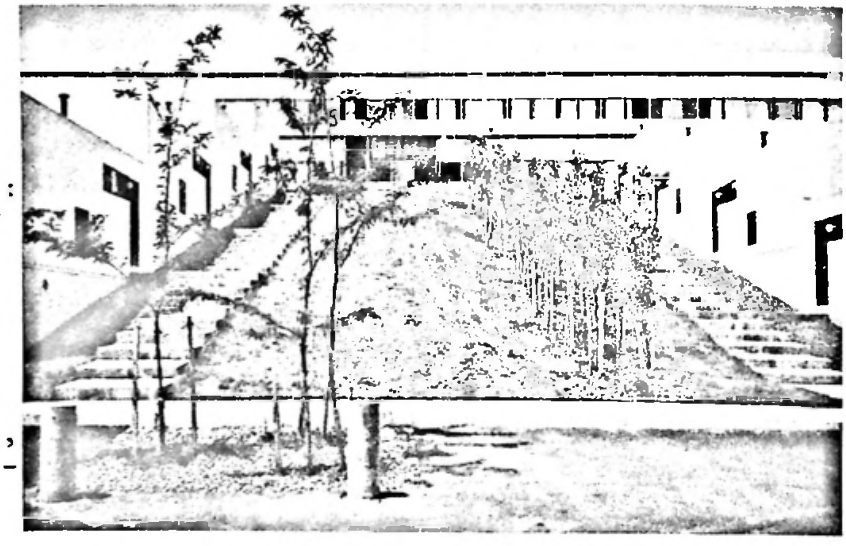
Looking at pictures of developments that were perceived by residents as attractive or unattractive is not a very rigorous procedure, from a statistical point of view. But it can help designers and planners, who tend to make decisions about the features that affect the appearance of a project mostly on the basis of visual images stored in their memory. Even a superficial examination of the figures presented here (albeit without benefit of color, which would make some features even more apparent) can give a feeling for what people consider visually attractive.

Figure 5-26: A view of the development which was rated the worst on appearance. Note the complete absence of landscaping, the barrack-like buildings and the overall monotony of the physical environment.



Architectural style, judging from the responses of our sample, seems quite irrelevant to the residents' assessment of appearance. Traditional styles are liked at approximately the same level as contemporary styles.

The only project exhibiting what could be considered an "avant-garde" design style (see figures 5-27 and 5-28) was rated 11th out of 37: a majority of respondents, 63 percent, were satisfied with its appearance, 21 percent were dissatisfied, and 15 percent were neutral.



Figures 5-27 and 5-28: Two views of the only development in our sample which was designed in an avant-garde architectural style. Although not among the very best in appearance ratings, it still was satisfactorily attractive for most respondents.

Satisfaction with appearance is clearly related not only to features of the design and construction, but also to managements' rules and performance, particularly in regard to maintenance. From our analyses, we found that satisfaction with appearance of grounds, site and unit was significantly associated with various measures of management performance. In turn, the factor containing these measures was a strong predictor of overall satisfaction. There also appears to be a clear relationship between satisfaction with appearance and satisfaction with one's neighbors. Numerous comments illustrate how concerned the tenants were with the influence of their neighbors' housekeeping and management's maintenance practices on the general attractiveness of the development. The following are examples of such comments:

"This is a well-planned development. Apartments are built with thought toward privacy and beauty. The landscaping is well done with large areas for children to play in with no fear of cars. Trees have been kept intact and more trees planted. It is well kept up."

"The exterior of buildings as well as the hallways are becoming run down because these kids have no respect for other people's belongings and often the parents are as bad as the children."

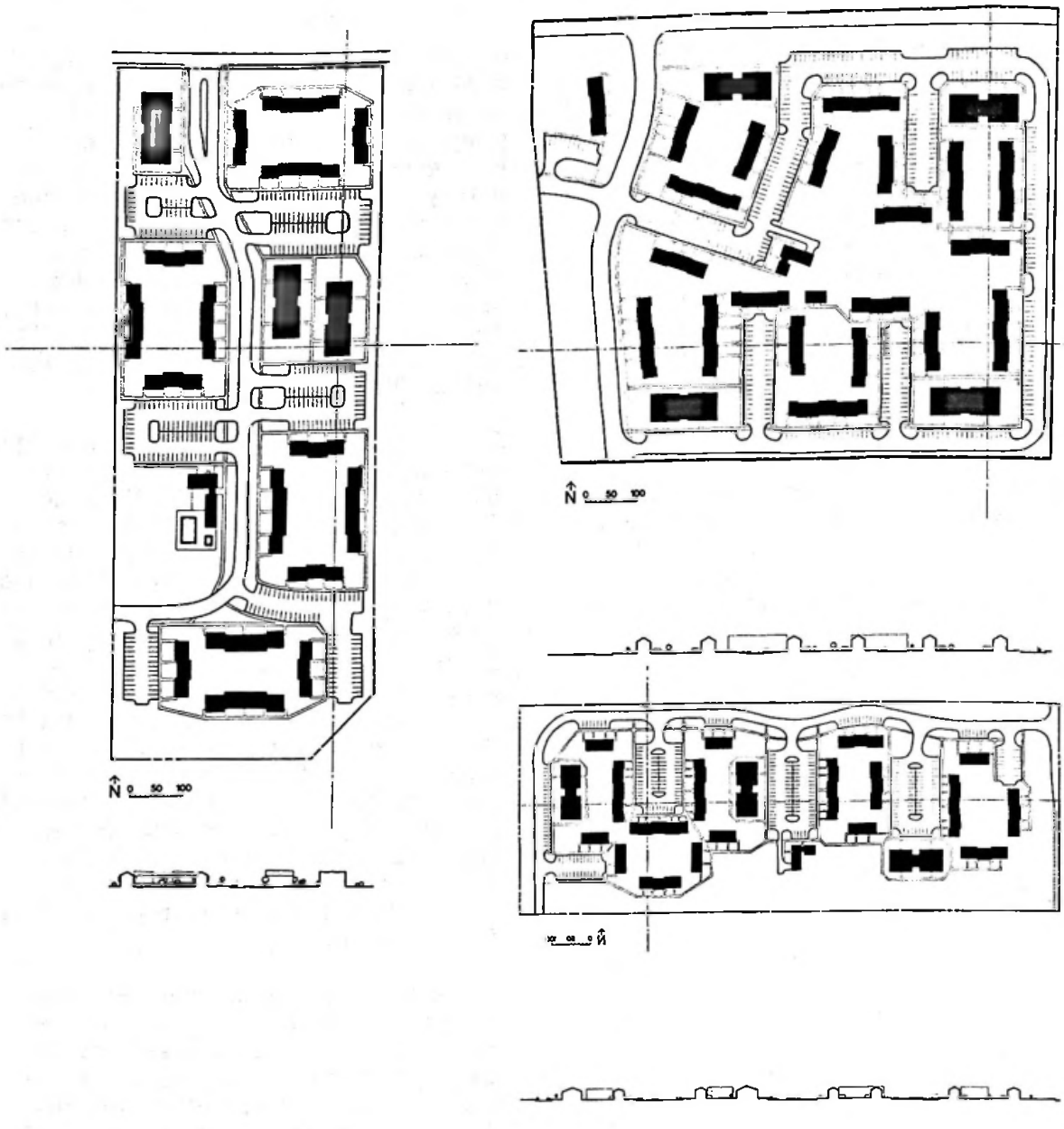
"It is new and modern and I enjoy keeping the place nice and clean although some of my neighbors do not."

The relationship between physical and non-physical aspects of a development can perhaps be best illustrated by a comparison among three sites designed by the same architects, using approximately the same building design and type of layout.

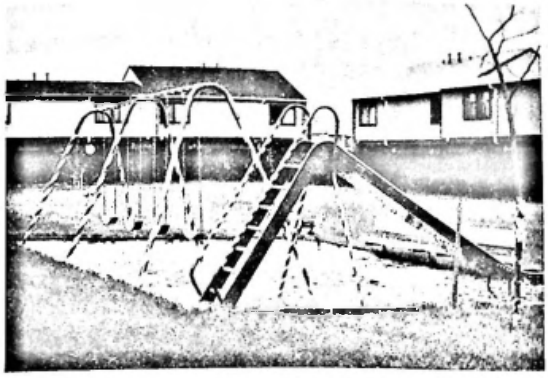
As can be seen from figures 5-29, 5-30 and 5-31, there do not seem to be major differences among the site plans of these three developments. Figures 5-32 to 5-37 show approximately similar views of parts of the three developments. One would expect these three projects to have been rated fairly closely on appearance. This is indeed the case for the first two, which were rated 17th and 18th, but not for the third site, which was rated 30th of 37.

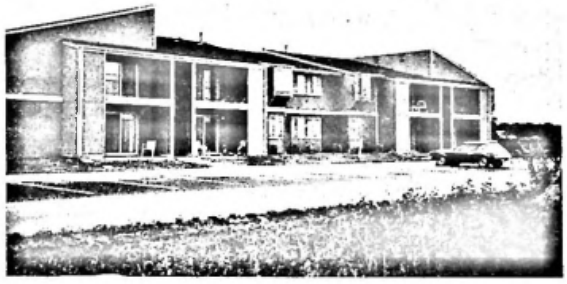
Several hypotheses may be proposed to explain these differences in scores. But the importance of this finding for designers is that a design solution may be more successful, even on appearance alone, in one location and with a certain group of residents than the same solution would be in a different place and context. In other words, there is a "risk" for the designer which probably cannot be totally eliminated. This risk can be thought of as the influence of non-physical factors on the assessment of physical aspects. The risk is perhaps greater with mediocre design solutions than with excellent ones, but we do not have evidence that this is indeed so.

In summary, attractiveness and appearance were strong predictors of overall satisfaction. Specific aspects that were associated with pleasant appearance include variety of shapes and materials, bright colors, good landscaping and pleasant views, a sense of newness and elegance, and a non-institutional look. Non-physical factors such as management's maintenance practices and the degree of neighbors' care for the development were also related to satisfactory appearance. Architectural style, as such, and the type of layout were not associated with attractiveness of a development.



Figures 5-29, 5-30 and 5-31: Site plans of three projects designed by the same architects using the same building type and building design. The first two developments (top) were rated very closely on appearance (17th and 18th), the third (bottom) was rated much lower (30th).





Figures 5-32, 5-33, and 5-34: Inner courts of the three developments designed by the same architects. Note the similarity of site and building design.

Figures 5-35, 5-36, and 5-37: Views of the apartment buildings in the same three developments. Again, the extreme similarity of design is apparent.

5.7 Spaciousness

It has often been argued that crowding and lack of sufficient space for family activities are undesirable conditions that prevail in open market housing available to families of low and moderate income. Thus, minimum property standards have been enacted with which HUD-assisted housing must comply for the purpose of insuring that sufficient space is indeed provided. While it is debatable that the application of minimum standards is the best way to insure spaciousness (a case can be made for the contention that minimum standards insure only a minimum of space), the purpose of this discussion is not to debate the adequacy of standards but rather to determine to what extent residents' perceptions of spaciousness are related to satisfaction with their residential environment.

The concept of spaciousness is a relative one: we are not talking about the size of the space provided (whether in square feet or number of rooms) but about the size of that space relative to the number of people using it and to the activities that are taking place in a certain setting.

In our study, a factor containing several measures of spaciousness was fourth in order of importance in predicting overall satisfaction. The items contained in this factor also showed that perceptions of spaciousness are related not only to having enough room for one's family and enough room for children to play inside one's dwelling, but also to having enough room to "get away" from other members of the household when so desired, to having privacy from other family members and neighbors and to general perceptions about the development not being too crowded.

Comments by residents often referred to various aspects of spaciousness, including comparisons with their prior residence and the relationship between amount of space and rent.

"A lot of room for the money."

"I like the amount of luxury accommodations for the price."

"I like the spaciousness of the rooms, the storage space especially, the high ceilings, the spaciousness of the grounds...never in my 50 years of apartment living have I ever had such a nice generous storage room in an average apartment. But the kitchen is too small or should be designed as an open kitchen, which would dispel the shut-in feeling of the working area."

"The apartments are big, nice looking and a good price."

"Enough room in the apartment is all I like."

By-and-large, when negative comments were made about the amount of space provided, they seemed to relate more to management practices than to faults in the design. A common complaint, more frequently made in some of the Public Housing developments, was about the use of a dwelling by more people than it was intended for.

"Some people rent an apartment to live alone and take in three or four people, crammed up, fussing and fighting, which disturbs us."

"Too many people in a little space."

"I have asked to be transferred to another project because I need more room. And I haven't gotten it yet. It's one grown up and 5 children living in a 4-room apartment. And I have been asking for one for two years."

In sum, spaciousness was important for our respondents, but a sense of spaciousness was not purely a function of the amount of space available. On the one hand, feelings of spaciousness were related to design features such as absence of a "boxed-in" look or the presence of well landscaped grounds; on the other hand, these feelings were related to issues of privacy from neighbors and from members of one's family.

5.8 Privacy

The concept of privacy seems to embrace quite a wide variety of notions, some of which have to do with features of the physical environment (e.g., thin party walls which allow transmission of sound from one dwelling to the next), while others have to do with management (e.g., rules which may infringe upon what a resident considers his or her own private affairs). In this section we will deal with aspects of privacy that may be considered as affected by design and construction. However, it is often difficult to separate physical from non-physical factors in connection with privacy. For instance, even thin party walls may not be perceived to be a problem if one's neighbors are considerate enough to avoid undue noise.

In the literature, privacy has frequently been treated as a discrete concept; that is, as an identifiable and specific characteristic which people use in evaluating their housing. Results from principal component analysis of responses to our tenant questionnaires do not support this view. This does not mean that privacy is not a useful concept, but rather that it is perceived as an attribute bound up with several other factors.

For example, in analyzing data from tenant questionnaires we found that satisfaction with privacy from neighbors was associated, though somewhat weakly, with various aspects having to do mostly with management attitudes and performance. The factor containing these items, in turn, was a strong predictor of overall satisfaction. Also, two items dealing with privacy from neighbors and privacy from one's family were highly associated with a number of other items in which the present residence was perceived as better than the prior place. The factor containing all these items (clearly a "comparison" factor) was a strong predictor of satisfaction with "living here." We already mentioned (in section 5.6) the association between privacy and spaciousness.

In sum, privacy looks more like an important attribute having a number of related components than a discrete dimension of housing satisfaction.

In terms of design, as Cooper (1975) noted, there are two categories of problems related to privacy: those dealing with aural privacy and those dealing with visual privacy. The extent to which intrusions into one's privacy can become a source of irritation and dissatisfaction, as well as the interdependence between physical and non-physical factors, is illustrated by comments from the residents in our study.

"Our neighbors are quiet and friendly."

"There is too much noise coming between the walls from other apartments."

"I especially like the...effective sound proofing."

"I like the excellent sound proofing."

"The apartments are quiet and private."

"People going up and down stairs sounds like you are inside a drum. The chandeliers shake. Living next door to the laundry sounds terrible. The walls are alive with the sound of rushing water. A person could go nuts. You either get the feeling you live under Niagara Falls or will get trampled by a herd of buffaloes."

The above comments, primarily concerned with aural privacy, are particularly interesting because they all come from residents in the same development. Not only is it possible that different people have different degrees of tolerance for noise but also that the design and construction of the various buildings differ sufficiently to actually generate different noise conditions. In this particular development there were two types of dwellings: apartment buildings and rowhouses. The latter may have provided somewhat better aural privacy.

Overall, perceived noise transmission in the developments we studied was high. We asked the residents in our sample whether noise from other dwelling units or from the outside could be easily heard in their apartment. Of our respondents, 61 percent said that noise could easily be heard; only 25 percent reported that it could not.

There were large differences among different developments in the percentage of respondents who felt their dwelling afforded a low level of noise transmission. In the quietest project, 70 percent reported they could not easily hear noise, in the noisiest, 100 percent said they could.[8]

Many comments were made by residents about noise transmission and the irritation caused by noise.

"I don't like to hear the neighbors' bed squeaking."

"The privacy factor is disturbing to me. The walls are very thin...and there is much noise that filters in from neighboring apartments and the staircase outside."

"There is lack of privacy from neighbors. Can hear sounds through walls made by neighbors - I'm sure they can hear us too."

"Houses too close together. There is not enough quiet and privacy."

"Lousy neighbors that keep me up all night with their disgusting noise and sordid music even from the apartment above. I have no peace or rest in this lovely apartment I am paying for, but I guess management does not care as long as everyone pays them their rent."

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[8]These percentages, when applied to individual developments, must be taken with caution because the number of respondents from a particular site answering a specific question was, at times, small.

"Sound proofing should be required; you hear so many things through the floors and walls you feel as though you are in the comic strip 'All Around the House.' You hear people below, behind, and beside you."

"It is very noisy, you can hear everything that goes on, on both sides of you. You can hear banging and slamming upstairs. You can't sleep past six in the morning, because you hear all the noise upstairs, the children around here run from morning till night."

"Noisy children, teenagers and stereos at all hours during the summer."

"I dislike overhearing domestic fights among neighbors."

"The walls are too thin - I can hear the couple next door making love."

"Upstairs tenants make love three times a week. Noise level got so bad we couldn't hold a civil conversation."

Visual privacy, judging by the residents' comments, was not generally as difficult to achieve, nor as irritating when not present, as aural privacy. Of course an individual resident has a greater degree of control over visual than over aural privacy: as a last recourse shades can, after all, be pulled down. However, visual privacy involves a reasonable amount of freedom from visual intrusion not only into one's dwelling unit, but also into outdoor areas such as balconies, patios, backyards, and around front doors.

It is surprising to note that even among the most successful developments in our study there were some in which issues of visual privacy appear to have received little or no design attention. For example, figures 5-38 and 5-39 show arrangements of dwelling units in one of the developments that was rated among the top five in overall satisfaction.

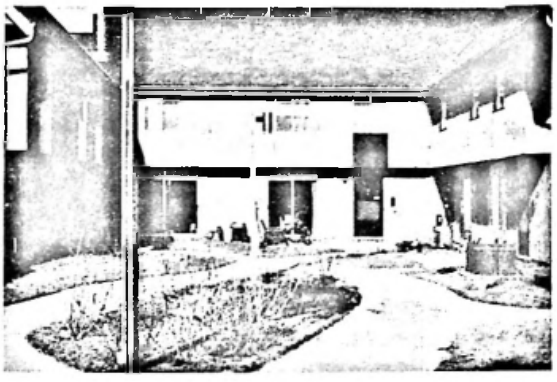


Figure 5-38 (top): Visual privacy is not possible for the occupants of these three townhouses. Entrance doors and patio doors are all contiguous. Air conditioning units contribute to lack of aural privacy as well.

Figure 5-39 (bottom): Occupants of the balconies around this court can look directly into the balconies of other units, particularly at the corners of the court.

The site shown on the previous page contains both townhouses and apartments. Most townhouses are arranged around courts similar to those of figure 5-38. Notice the complete lack of visual privacy in the unfenced outdoor patios. These patios are so close to one another that visual intrusion is inevitable. Direct views into neighbors' kitchens and living rooms through large patio doors are intensified by having three front doors to the townhouses share the same court with all other doors and windows. The upstairs bedroom windows, particularly in the inner corner location, have the same disadvantage. To complicate matters even further, the air conditioning equipment for each townhouse is located in a totally exposed position next to each patio so that noise is added to the lack of visual privacy. A number of tenants in this development complained about this type of arrangement.

"We need more privacy out-of-doors (patios, etc.)."

"The air conditioner is outside my window. It is loud in summer."

"Not much privacy from neighbors."

"I dislike looking out the window into another person's apartment."

"I dislike not having your own yard and privacy from neighbors."

The apartment buildings in this development, though arranged around a more spacious court (see figure 5-39) were not much better off from the point of view of visual privacy. As one resident put it:

"The balcony is more or less a joke, because of noise from air conditioning pods (in summer) and because they look directly into the neighbors' balcony."

Visual intrusion can be minimized by appropriate design. For instance, figures 5-40, 5-41 and 5-42 illustrate two ways in which this has been accomplished. In the first case, a high-rise building, balconies have been provided in the inside corners which have been obtained by breaking down the total building mass into smaller parts. In the second case, the sides of each balcony have been provided with slotted screens which, though not totally impenetrable, do offer some visual protection and a sense of enclosure.

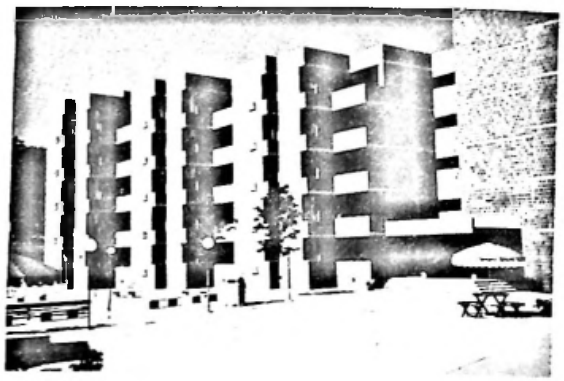
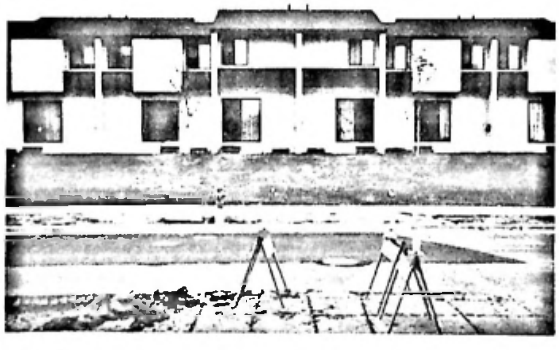
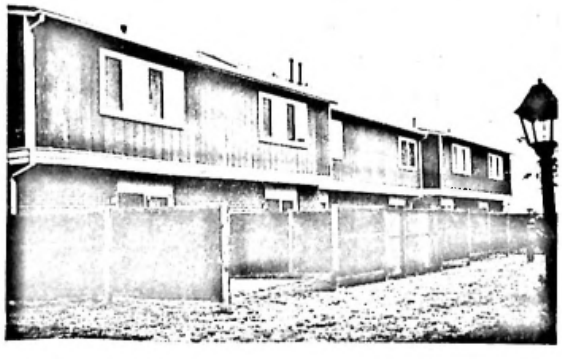


Figure 5-40: By staggering the dwelling units at each floor in a sawtooth pattern, the designer of this building has significantly increased visual privacy. Compare this example with that of figure 5-39.





The different ways in which patios have been handled in the developments we studied frequently suggest a remarkable lack of understanding of the privacy needs of the residents. It is difficult to say whether budgetary problems or simply neglect are the cause of these widely different treatments, but the fact that a reasonable degree of visual privacy has been achieved in some cases indicates that it is not an impossible goal. Figure 5-43 shows what, by any standard, should be regarded as an unacceptable solution. As one resident put it:

"No privacy when you're out on your patio."

A better solution is shown in figure 5-44. Though apparently not well designed or constructed in this particular case, this type of enclosure permits the individual residents to choose between leaving a part of the fence open or providing total enclosure by the addition of some panels (visible in the second patio from the left).

Figures 5-41 and 5-42 (top): Balconies and patios in this development are effectively screened.

Figure 5-43 (lower middle): Sliding-glass patio doors have been provided in this project. However, there are no patios, and the only defense against visual intrusion is provided by window drapes.

Figure 5-44 (bottom): Partially screened backyards were sometimes completely enclosed by the tenants. Note the second yard from the left in this illustration.

An interesting contrast, which involves not only visual privacy but also overall appearance, safe areas for small children to play, and personal space for growing flowers, shrubs, and vegetables, is shown by the two developments in figures 5-45 and 5-46. Both developments are under the same State Housing Development Authority, and both consist basically of the same type of rowhouse solution. However, in the first case no visual privacy is afforded, while in the second a pleasant and effective fence is provided around each backyard. Obviously, the second example involved a greater cost (which is also evidenced by the better siding, better windows, and addition of window shutters). But once the rowhouse-with-patio type of solution has been adopted, it would seem to make little sense to defeat the purpose of having a patio by making it virtually unusable. There were several comments by residents of the site of figure 5-46, such as those quoted below, which show that the backyard was appreciated.

"We enjoy our backyard in the summer."

"I like the privacy, having our own yard."

"I like being able to have a dog and easy access to a yard with relative privacy."

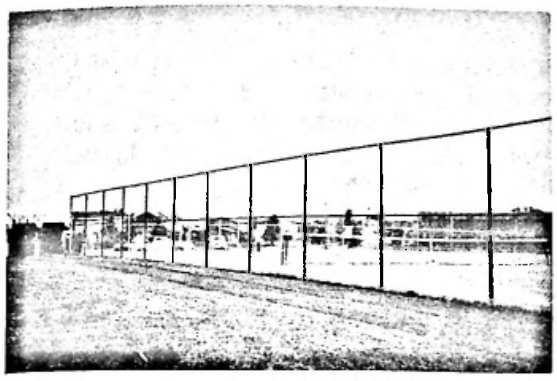
"What I like about living here is the cleanliness and out-in-the country feeling with your own yard and the lack of kids running all over the place."

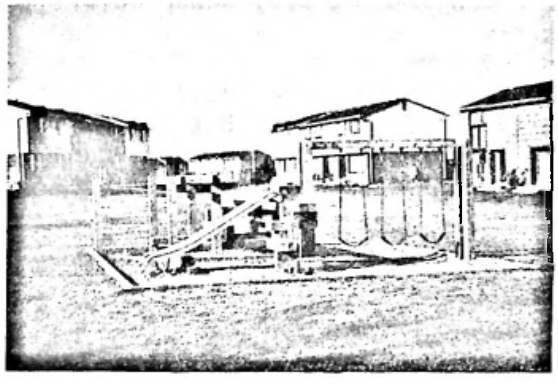
"I like having a backyard to plant flowers and it's nice to be able to have dogs."

"I like the enclosed backyard with decorative redwood fence."

In summary, aural and visual privacy, although mostly bound up with other aspects, are important in fostering residents' satisfaction. From a design point of view, aural privacy is the most difficult to obtain and the one aspect of privacy that causes most of the complaints. Visual privacy, though more easily achieved, is also frequently not satisfactory, particularly in low-rise construction. The addition of fences around patios and backyards, even when optional with the tenant, is generally very much appreciated by most residents.

Figures 5-45 and 5-46: Two developments built and operated by the same housing agency, in which the backyards received different treatment. In the bottom figure, the private fenced backyards have been landscaped by the tenants.





Figures 5-47, 5-48 and 5-49: Tennis courts, swimming pool and a playground of the development that received the highest score on recreation facilities. Note the visibly high level of maintenance.

5.9 Recreation Facilities

The importance of adequate recreation facilities has often been stressed in the literature. Although it seems clear that some recreation opportunities should be provided for all age groups, particularly in the case of the lower income families, nevertheless the most crucial needs involve recreation for children and teenagers.

Our study confirmed the importance attached by residents to recreation facilities, though not to the extent suggested by some authors. For example, principal component analysis of data from tenants' questionnaires showed that satisfaction with recreation facilities and a perception that these facilities were better than at the prior place of residence were highly associated with measures of overall satisfaction. However a "cleaner" component grouping items measuring only recreation facilities was a predictor of satisfaction at a modest level.

The amount and kind of recreation facilities are often not amenable to decision by the designers. It is more likely that the owners of a development will specify the kinds of recreation facilities to be provided. Often only minimal recreation areas will be provided in an effort to reduce construction costs. On the face of the results of our analyses, this strategy is likely to be unsatisfactory for the tenants.

When we examined our sample of sites on the basis of the mean scores on satisfaction with recreation facilities, we found that two of the highest-rated developments contained a wide variety of well-maintained facilities. The highest-ranked development had a swimming pool, tennis courts, and a number of playgrounds (figures 5-47, 5-48 and 5-49).

In this development, 84 percent of our respondents said they were satisfied with recreation facilities, 5 percent were dissatisfied and 11 percent were neutral. In addition, a sub-sample of respondents were asked a number of specific questions about play and recreation areas. In this development, 88 percent of the respondents in the sub-sample thought that the play areas were pleasant. When asked if there were "suitable recreation areas or recreation equipment," 80 percent of these respondents felt there were for toddlers, 83 percent for school age children and 84 percent for adults, although all respondents in the sub-sample said there were not enough benches and picnic tables.

We also asked these residents to list how many times a week they and their children (if any) used the recreation facilities. Five percent of the adults reported using the facilities 3 or 4 times, 32 percent 5 or 6 times, 26 percent 7 or 8 times, and 37 percent 10 or more times. They also reported that their children used recreation facilities less frequently than they did. Thirty percent reported no use at all by their children (though this may have been caused by having no, or very young, children),[9] 30 percent reported that their children used the recreation areas once or twice a week, 5 percent 3 or 4 times, 25 percent 5 or 6 times, and 10 percent 10 or more times.

In regard to maintenance of playground equipment, 47 percent of this smaller group of respondents said the equipment was well kept, 20 percent said it was poorly maintained and 33 percent were neutral.[10]

Tenants at this site made these comments about recreational facilities.

"I don't like the vast amount of vandalism done to the recreation facilities by unsupervised children."

"Lots of playground equipment for kids. My daughter has several friends to play with here."

"The people abuse the pool and other recreation facilities. They don't care because they don't clean it or make repairs."

"I like having a swimming pool."

"I like the pool and play areas for the children."

The next highest ranked development was a project entirely occupied by elderly residents. Eighty-five percent of the respondents in this development said they were satisfied with recreation facilities, but in this case we are dealing with a non-typical situation because of the recreational requirements of this age group.

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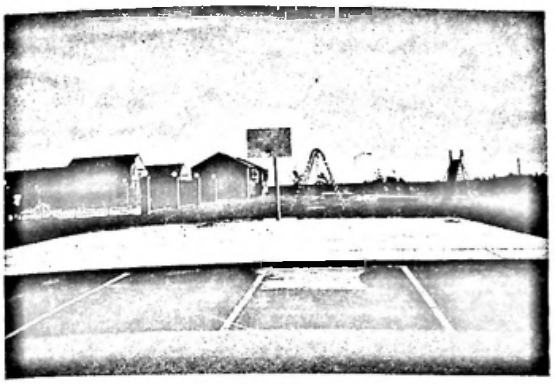
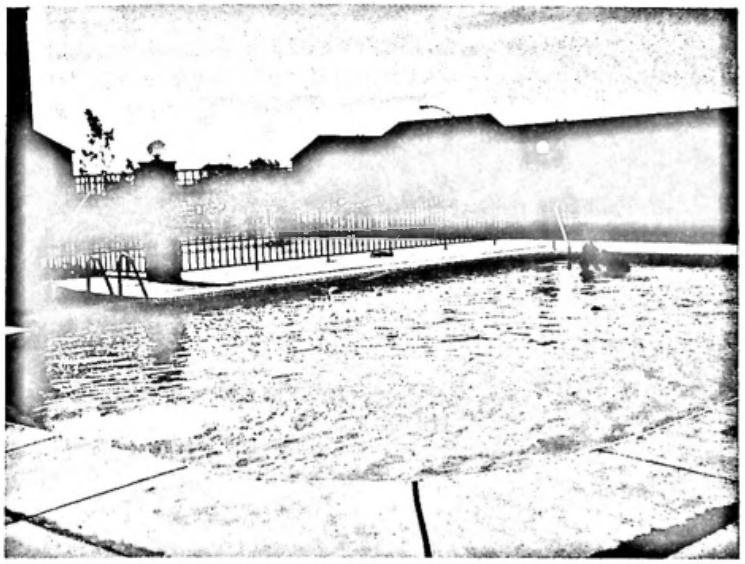
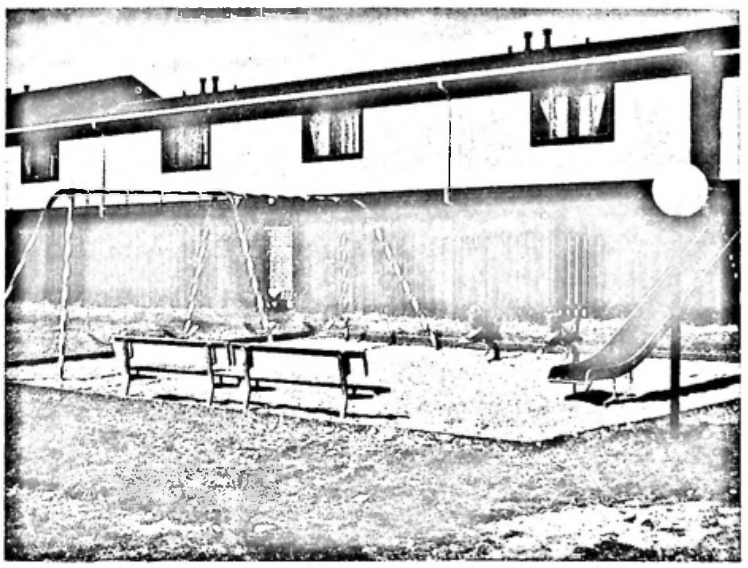
[9]There was, of course, a possible "no children" answer. However, the fact that 67 percent of the residents in an elderly housing complex checked the "not at all" box rather than the "no children" box suggests the possibility of confusion in this item.

[10]The answers obtained from this sub-sample (which received the third questionnaire form) should be used with caution, when they are examined for only one site because of the smaller set of respondents.



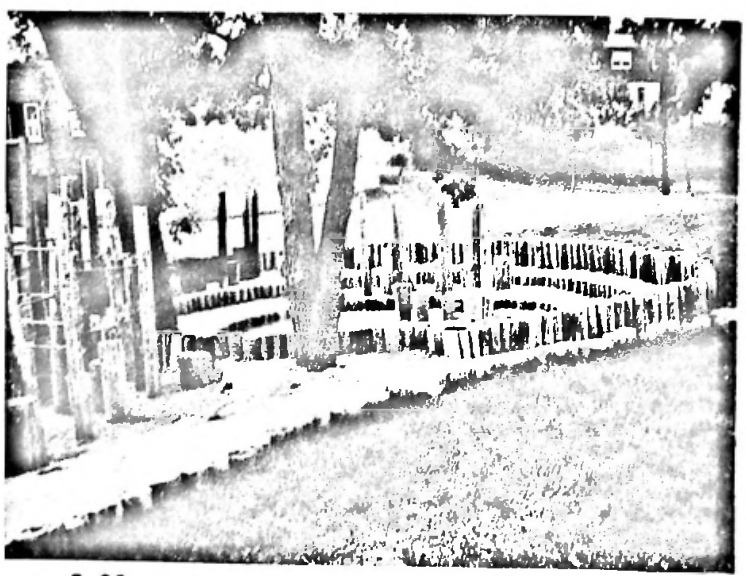
The development that was rated third on satisfaction with recreation facilities contains a swimming pool, basketball court, and playgrounds of a rather conventional type. Figures 5-50 to 5-52 show some views of the recreation areas in this development. Sixty-three percent of respondents in this development were satisfied with recreation facilities, 16 percent were dissatisfied, and 21 percent were neutral.





Figures 5-50, 5-51 and 5-52: Recreation facilities in another project that received high ratings. Note the location of noise-making areas (such as the basketball court) away from living units.

Figures 5-53 to 5-55 show three views of playgrounds in the development that was rated fourth on satisfaction with recreation facilities. This is a Public Housing project that had undergone a modernization program just prior to our study. In this case the playgrounds do not appear very different from those that can be found in projects rated much lower on recreation facilities. The higher rating for this development might be explained by the effect of the modernization program. Sixty percent of the respondents said they were satisfied with recreation facilities, 15 percent were dissatisfied and 25 percent were neutral.



Figures 5-53, 5-54, and 5-55: Three playgrounds in a modernized Public Housing development that was rated high on recreation facilities.

We can also examine some developments which received low ratings on satisfaction with recreation facilities. Figures 5-56 to 5-62 show some views of these facilities. A degree of low maintenance and of neglect of limited facilities is apparent in these photographs, except for the development in figure 5-56. Here a playground is shown that appears to be very well maintained. It is, however, a playground that contains only static equipment. This feature, even though it may be esthetically pleasing, has often been mentioned in the literature as unsatisfactory from the children's point of view. In this development only 11 percent of the respondents said they were satisfied with the recreation facilities, while 59 percent were dissatisfied and 30 percent were neutral. Among the sub-sample of respondents who were asked the specific questions, 22 percent felt recreation facilities for toddlers and for adults were "suitable" and 78 percent felt they were not; 60 percent felt the facilities for school children were "suitable" and 40 percent said they were not. Thus it may be that the low overall recreation rating for this site reflected the lack of appropriate facilities for very young children and for adults. Open ended comments from this development seem to support this conclusion:

"There is no room for facilities for outside adult recreation."

"No big playground for baseball and football which most children like."

"The playgrounds are dangerous. Children have been hurt on some of the totem poles that rise 7 to 9 feet in the air. No swings."

"No place for the children to play and really enjoy themselves."

"There are no such recreation facilities and play parks or grounds for kids and grown ones."

"A community center type of recreation area is needed seriously to keep teens out of mischief; they have nothing else to occupy their time."

Figure 5-56: A pleasant and well maintained playground with static equipment only. Only 11 percent of our respondents, however, were satisfied with recreation facilities in this development.

Figures 5-57, 5-58 and 5-59: Paved areas and playgrounds in a large Public Housing development that ranked very low on recreation facilities.

Figures 5-60 and 5-61: Broken play equipment and a generally low maintenance level are visible in these photographs of a project that was rated very low both on recreation facilities and on satisfaction with "living here."

Continuing the examination of sites which received low ratings on recreation facilities, we received the following comments from the development shown in figure 5-60 and 5-61:

"They have a basketball court right on the project. They have swings but not enough. Baseball should not be played in front of our project."

"In nice weather, you have to be outside with your children or the bigger and older children around that live here will jump on them and the manager is no help."

Finally, a resident from the project which has only one recreation facility (figure 5-62) made the following comment:

"Only one negative comment--we need grounds for the children to run and play! Playgrounds with dirt, not cement."

In summary, recreation facilities for all age groups were appreciated by our respondents. The provision of suitable recreation areas for children and teenagers was particularly important to the residents. Satisfaction with recreation facilities was a predictor of overall satisfaction, though only at a modest level.

There was a wide variety in the type, attractiveness, and maintenance of recreation facilities provided in our sample of 37 developments. The most satisfactory projects had well maintained areas and equipment, which usually included facilities such as swimming pools and tennis courts, ordinarily not found in assisted housing.

5.10 Parking

In multifamily housing it is obviously difficult, if not impossible, to achieve what is generally regarded as the ideal parking solution; i.e., a garage for every dwelling unit. Nevertheless, there appear to be a wide variety of solutions to this problem, some of which are much more satisfactory to residents than others. There was an association between satisfaction with parking and overall satisfaction: a factor dealing with various measures of parking was a relatively strong predictor. A number of measures loaded highly on this factor: satisfaction with parking arrangements, and perceptions that the parking lots were convenient to the apartments, pleasant and generally better than at the last place of residence.

When we examined the responses to a question dealing with satisfaction with parking we found that there was a wide range of responses among developments: in the project with the most satisfactory parking arrangements, 88 percent of the respondents were satisfied, but only 20 percent were satisfied in the development that had the least satisfactory parking.

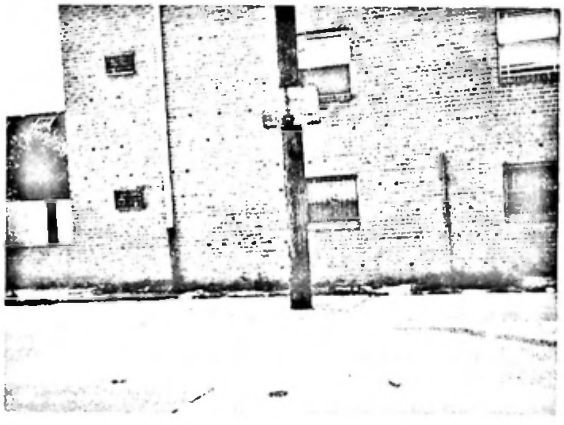
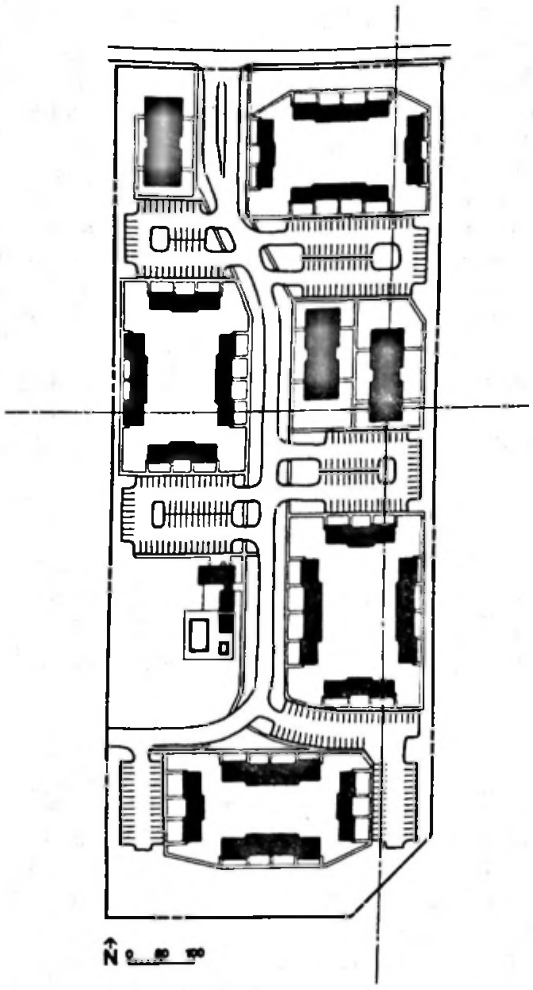


Figure 5-62: The only recreation facility in this development was this makeshift basketball court. Note the absence of the basketball hoop.



Figures 5-63 and 5-64: Plan and view of parking facilities in the development that was rated highest on satisfaction with parking arrangements.

Figures 5-63 and 5-64 show the site plan and one parking lot view of the development that was rated highest on satisfaction with parking arrangements. Eighty-eight percent of our respondents were satisfied, and 3 percent were dissatisfied. A sub-sample, who were asked specific questions about parking in this development, responded as follows: Sixty-two percent felt parking lots were well maintained, and no one was dissatisfied with parking lot maintenance. Sixty-nine percent found the parking lots to be pleasant, 8 percent found them "unpleasant." Some comments by residents contained references to parking:

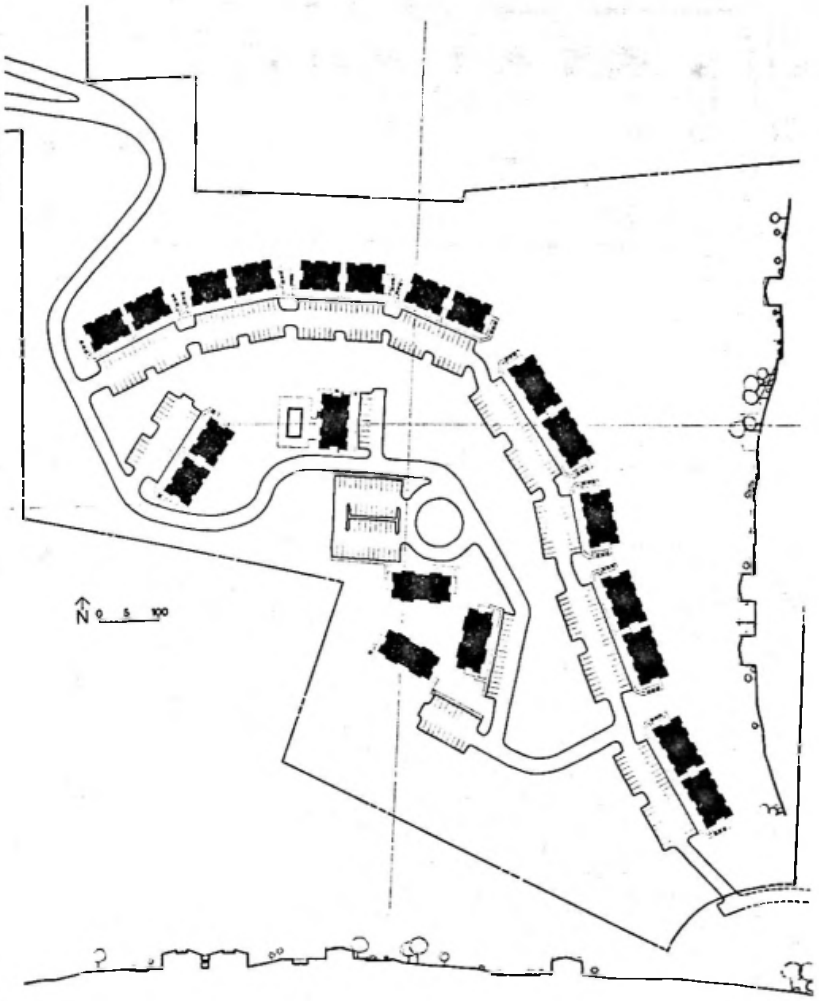
"Excellent parking."

"Need better lighting around parking lots."

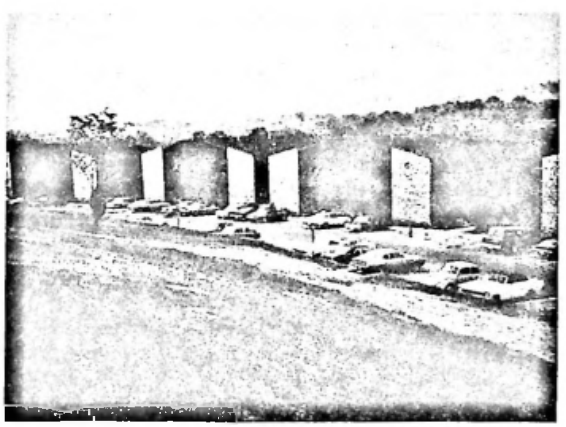
"Plenty of parking space."

"Parking is not designated for each apartment or townhouse. Not enough lights on outside parking lots and other areas, especially parking lots."

"Concrete aprons could be made at corner of parking lot for motor bikes and bikes."



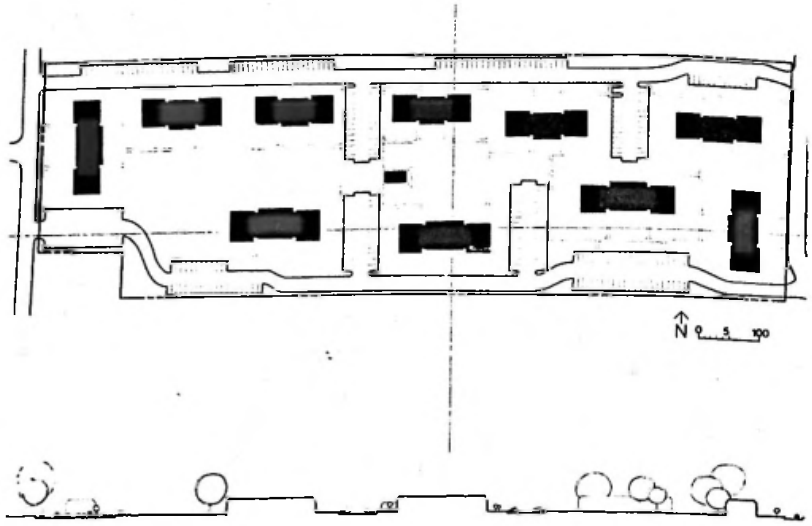
Figures 5-65 and 5-66: Another successful parking arrangement.



The development rated second on satisfaction with parking arrangements is shown in figures 5-65 and 5-66. In this project 88 percent of our respondents were satisfied, 9 percent were dissatisfied. Of the sub-sample, 50 percent thought that parking lots were well maintained, and 17 percent felt they were poorly maintained. Fifty-eight percent felt the parking lots were pleasant, no one found them unpleasant. We received only two comments about parking at this site:

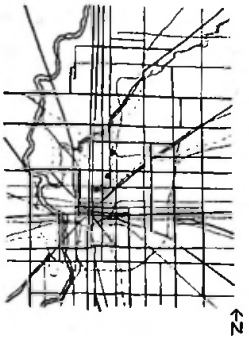
"Parking areas could be assigned."

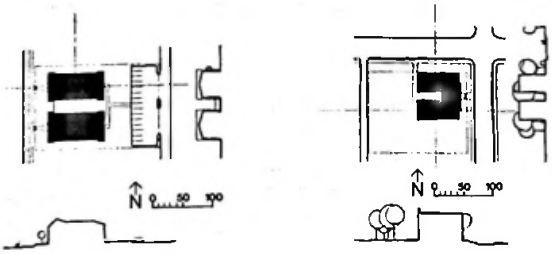
"I dislike the management, parking lots, playgrounds, garbage areas, and laundry facilities.



The next highest rated development on parking is shown in figures 5-67 and 5-68. Eighty-five percent of the respondents in this project were satisfied with parking arrangements, 7 percent were dissatisfied. Forty-three percent of the sub-sample said the lots were well maintained, 28 percent felt they were poorly maintained. Fifty-seven percent thought the parking lots were pleasant, 14 percent thought they were unpleasant.

Figures 5-67 and 5-68: The respondents of this project were also very satisfied with parking facilities.

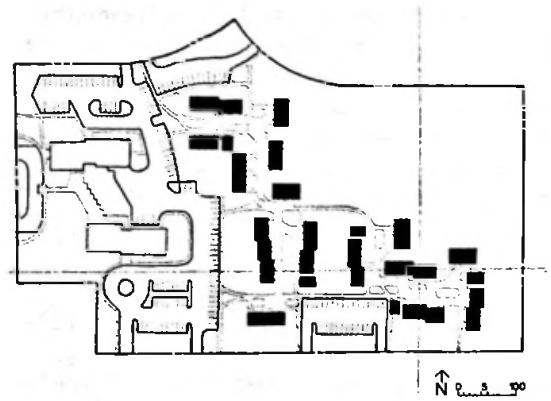




On the other hand, some developments rated very poorly on satisfaction with parking. In figures 5-69 and 5-70, the site plans and one view of the lowest ranking project are shown. This development is, however, a special case, consisting of a group of scattered rehabilitated structures only one of which (shown in the photograph) has any off-street parking. Only 20 percent of respondents in this development were satisfied with parking arrangements, 60 percent were dissatisfied. We received a comment from one of the residents in regard to parking:

"Parking is very bad in this area. There is no parking area."

Figures 5-69 and 5-70. Only one of three rehabilitated clusters in this project had a parking lot (bottom left in figure 5-69). Predictably, only 20 percent of our respondents were satisfied with parking arrangements in this development.



Figures 5-71 and 5-72: In this project there were many complaints about vandalism of cars that could not be watched from dwellings. Parking lots are located at the edge of the site.

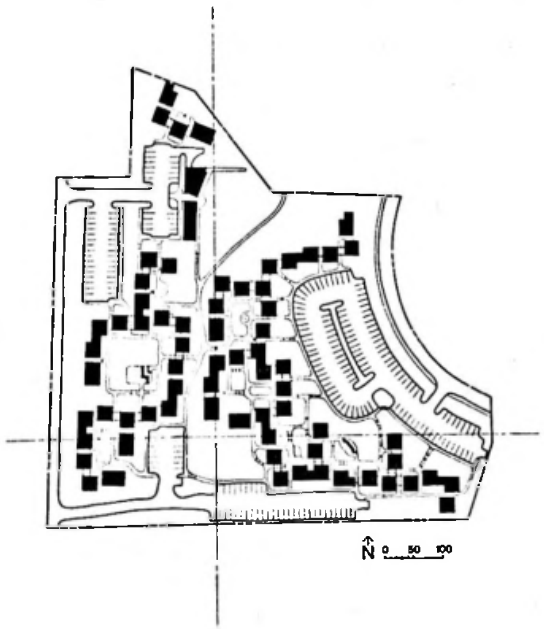
Also among the most unsatisfactory developments from the point of view of parking was the site shown in figures 5-71 and 5-72. This is a public housing project that contains both high and low-rise buildings. Only the residents in the low-rise structures were asked to participate in our study. Twenty-nine percent of the respondents were satisfied with parking arrangements, 57 percent were dissatisfied. Several problems were mentioned:

"Keep teenagers off cars in parking lots, make parents responsible for this."

"There is no protection from vandalism to cars. Youths sit on other people's cars and don't care if they damage them and nothing is done about it. Some deliberate damage is done."

"And who likes to go look out the window and see cars parking and a big building?"

"Vandalism is done to cars in parking lots. You can't see your car from where you live."



Figures 5-73 and 5-74: Inconvenient location of parking at the bottom of a hill and insufficient number of spaces were cited by residents of this development as reasons for their dissatisfaction with parking.

Figures 5-73 and 5-74 show another site rated among the lowest on satisfaction with parking arrangments. Forty-two percent of our respondents were satisfied with parking, 47 percent were dissatisfied. Seventy-one percent thought the parking areas were well maintained, 23 percent felt they were poorly maintained. Fifty percent found the parking lots pleasant and 38 percent found them unpleasant. The following comments were made by tenants:

"There are no provisions for more than one car per family in the parking lot. Many have more than one car. This situation leaves those who have one in a bad condition. Carrying groceries is no fun."[11]

"Too many steps -- no elevators -- live on the third floor. From parking lot to apartment: 70 steps."

"Parking is not sufficient, we walk blocks sometimes."

"Bad parking situation."

"There is not adequate space for parking and the management is very unconcerned about the problem. No efforts to solve the problem have been made."

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[11] The actual ratio of parking spaces per dwelling in this development was 1.17. However, several units were occupied by students, thus resulting in a number of 2- or 3-car households.

The next development in which a very low degree of satisfaction with parking was expressed is shown in figures 5-75 and 5-76. Curiously, this site had the highest ratio of parking spaces per dwelling unit in our entire sample (3.68). Indeed, the site plan shows what appears to be a surfeit of parking. Only 37 percent of the respondents in this development were satisfied with parking arrangements, 53 percent were dissatisfied. Only 28 percent felt the lots were well maintained, 41 percent found them unpleasant, and only 33 percent thought them pleasant. Here are some comments dealing with parking from the residents in this project.

"Lighting in the parking area and side streets leaves much to be desired."

"There is not adequate parking or any type of shelter for automobiles, bicycles, etc. I feel a strong need for garages, car-ports, or some type of shelter for the above items."

"Parking is not very convenient."

"Poor parking layout."

"I dislike the parking in front of the house -- always seeing cars close to front windows. Parking very bad. No place alloted for each one's car. To leave even a short while -- a person often leaves a parking space near front entrance -- owner of units never provided good parking facilities. Doesn't do anything to alleviate the bad parking conditions. Each owner should have at least one space for one car kept at all times for his use. Back of unit parking would have been better, too -- wouldn't have to look out on unsightly cars all the time from front window."

"Parking too close to windows, hence noise."

"I dislike having everyone start their cars in the morning and having no garage or outdoor storage area for bikes, toys, etc."

"I think we should each have one parking place that is just ours. All winter I carried groceries from the far end of the court. Some people in this court have two or more cars and park them all together in front of their space. The time I get home from work I end up having to park in the visitor's parking lot. I am very dissatisfied with the parking here."

"Some inconsiderate neighbors have two cars and refuse to park in parking overflow, thereby taking up someone else's parking place. Management doesn't back up promises. (Ex. assigning parking places and not standing by us to assure us a parking space.)"

"Parking regulations not good. Owners do not have reserved parking. First come, first served. Those with 2 or 3 cars hog all the parking. Management afraid to regulate parking."

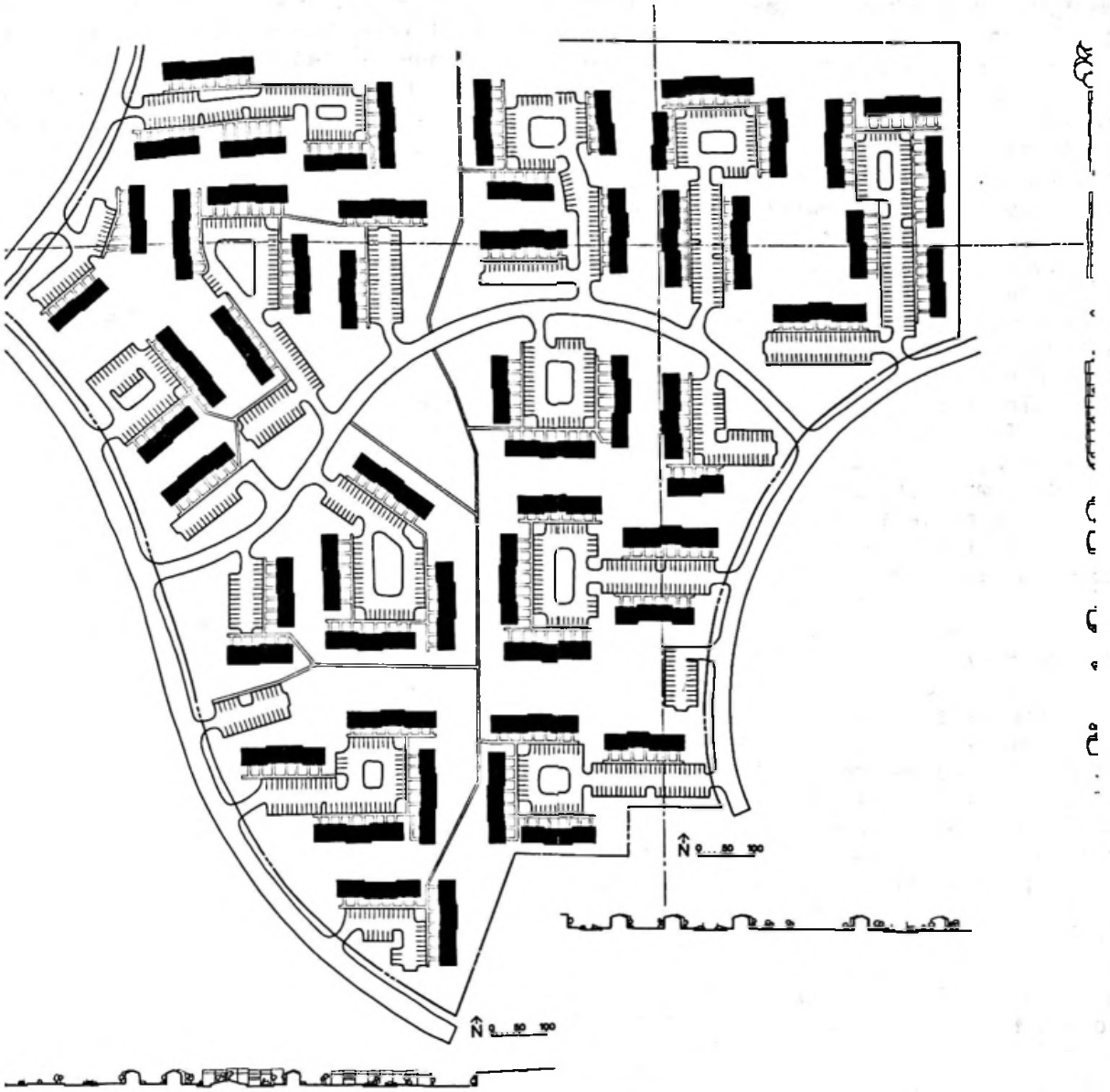
"Management goofed on some parking, plus we have some who think their overnight boyfriends can take up everyone else's space."

"I just dislike the parking."

"Not enough parking space."

"No garages."

"The parking situation is very poor."



Figures 5-75 and 5-76: This development had the highest ratio of parking spaces per dwelling unit in our sample, but one of the lowest rating on satisfaction with parking. Unassigned spaces and excessive proximity of parking to bedroom windows were the main complaints.

We have quoted these comments extensively to illustrate that, in this development, the parking arrangements are a clear example of interaction of design and management problems. In spite of having a high ratio of parking spaces per dwelling unit, the residents perceived the parking as insufficient and unsatisfactory. Parking was too close to the living units (thus causing undesirable noise) and yet, because management did not assign spaces, residents sometimes had to walk long distances to their cars. It is possible that, by providing a lower ratio of parking spaces per dwelling unit, enough money could have been saved to make the provision of individual parking facilities possible. Though virtually nonexistent in assisted multifamily housing in this country, such facilities have been tried with success elsewhere. For instance, figure 5-77 shows an individual parking stall in the Lillington Street Estates in Westminster, London. In such an arrangement one can still hear cars being started in the morning. However, it is one's own car that is making the noise, which is probably the reason why this arrangement is not objectionable. Security from vandalism is also obviously much better than in an open parking lot; there is the additional advantage that space for bicycles, garbage cans, etc. can easily be provided in the same location.

In summary, satisfaction with parking facilities was a moderate predictor of general satisfaction. Again, in some projects residents were highly satisfied with parking, thus suggesting that it should be possible to improve the design and maintenance of parking areas so as to make them satisfactory in other developments as well. A high level of interaction between parking problems and managements' unwillingness or inability to solve them was uncovered, particularly in connection with assignment of spaces. Finally, the mere provision of a high ratio of parking spaces per dwelling unit did not result in satisfaction with parking facilities: it was also necessary that such spaces be available to tenants in close proximity to their unit, that there be adequate provisions for visitors and that the arrangement be such as not to cause excessive noise in proximity to bedrooms.

Figure 5-77: A British solution to the parking problem which also provides a convenient space for storage of outdoor items.

5.11 Garbage Facilities

The condition of garbage disposal facilities did not seem to predict overall satisfaction or to be associated with satisfaction with appearance. We asked questions about the maintenance of garbage areas, whether there was trash around the garbage areas, whether the garbage facilities were satisfactory, the garbage men sloppy in handling trash, the garbage cans hidden from view, and whether trash was picked up frequently enough. The factor containing these items was not a significant predictor of satisfaction nor did any of these items have any significant loading on the appearance factor in our principal component analyses. For instance, figure 5-78 shows the conditions of one trash area in the development that received the highest appearance rating. Among the open ended comments received from this development there was only one specific mention of the trash area being "messy and unsightly."

The fact that garbage facilities did not seem to influence either satisfaction with appearance or overall satisfaction does not mean that they should be ignored by the designer, as appears to have been the case in a number of developments. For instance, figures 5-79 and 5-80 show two collection-day conditions which may occur when individual cans are used.

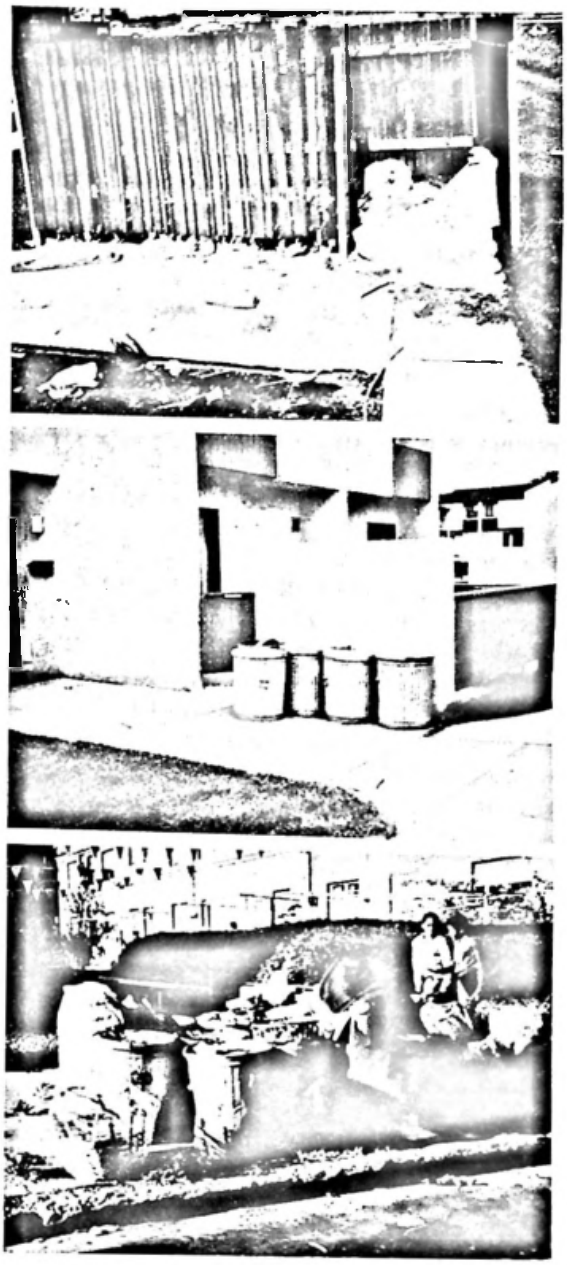


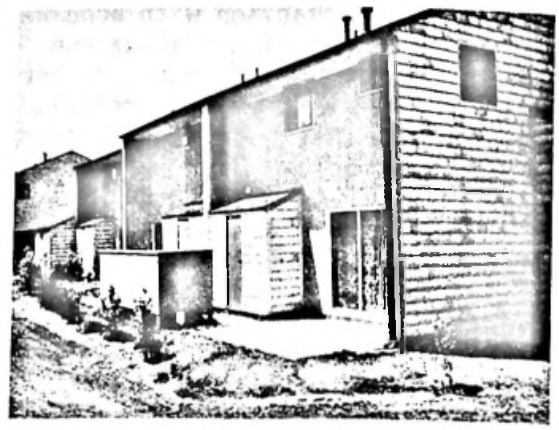
Figure 5-78 (top): Even in the best projects, garbage areas were often messy.

Figure 5-79 (middle): In this project no place had been designed for garbage can storage.

Figure 5-80 (bottom): Collection day scene at a Public Housing project.

Attempts at screening are not always successful. Figure 5-81 shows one such attempt which would appear reasonably effective. Yet only 55 percent of our respondents felt the garbage cans were well hidden in this development. A similar solution is shown in figure 5-82, and in this case 67 percent of the respondents said the garbage cans were well hidden. A token effort at concealment was made in some instances, such as that shown in figure 5-83. Only 25 percent of our respondents felt this concealment to be effective.

In a number of developments, dumpsters, rather than individual cans, were used. Because of the size of these devices and the increased potential for spills, it becomes even more important to screen dumpsters than individual cans. In several instances designers seemed to have made no attempt at solving this problem.



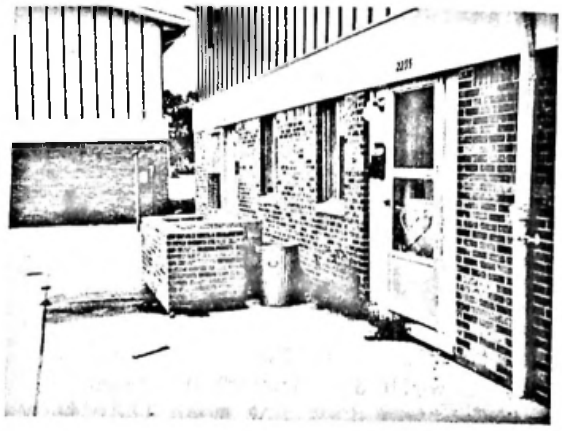


Figure 5-81 (top): The garbage can screens in this development were not entirely successful. Only 55 percent of our respondents felt that the cans were well hidden.

Figure 5-82 (middle): An attempt at concealment of garbage cans, which was not totally effective. However, 67 percent of our respondents said the containers were well hidden.

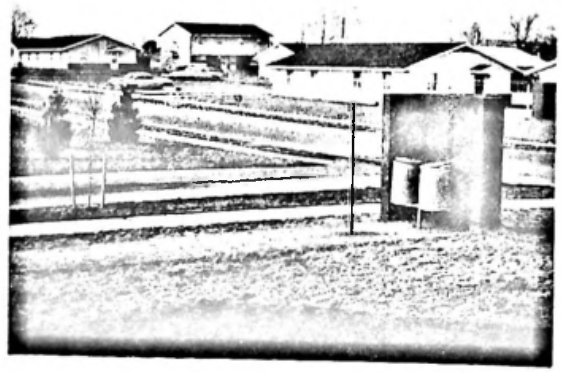
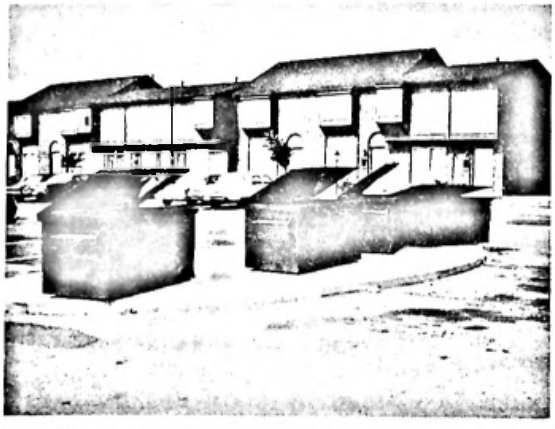


Figure 5-83 (bottom): A token effort at concealment pleased only 25 percent of the respondents in this project.



Figures 5-84 (top) and 5-85 (middle): Dumpsters in the parking lot are easy to empty, but otherwise totally unsatisfactory both visually and hygienically.

Figure 5-86 (bottom): A well screened and maintained garbage area in one of the most satisfactory projects.

For example, figures 5-84 and 5-85 show two cases in which dumpsters were simply distributed around the parking lots. Not only is this arrangement obviously unsightly, but also not appropriate from a hygienic point of view, since the tops of these containers are often left open. One hundred percent of our respondents in one case and 91 percent in the other felt the containers were not adequately screened in these developments, an obvious finding when we consider the way in which the problem was ignored.

By contrast, an effectively screened garbage area such as that shown in figure 5-86 was appreciated by the residents: 100 percent of the respondents in this development said the garbage areas were well hidden.

The location of garbage containers was also criticized frequently. Most respondents felt that the garbage areas were located too far from their dwelling unit. For instance, in the case of the development shown in figure 5-80, 77 percent of the respondents thought that the garbage areas were too far away, a typical proportion among most of the developments in our sample. Only 55 percent of the respondents in the sub-sample were satisfied with the garbage facilities, 27 percent were dissatisfied, and 18 percent were neutral.

In summary, though satisfaction with garbage facilities was not a predictor of overall satisfaction, garbage areas could be improved in most developments we studied. Among the possible improvements, screening of cans and dumpsters, locating garbage facilities closer to dwelling units, and providing better maintenance would seem to be the most viable alternatives.

5.12 Summary

The results discussed in this chapter, together with the respondents' comments, indicate that certain aspects of the physical environment are important in predicting overall residents' satisfaction.

Among these aspects, appearance, spaciousness and privacy were the strongest predictors, and to some extent they can be thought of as closely linked concepts.

Satisfaction with appearance was not associated with any particular architectural style, but rather with the specific treatment of buildings, units, and grounds. Variety of shapes and materials, bright colors, good landscaping and pleasant views, a sense of newness and elegance and the lack of institutional look were strongly associated with pleasant appearance. Some non-physical aspects were also related to attractive appearance. These were the degree to which management was perceived to take good care of the development by means of consistent and effective maintenance programs, and the degree to which other residents cared for the upkeep of their units and of the entire project. The extent to which appearance assessments can be influenced by non-physical factors (or by physical factors outside the development) was illustrated by comparing developments which, though similar and designed by the same architects, received considerably different ratings on appearance.

Spaciousness was found to be not only a function of the amount of space provided, but also of the degree to which the design of units and grounds contributed to create a feeling of openness, of the degree of perceived privacy from neighbors and from members of one's family, and of the management's policies regarding matching size of dwelling with household size.

Privacy, to the extent that it could be influenced by physical environment features, was of two kinds: aural and visual. Aural privacy was, by and large, unsatisfactory. Many complaints were received about noise transmission from adjacent units, from children roaming the halls or the grounds, from automobiles parked too close to bedrooms, and from equipment such as air conditioning and laundry. Visual privacy was also frequently unsatisfactory, primarily in low-rise developments, and was generally caused by poor design and lack of fencing or screening.

Locational aspects were found to be associated with overall satisfaction. High incidence of crime in the neighborhood was a particularly strong concern. However, careful design and sensitive management appeared to offset to a considerable degree the influence of undesirable locational characteristics.

Density, per se, was not a predictor of overall satisfaction, although some problems, particularly in connection with privacy, become more difficult to overcome at higher densities. However, the overall size of the development was a predictor, albeit at a weak level.

The type of site layout was not associated with general satisfaction: a wide variety of site designs appeared to be acceptable, as long as specific features such as good landscaping, satisfactory facilities and amenities, and the previously mentioned aspects of appearance, spaciousness and privacy were present.

From our analyses we can conclude that, contrary to commonly held views, high-rise housing, when appropriately designed and managed, was not inherently unsatisfactory. Indeed, tenants in our high-rise sample were slightly more satisfied with some aspects of privacy and security than the tenants in the low-rise sample.

Recreation, parking, and laundry facilities were moderate predictors of residents' satisfaction. A wide variety in the type, attractiveness, and maintenance of recreation areas and equipment was found in our sample of 37 developments. The most satisfactory sites contained facilities, such as swimming pools and tennis courts, ordinarily not found in assisted housing.

Parking was also much more satisfactorily handled in some developments than in others. The mere provision of high ratios of spaces per dwelling unit did not result in residents' satisfaction with parking facilities. Spaces had to be available in proximity to the unit (assigned spaces tended to be preferred), they had to be located in such a manner as not to generate excessive noise in proximity to bedrooms, and there had to be adequate provisions for visitors.

Finally, satisfaction with garbage facilities was not related to overall satisfaction. However, in most developments, garbage disposal areas were poorly designed, located and maintained, suggesting a need for improvement.

Chapter 6

Management

It is only relatively recently that attention has shifted from a purely brick-and-mortar view of housing to one which would include, as we have seen in previous chapters, the people involved, i.e., the tenants and the managers. In chapter 4 we examined some housing aspects related to the residents. In this chapter we discuss primarily those aspects associated with management.

Although the importance of management factors in the success of housing developments was anticipated by earlier studies, particularly in Britain (e.g., Ministry of Housing and Local Government, 1969) it was not until 1970 that the Urban Institute conducted the first nationwide study of management in HUD-assisted housing (Sadacca, Isler, and Drury, 1971; Sadacca and Isler, 1972; Isler, Sadacca, and Drury, 1974). To our knowledge, this still remains the only comprehensive management-focused research that has been conducted in the country. Because this study was directed specifically at explicating management aspects, the relative importance of management with respect to other factors was assumed, rather than demonstrated.

In our study, we have found empirical evidence which corroborates the assumption that management is a very important component of residents' satisfaction. From analysis of responses to the first form of our tenants' questionnaire, we found that a factor containing several measures of management attitudes, policies, and performance was the most important predictor of overall satisfaction.

From analyses of responses to the second and third questionnaire forms, we also found that factors containing a variety of management measures were strong predictors of general satisfaction. (See Table B-1 in Appendix B for lists of specific items contained in "management" factors.) To further test the importance of management aspects, we analyzed data collected by using other instruments together with data from the residents' questionnaires. Sixteen factors and indices were included in this analysis. Seven of these were found to be significant predictors of overall satisfaction; a "management" factor was the strongest predictor. It seems clear then, that management plays a key role in the success of a development, at least in the eyes of the residents.

6.1 Satisfaction with Management

When we asked our respondents how satisfied they were with "management," we obtained a wide range of answers. In the development that was rated highest on satisfaction with management, there were no dissatisfied respondents and fully 89 percent reported they were satisfied. In the project that scored lowest on satisfaction with management, only 24 percent of the respondents were satisfied while 57 percent were not. Figure 6-1 shows the mean scores on satisfaction with management for each site, grouped by assistance programs.

Again, as in the case of satisfaction with "living here," in every assistance program we found both high and low levels of satisfaction. The mean score of the Public Housing sample on satisfaction with management (3.36) was slightly higher than that of the private developments (3.22), but this difference was so small as to be statistically insignificant (i.e., it could be attributed to chance). Only four cooperative-type developments (marked with an asterisk in figure 6-1) were included in our sample. However, these developments did not seem to have either better or worse management than the rest.

In conclusion, no assistance program consistently performed more successfully than any other in terms of satisfaction with management.

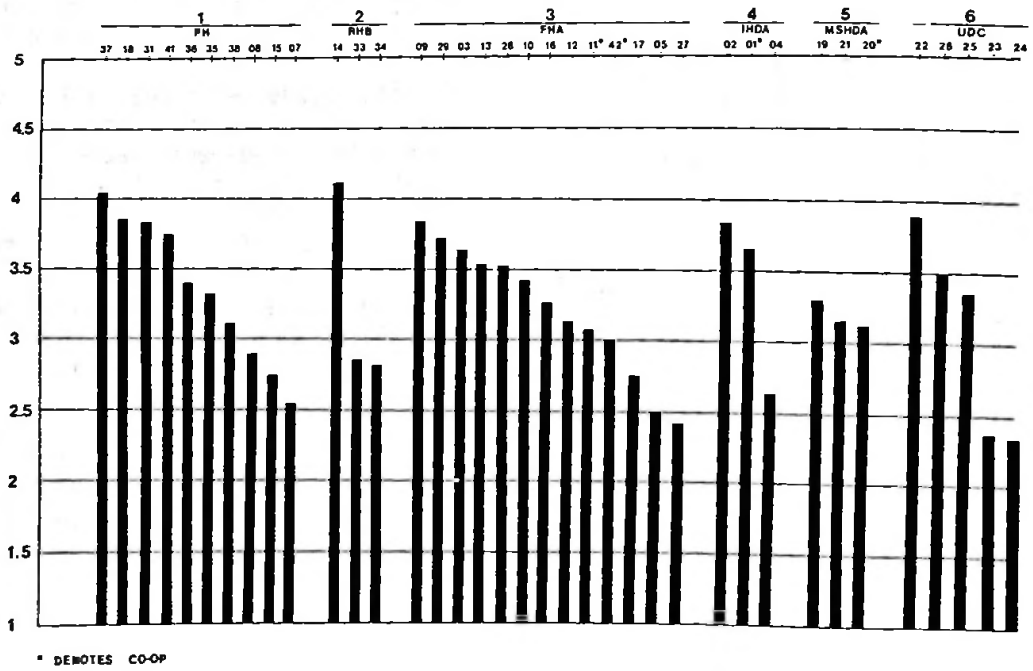


Figure 6-1: Mean scores on satisfaction with "management" by sites and programs

6.2 Management-Tenant Relations

As in most situations involving human behavior, the perceived attitudes of the manager and of the management staff are just as important, or even more important, than their actual performance. This does not mean that poor performance can be hidden by displaying appropriate attitudes. If management's attitudes are a result of personal conviction, organizational skills and a professional sense of commitment, then perceived attitudes and performance will go hand in hand and attitudes will not be seen merely as a public relation veneer. (As one of our respondents put it, *"It's a Pandora's box covered with sweet talk by management."*)

Management that is perceived as cooperative and friendly, available to talk to, and easy to get along with, will also be perceived as successful by the residents. The combination of management's performance and attitudes can be thought of as the management's style. Tenants in some of the developments that scored high on satisfaction with management offered a number of positive comments about managers' style:

"It's a pleasure dealing with Miss W. in the management office."

"The management is very understanding."

"I have no trouble at all, the management is very pleasing and always very satisfying to help, at all times."

"I like my manager. Very nice man, easy to get along with."

"The management cares what the place looks like."

"The manager lives almost directly across from us. He and his wife are wonderful people, and they are primarily the reason for the great success of the complex."

"We find the management here to be quite pleasant and reasonable."

"I like the interest of the management in tenants and buildings."

Even in these developments, however, there were some negative comments about managements' style. For instance, a respondent in the development from which the last three comments came (and in which 76 percent of the respondents were satisfied with management) had this to say about the manager:

"The manager is a dirty old man that gets involved in everyone's personal lives. He is also a bigot to a great degree."

Perhaps this is a reminder that even a reasonably successful manager cannot please everyone all the time.

In the developments with the poorest management scores, there was a high proportion of negative comments about management's style:

"Management is impersonal and hard to reach."

"I especially dislike the new manager - Mr. M. He is the most unappealing person I have ever met!! His personality stinks! He is only concerned about himself and could not care less about the residents. Ask anyone who lives here - I'm sure they will agree!!"

"All in all the main complaints stem from management's lack of concern and lack of co-operation."

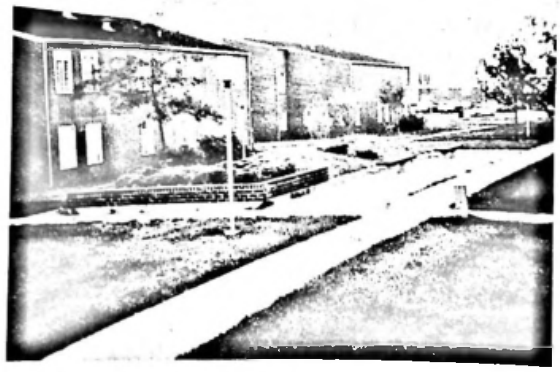
"The maintenance crew here is terrible. They don't treat the people like human beings."

"The manager is the one I dislike, because of the way he acts with children. He really does not like kids. Not even his own. That is how I feel."

"We were very satisfied with Mr. M. as manager. Since there has been a change we are very dissatisfied... The management and his family does not have to comply with the rules that the tenants do. They have had sod placed around their building and [I] have nothing but a little crabgrass and dirt around mine... The development is marvelous. It's the management and his indignant, self-centered, better-than-the-tenants attitudes that should go."

(There actually was a noticeable difference in the care of the landscape in the development from which the last comment was received. Figure 6-2 shows the area around the management office, while the rest of the project looked more like figure 6-3.)

"I dislike the management. The couple is new; they've been here perhaps 4 or 5 months. However, they have done a great deal in a short amount of time to alienate many of the residents...There were two or three adult swim parties, the last of which ended with the manager screaming, 'Allright, everybody get the hell out and go home.' These were adults he was talking to. There is now a pervasive feeling of contempt in the office and I've felt it in every dealing I've had with this couple since they've been here."



Figures 6-2 and 6-3: In this project the area around the management office was well maintained, in contrast to other parts of the site.

Not only was a friendly and cooperative management important to the residents, but they also appreciated managers who were forthright and resented those who were indecisive or made promises that were not kept.

"Management has in the past given us false answers to our questions just to get us off their backs."

"The one main problem is the runaround the management gave us."

"They are very ambiguous people in that office."

"It took the management longer than a year and a half for cable television when they promised it would take a month. The owner said it was a problem with the contractor, but you ask him yourself and you'll get so much double talk you won't believe it."

"The management is neither good nor bad. They seem to specialize in being ambiguous."

"We were promised in writing a community room for senior citizens and adults but the management won't give it to us."

"I dislike the promise of pool facilities to be installed within a year when I moved in and no ground has been broken yet."

These comments suggest that residents' satisfaction will be enhanced if residents perceive that the manager is willing to treat them with respect, understanding, directness, and to demonstrate a sincere concern for their well being and for the upkeep of the development.

What Isler et al (1974) have called "the sovereignty of style" is obviously important to most residents. This will not come as a surprise to those who are used to dealing with management situations in settings other than housing. Whereas organizational abilities and business skills are certainly important in successful management, so are the human relations aspects that the above comments exemplify.

6.3 Policy and Rules

It is inevitable to have rules in a multifamily housing development. Because rules curtail behavior, it is also inevitable that not everyone will like them. However, respondent's comments indicated that rules, even when not approved of, were not necessarily resented, provided they were a clear consequence of policies that people found reasonable, and provided they were uncompromisingly stated from the outset. These comments and the responses to the questionnaires suggest that there are three main aspects involved in residents' satisfaction with management's rules: the policy aspects, the rules themselves, and the enforcement of the rules.

We expected to find some complaints in regard to management's policies about rent, particularly in connection with delinquent payments. However, there were very few complaints in this area, in spite of the fact that 13 percent of the public housing respondents and 11 percent of the private housing respondents reported that they were having trouble paying their rent. Here is one of these comments:

"In the past, any tenant who failed to pay his rent by the 5th of the month was charged a dollar for every day past the 5th in addition to his normal rent. Now, the management, in its efforts to better its financial position, has threatened all of us who were fortunate enough to renew our leases before the rent increase with cancellation of contract if our rent is not paid by the 4th of each month. I am quite sure that once a tenant fails to pay by the 4th of each month and is charged a higher rent the management would be willing to once again charge him one dollar for every late day. My wife and I are not in any financial trouble, but I am tempted to test this kind of arbitrary act."

There were numerous complaints, however, about the systems for establishing how much rent different households paid and the amount of rent increases. These complaints were not uncommon even in the better-managed sites.

"I dislike rent raises. Every time you get a little raise to buy food, they raise your rent. It used to be a $2.00 raise but now it's eight."

"When I got my last raise they raised my rent to $39.00 a month for four months, then they cut it to $38 a month and this month they cut it to $37 a month. I am not complaining. I am glad it was cut. But they should give me back what they overcharged me."

"Management gave everyone a different story on minimum and maximum income for living here."

"The apartment doesn't offer enough for the high rent we have to pay! Don't think they should have raised the rent as high as they did from $166.00 to $196.00 a month."

"My rent was recently raised 10% while this has become a much less desirable place to live."

"The manager never explained the supposed sliding rent scale. Instead he told us we needed to make 10,000 dollars to rent a one-bedroom apartment. We are among the stupid few who gave our actual income and are paying full rent. Many are falsifying or not reporting incomes - they're making a lot more than we and are living in a three-bedroom townhouse and paying the same rent as we are. Apparently, income reports are not thoroughly investigated."

"I don't like the idea that if I make more money, so that I could get things that I need, they raise the rent. I have to refuse overtime because then I can't pay the extra rent for the whole year. You can't save any money this way."

"This is supposed to be low income: why are some people paying less, with a bigger income, than I am? I had no choice - waited 3 months to get in - landlord rented my previous apartment so I had to vacate, so I told them that most definitely I could afford $122.00 monthly. I only live on a small Veterans Widows pension of $184.00 monthly. Never had to stretch a dollar in my life. But I am learning. Why aren't people treated equally - meaning income."

Reading these complaints in the light of other responses to our questionnaires, it seems clear that most residents are not objecting to the amount of rent they are paying, but rather to the raises, differential changes, and generally to the way in which rent subsidies and increases are calculated and/or explained.

When we asked if their residence was desirable or undesirable for the amount of money paid, 71 percent of the respondents said it was desirable while 18 percent said it was not. Public housing fared slightly better than private assisted developments in this respect: 75 percent of the public housing respondents felt they were getting their money's worth, while in the private sites only 70 percent said their residence was desirable for the money.

Rent, rent increases and related questions are often beyond the manager's responsibility and control, being the result of laws, regulations, or simply inflation. In our study, we had no way of knowing whether the numerous complaints of irregularities, unfairness, or downright cheating in regard to HUD's regulations about rent did in fact take place. Nevertheless, the impression we got is that, at best, there frequently was a lack of communication and explanation by management for the reasons behind rent calculations and rent increases.

Cooperative systems of ownership are not, apparently, immune from the problems discussed in this section. A number of comments from residents of co-operatives suggested that there was quite a bit of confusion about equity build-up, selling prices, and other related matters in a number of instances. Because co-operatives are not a familiar system to most people, perhaps an extra effort should be made to communicate the various implications of this form of ownership to the residents. In some instances, we received complaints about deceptive practices of the co-operative sales staff.

Again, for our purpose it is not important to know whether these complaints were founded. What is important is that the perception of having been victims of misrepresentation existed in the eyes of some residents and may have influenced the degree to which they were satisfied with their housing.

The management policies that seemed to cause the greatest dissatisfaction and irritation, however, had to do with curtailment of residents' freedom, privacy, and control over their own environment. As one tenant put it:

"You can't do anything. It's like living in a prison."

Conversely, our respondents commented positively about those developments where the rules did not infringe upon what they considered their rights. Among these, personalization of one's dwelling, both inside and outside, has often been cited in the literature as a desire that many people have. Becker (1975), for instance, in a study of developments of the Urban Development Corporation (UDC), suggested that liberal personalization policies are not only appreciated by the residents, but that they need not be a financial drain on the operation of a housing development. He maintained, on the basis of previous studies, that only a small number of residents will actually take advantage of personalization opportunities, but that most tenants will view that opportunity as an expression of management concern for them and for their status as responsible individuals. This is probably a correct view, although there will be variations in the degree to which personalization, even simply as an opportunity, is desired by different groups of people.

Some of our respondents seemed to enjoy personalization opportunities when they were allowed by management policies, particularly in those developments where other residents were prone to have the same desire for personalization and thus respected these efforts -- by keeping their children and dogs out of flower beds, for example. We received many comments about planting and landscaping, of which this is a typical one:

"I was allowed to plant a vegetable garden this spring, which I both enjoyed and benefited from immensely."

Many complaints were voiced by tenants about rules restricting decoration, painting, and security improvements. For instance:

"I feel that I can't fix my apartment (that I pay rent for) the way I want inside...I don't like feeling that if I paint this room management will object."

"I would like more freedom in decorating the apartment."

"I dislike the rules: cannot change locks on doors. The locks now used can be opened with a credit card in about 10 seconds. Cannot put a see through hole in the door to see who is outside."

As expected, residents' comments about changes allowed by management varied not only in frequency, but also in specific concerns, with the income level to which a development was targeted. In the lower income projects the changes that tenants wanted to introduce were more often remedial modifications of basically defective construction or maintenance, such as caulking around windows, installing security devices, and having telephones installed on the second floor of dwellings (which for some reason was prohibited in one public housing project).

A number of residents mentioned their desire for being reimbursed for painting (when painting was allowed), or at least for being provided with the paint.

In the higher income projects, the concerns expressed by tenants had more to do with gardening, providing fences for backyards, and adding decorative features to the inside and outside of their dwellings. However, there were a number of attempts at planting which we observed in several lower income projects too, such as that visible in figure 6-4. In this development, planting flowers had been allowed for the first time during the year in which our study was conducted.

Figure 6-4: In this public housing project a small amount of landscaping by tenants had just been allowed prior to our study.

Letting the tenants have a few flowers, though, is not likely to affect their satisfaction measurably: this development had the lowest scores on both satisfaction with management and with "living here" of all the public housing projects in our sample. Obviously, other serious problems were present in this development. Open-ended comments suggested that the management's attitudes and overall performance were extremely poor, and there were also complaints about undesirable behavior of other residents and their children, poor design, and poor construction.

Overall, 52 percent of our respondents expressed satisfaction with "freedom to make changes to the inside of your home, such as painting;" 27 percent were dissatisfied. A slightly better level of satisfaction existed with "freedom to make changes to the outside of your home, such as planting flowers": 57 percent were satisfied and 17 percent were dissatisfied. When we combined these two items in an index of satisfaction with changes allowed by management we found that, as in the case of general satisfaction and satisfaction with management, there was a wide variation among scores of different developments. In this case, however, the private projects fared somewhat better than the Public Housing sites. All cooperative developments received relatively high scores, probably reflecting a greater sense of control by tenants over their own environment. (See Appendix B, figure B-4, for individual site scores.)

A large number of complaints were voiced about rules concerning pets. Where pets were allowed, many residents complained about soiling, damage, and noise. Where pets were not allowed, residents desired the freedom to have them. This seems an issue which is probably best solved by having some development (or part of one) entirely pet free so that those who do not wish to be disturbed can choose this option. Unusual and dangerous pets seem best banned altogether. For instance, in one project, tenants complained that the manager kept two snakes as pets.

More important than rules concerning pets are those that attempt to curb or control undesirable behaviors such as vandalism, loitering, fighting, excessive noise, having overnight visitors, and the like. Although rules against overnight visitors were often commented upon negatively, presumably by the affected parties, most of the complaints involving rules against undesirable behavior were directed at the lack of strictness of the rules themselves or of their enforcement by management. Particularly in the developments where the level of satisfaction with "living here" was low, there were numerous complaints about these problems. In many instances, these difficulties were recognized to be the fault of one's neighbors, but in most cases management was held responsible both for letting "undesirable" neighbors into the development and for not having or not enforcing rules about their behavior. The following comments are typical of these developments.

"Vandalism is at a peak, and the management don't care what the children are doing unless it's in their home."

"Our children cannot play outside because of rock throwing. Our children are handicapped. People and children make fun of them also. You cannot talk to Mrs. S. or Mr. I. about this matter at all."

"The management is no good here. They allow children to loiter in the lobby. People can't get in or out of the building. We are getting harassed by them."

In the first form of our tenant questionnaire we included two items in which respondents were asked to rate their satisfaction with "the rules management has" and with "the rules about what you can do and cannot do in your apartment." Overall, 54 percent of the respondents said they were satisfied with management's rules, while 20 percent were dissatisfied; a somewhat higher degree of satisfaction existed with "the rules about what you can do and cannot do in your apartment": 65 percent were satisfied and 17 percent were dissatisfied. (See Appendix B, figure B-5, for individual site scores.)

An observation that can be made about rules and regulations is that, even though on the surface certain regulations may appear necessary to control a specific condition (e.g., no playing on grass areas, to reduce maintenance expenses; or unannounced inspections of dwelling units, for maintenance and safety purposes), nevertheless they often result in irritation and dissatisfaction for the tenants. Many of our respondents, for instance, remarked that they felt extremely negative about management's prerogative of entering dwelling units at will.

"I don't like it that management feels free to enter your apartment for maintenance without first advising occupants."

"I don't like the fact that so many maintenance men have keys to my apartment and all the others. You never know when someone is coming in. I think we should be told each and every time someone is coming around."

"I dislike having a representative of the management entering our apartment when we aren't here and even when we are here, without a few days' notice. We were told there would always be a notice before any interior work was done."

The impartial observer is often left with the impression that quite a number of rules have been decided upon without much consideration of the interrelationships with, and consequences for, the residents' overall sense of satisfaction.

Satisfaction with rules and a perception that the rules were "enforced fairly and equally for everybody" were highly associated with satisfaction with management. Thus, it is likely that successful management will result both from having reasonable rules and from a practice of fair and equal enforcement.

A number of questionnaires contained complaints about what was perceived by tenants as differential treatment. For instance:

"The management is not fair in its applications of the rules. It depends on whether a person is liked or disliked how the rules are applied. If there is a question between whites and blacks, the blacks are favored."

"Management policy is not efficiently applied to everyone. There seems to be a dual set of rules. Management fails to back up agreements which are legally binding."

"I'd like the managers to use the same rules with everyone whether married or single."

Overall, only 48 percent of our respondents agreed that the rules were "enforced fairly and equally for everybody;" 28 percent disagreed. (See Appendix B, figure B-6, for scores on this question by development and program.)

In conclusion, it is clear from our data that management's rules and their enforcement are a considerable source of dissatisfaction: only slightly more than half of our respondents were satisfied with the rules themselves, and less than half felt the rules were fairly and equally enforced. This would suggest that major improvement is possible in this area of management's responsibility.

6.4 Management's Responsiveness

In the context of this report we refer to residents' perception of management's ability to deliver services as "management's performance." In previous sections we called attention to the role played by management's attitudes, rules, and rule enforcement in fostering residents' satisfaction with "management," as well as overall satisfaction. But the delivery of services to tenants in a responsive, efficient, and effective manner also plays an important role. This intuitively self-evident notion was supported by our data analysis.

Our respondents were most satisfied with management that was perceived to be efficient and prompt in reacting to tenants' problems, was able to provide a satisfactory maintenance level, and made repairs quickly. Perceptions that the residents were safe from accidents and from crime were also associated with satisfaction with management.

As we have already mentioned, successful management will result from a *combination* of attitudes, rules, and performances. Thus, capability for service delivery alone will not necessarily insure residents' satisfaction. However, this capability is of central importance in a successful management operation. For this reason, it is of interest to examine some measures of management performance (i.e., those most strongly associated with overall satisfaction). We asked the residents to say whether "when faced with tenants' problems the management: a) is efficient, and b) reacts quickly to complaints." There was a high correlation between these two measures ($r = .59$), indicating that efficiency and quickness of management response tended to go hand in hand.

Overall, management response to tenants' problems did not receive high marks. Only 52 percent of the respondents rated management as "efficient" and 48 percent as "quick." (See Appendix B, figure B-7, for individual site scores on those two items.) In their open-ended comments, residents frequently referred, both positively and negatively, to the efficiency and promptness of management:

"Prompt answer to requests for service."

"Seems well organized."

"I like the effciency of the office."

"The maintenance crew is operated by a bunch of idiots. The tenant council was formed and took on all responsibilities that management neglected (all complaints)."

"I dislike the response of management to tenants' complaints."

In summary, management's performance in terms of efficiency and quickness in reacting to tenants' complaints was important to our respondents. Management performance was generally perceived as mediocre, suggesting a need for improvement in management's responsiveness.

6.5 Maintenance

While the two questions discussed in section 6.4 above referred to management's reactions to general problems and complaints, we also asked more specific questions about various aspects of management performance. Among these questions are several measures related primarily to maintenance, which were strongly associated with each other and with satisfaction with management. Although the mean scores on these measures were slightly higher than those of other management variables discussed so far, it seems clear that in this area, too, there was considerable room for improvement. Of our respondents, 68 percent were satisfied with the maintenance of their apartment while 16 percent were dissatisfied. A smaller percentage of respondents, 62 percent, were satisfied with the maintenance of the building in which they lived, and 17 percent were dissatisfied. Even fewer respondents liked the degree of maintenance of the site: 60 percent were satisfied, and 21 percent were dissatisfied. (See Appendix B, figure B-8 for site scores on these measures.)

Approximately 63 percent of the respondents agreed that repairs were made "quickly enough," while 17 percent disagreed. There seemed to be little difference between "normal" and "emergency" repairs in the residents' perception of how quickly management repaired things. (Site scores can be found in Appendix B, figure B-9.)

Roughly the same level of satisfaction existed in regard to how safe the respondents felt children were from "accidents due to such things as broken glass, abandoned junk and poor maintenance." About 64 percent felt children were safe, and 17 percent felt they were unsafe. A higher proportion, 74 percent, felt they were personally safe from these types of accidents, while 10 percent said they felt unsafe. In the case of children's safety from accidents, residents associated safety not only with managements' maintenance practices but also with the behavior of their neighbors in the development. (See Appendix B, figure B-10, for mean values of an index composed of these two measures.)

As expected, many comments were made by our respondents about maintenance, repairs, and the general state of neatness of their development. For instance:

"I would like to see these beautiful grounds taken care of; also these apartments. The parking lots kept clean. This is because the tenants will not keep them clean. The management will not see to this. My wife and I have gone from door to door and asked that garbage would not be put out until the night before the pick-up the next day, but the management do not enforce this rule and it is one of the rules."

Figures 6-5 and 6-6 (top and middle): Two views of the development that received the lowest rating on maintenance.

Figure 6-7 (bottom): A very high vacancy rate (40 percent) was also reflected in the low maintenance level of this project.

"I don't like how some of the outsiders help tear down the place and come in all the time and hour. Some of our own people don't care about their place or how they let their friends tear up the place."

"There are plumbing leaks which go unrepaired while the management fights over who is responsible."

"The play areas and gym equipment have been abused and left useless."

Some maintenance problems were evident to a casual observer. For instance, figures 6-5 and 6-6 show two views of the site that was rated lowest on maintenance. In the playground, the benches are unusable because of missing seats and backs; only the posts of the fence enclosing the playground have been left, and the slide steps lead nowhere. A generally low level of landscape maintenance is visible in both photos. A partially vacant development which also received a very low maintenance rating is shown in figure 6-7. Here the effect of unchecked progressive deterioration is clearly recognizable.

On the other hand, there were some developments in which maintenance appeared to our observers to be reasonably good and yet was rated very low by our respondents. This, judging from the open-ended comments, is probably to be attributed to the maintenance of dwelling units and of specific features that would not be apparent to a visitor. Two examples from such developments are shown in figures 6-8 to 6-10.

Figures 6-8 and 6-9 (left): Two views of a development that received very low ratings on maintenance. Though the outside of buildings and grounds appear reasonably well kept, many complaints were voiced about the maintenance of the apartments.

Figure 6-10 (above): Another development in which maintenance of the exterior spaces was much better than that of individual dwelling units. As a whole, this project was rated very low on maintenance.

When we asked the residents to rate the maintenance level of a number of items or areas on a five-point scale (from very poor to very well kept), we obtained lower levels than those suggested by satisfaction-type questions. Figure 6-11 shows residents' ratings of maintenance of individual items across all sites. Even in the best case (that of outdoor paint) only 50 percent of the respondents rated the maintenance level as "well kept" or "very well kept." The worst rated item (play equipment) was considered to be well maintained by only 29 percent of the respondents, while fully 23 percent rated its maintenance as "poor" to "very poor."

In summary, although managements' performance on maintenance was rated at a slightly higher level than performance on responsiveness to tenants' problems, it still was not satisfactory for a sizable minority of respondents. Ratings of maintenance of specific items, ranging from paint to playground equipment, were even lower, suggesting a need for improving maintenance levels.

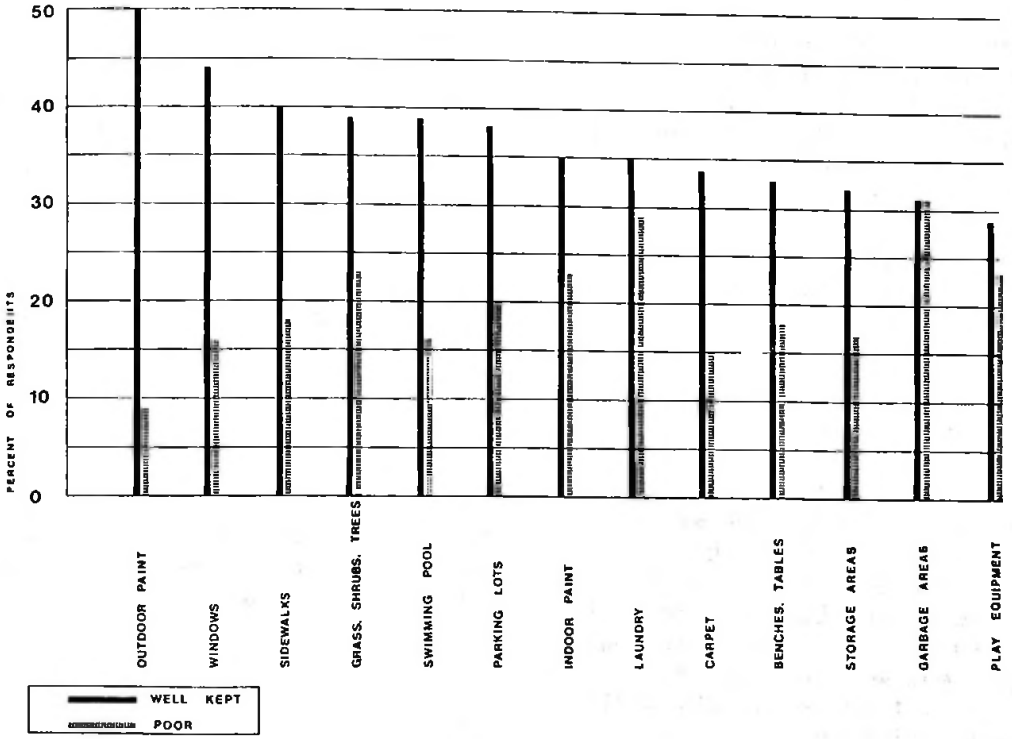


Figure 6-11: Residents' ratings of maintenance across all sites

6.6 Protection from Crime and Vandalism

We have already discussed, in chapters 4 and 5, some aspects of the relationship between crime and satisfaction in connection with social and design factors. Residents' responses suggest that two of these aspects were also associated with management performance. A feeling of safety from "being the victim of a crime such as robbery, vandalism, fighting, hustling, etc." was associated both with measures of management performance and with a series of measures dealing with the neighbors living in one's development and in the surrounding neighborhood. This association also existed for satisfaction with "the protection from crime and vandals that you have here."

Satisfaction with protection from crime was noticeably lower than general perceptions of safety; the mean score of 3.00 obtained on this measure is the lowest of all the variables importantly associated with management. Overall, 33 percent of our respondents were dissatisfied with protection from crime and only 42 percent were satisfied.[1] (See Appendix B, figures B-1 and B-11 for site scores on these two measures.)

Protection from crime and vandals is not the responsibility of management alone. Obviously, this responsibility is shared by the police and, as our respondents indicated, by the residents themselves. Nevertheless, our data suggest both that residents expected management to play a role in crime protection and that such protection was, in general, not satisfactory. Many comments by our respondents illustrate their feelings on this subject:

"We need better security guards."

"The guards are no good. I am afraid to come in at night. The teenagers hang around the door and mug people. They have broken my door bell and took my lights down."

"The security is not up to standards. The guards open up doors for people who do not live in the building, as well as for people who do."

"I dislike the way the security guards are. At times there is no one there for hours. Then some of the guards are only looking out for themselves as they don't live here, so they are only doing their job in a very poor manner."

"We are getting a lot of hoodlum-type teenagers here. After dark I am afraid to take out the trash or go in the laundry room. We never had this sort of thing before all these people moved in. Now, Mr. C. may have had his bad points but he screened the applicants thoroughly and did not let anyone in that did not meet standards. And evicted anyone who was, as he put it, 'a bad choice.'"

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[1] These results were obtained from the sample of 598 residents who answered this question in the third questionnaire form, but when we tabulated the responses to the same question for the entire sample of 1839 respondents we obtained virtually the same results: the mean score was 2.99; 36 percent were dissatisfied with protection from crime, while 41 percent were satisfied.

"The only complaint I have at this time is: We tenants are in dire need of good security measures, there have been too many break-ins. If this is not corrected I will have to move."

"I think the front entrance should be locked at 12 a.m. every weekend and 11 p.m. weekdays so that if anyone wants to see a resident in the building, the resident who is being visited will have to get up and open the door for them. This is the way it was two years ago and it seemed to work."

In summary, adequate protection from crime and vandalism was found to be an important aspect of satisfaction with management, with other residents and with neighbors in the surrounding communities, all of which were predictors of overall satisfaction. By and large, residents did not feel they were adequately protected, and their comments suggested a need for more effective guard and police protection, and better screening of applicants.

6.7 Management's Perceptions versus Residents' Perceptions

So far in this chapter, we have looked at various measures of residents' perceptions of management and management-related items. In this section, we examine some of the views held by managers and management staff and compare them with those of the residents. Managers' perceptions were obtained from a questionnaire that was mailed to each management office. Even after several telephone follow-ups, questionnaires were returned only from 19 out of the 37 developments studied. This low rate of return may be attributed in part to the length of the questionnaire (a point which should be corrected in future studies).

However, it is also possible that managers of the less successful developments were reluctant to answer our questions. Support for this possibility is shown by a comparison between the return rates of the management questionnaire for the sites that scored above and below the mean score (3.35 on a scale from 1 to 5) on residents' satisfaction with management. Among the 18 developments that were above the mean, the management questionnaires were returned from 12 sites, or 67 percent of the total, but among the 19 projects that were below the mean, the proportion of returns was roughly reversed: we received responses from only 7 sites, or 37 percent (see figure 6-12).[2]

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[2] This difference is statistically significant at the 0.001 level. That is, there is only 1/10th of 1 percent probability of its chance occurrence.

	Questionnaires Returned	Questionnaires Not Returned	Total
Sites above Mean Score ($\bar{x}$ = 3.35)	N = 12 % = 67	N = 6 % = 33	N = 18 % =100
Sites below Mean Score ($\bar{x}$ = 3.35)	N = 7 % = 37	N = 12 % = 63	N = 19 % =100
Total Sample	N = 19 % = 51	N = 18 % = 49	N = 37 % =100

Figure 6-12: Comparison between return rates of management questionnaires from sites above and below the mean score on satisfaction with management

It is possible that the developments with the higher return rates had more professional and better organized management who could find the time to answer our lengthy questionnaire. It is also possible that at these sites management had fewer reasons for feeling threatened by some of the questions.

We also compared the mean scores on satisfaction with "living here" between two subgroups of residents: those from developments in which the managers had returned the questionnaires and those in which they had not. Residents in the first subgroup were more satisfied (mean score = 3.66), than residents in the second subgroup (mean score = 3.37): a statistically significant difference.

When we compared the scores of the same two subgroups of residents on sixteen common items contained in all questionnaire forms, we found that the residents in the first group were more satisfied with all sixteen items than those in the second group. For thirteen of the sixteen items, these differences were statistically significant.

In summary, residents in developments from which management's questionnaires were returned were more satisfied than those in developments where the managers did not return our questionnaire.

Against this background, it is of interest to examine the managers' responses to a number of the same questions that we asked the residents, and to compare these responses. In figure 6-13 we present the distribution of positive and negative responses from both groups. It is clear from this comparison that the perceptions of managers were, in general, much more positive than those of the residents. For instance, when asked if "the rules are enforced equally and fairly for everybody," 90 percent of the managers agreed but only 48 percent of the residents did.

Even taking into account that the residents' responses came from all sites, while the managers' were from only 19 developments, it seems obvious that there existed rather large discrepancies between the way residents and managers rated these specific aspects of managements' responsibilities. This is not a totally unexpected result. After all, we were asking the managers to rate their own performance, and we could hardly expect total objectivity in this respect. Even so, the magnitude of the disagreement in ratings suggests that there are real differences in perception that may stand in the way of management's motivation to improve its performance.

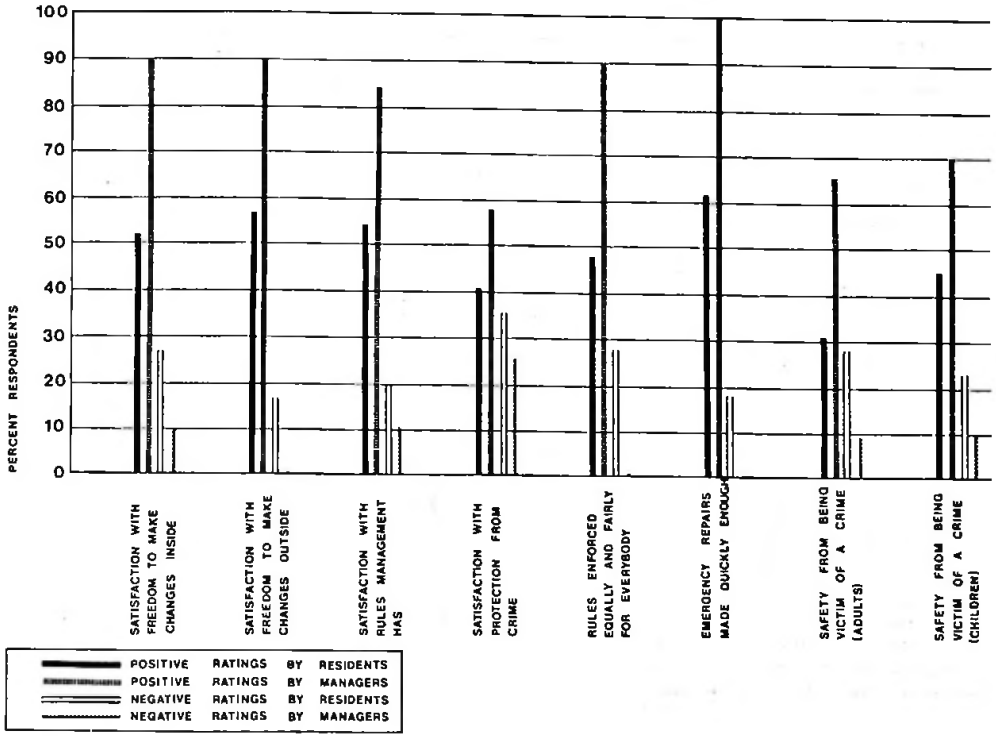

Figure 6-13: Comparison of residents' and managers' perceptions

There was better agreement between residents and managers in rating maintenance levels of specific items, as shown in figure 6-14. Here too, however, there were some large differences.

For example, the maintenance of playgrounds was rated as good or very good by only 29 percent of the residents, as compared to 55 percent of the managers. There were also differences between the negative ratings: 23 percent of the residents said maintenance of playgrounds was poor to very poor, but only 6 percent of the managers rated it the same way.

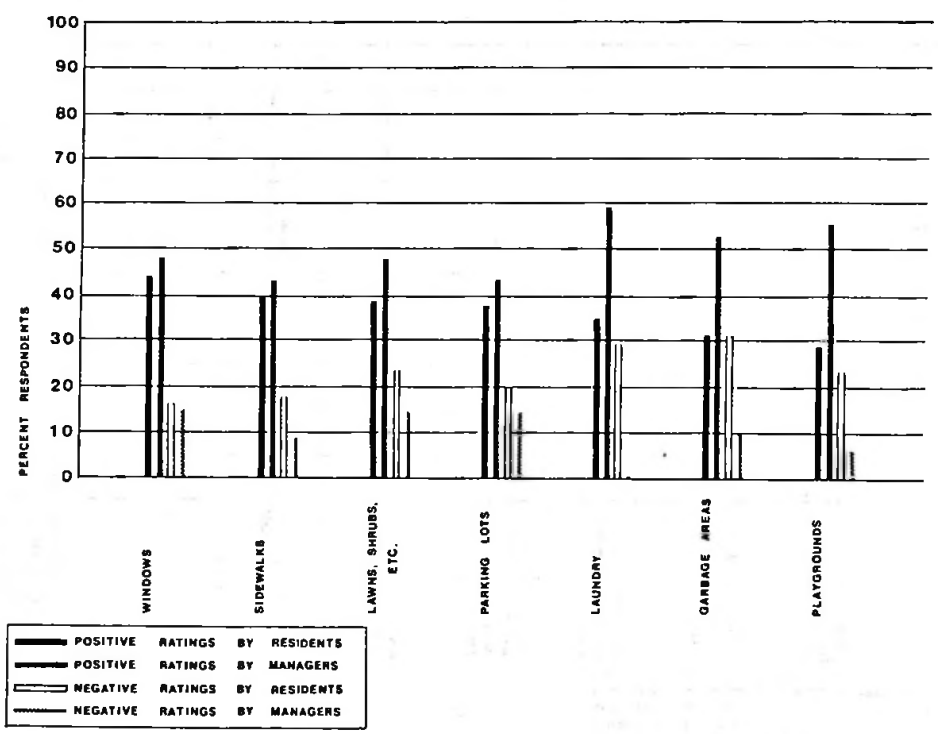

Figure 6-14: Comparison of ratings of maintenance by residents' and managers

Finally, we compared the degree of satisfaction with "the protection from crime and vandals" reported by residents and by managers. Figure 6-15 shows the scores on this question (on a scale from 1 to 5 in which 1 was "very dissatisfied" and 5 "very satisfied"), by sites and programs. In 12 developments, or 63 percent of the sites from which responses were obtained, management and residents had a clearly different assessment of protection from crime and vandalism. Only in 5 projects, or 37 percent, did the two groups of respondents show close agreement. However, of the 12 sites where they disagreed, in 7 sites the managers rated protection from crime and vandals higher than the residents, while in the other 5 the residents rated protection higher than the managers.

As mentioned earlier, for the purposes of this report it is not essential to know in an objective manner whether the residents or the managers were more impartial in their assessments of these various items. The important conclusion is that there existed differences in their perceptions and assessments, and that these differences are likely to affect in a negative way the ability of management to respond effectively to the residents' expectations. Conversely, these differences are also likely to stand in the way of a better understanding by tenants of the difficulties faced by management.

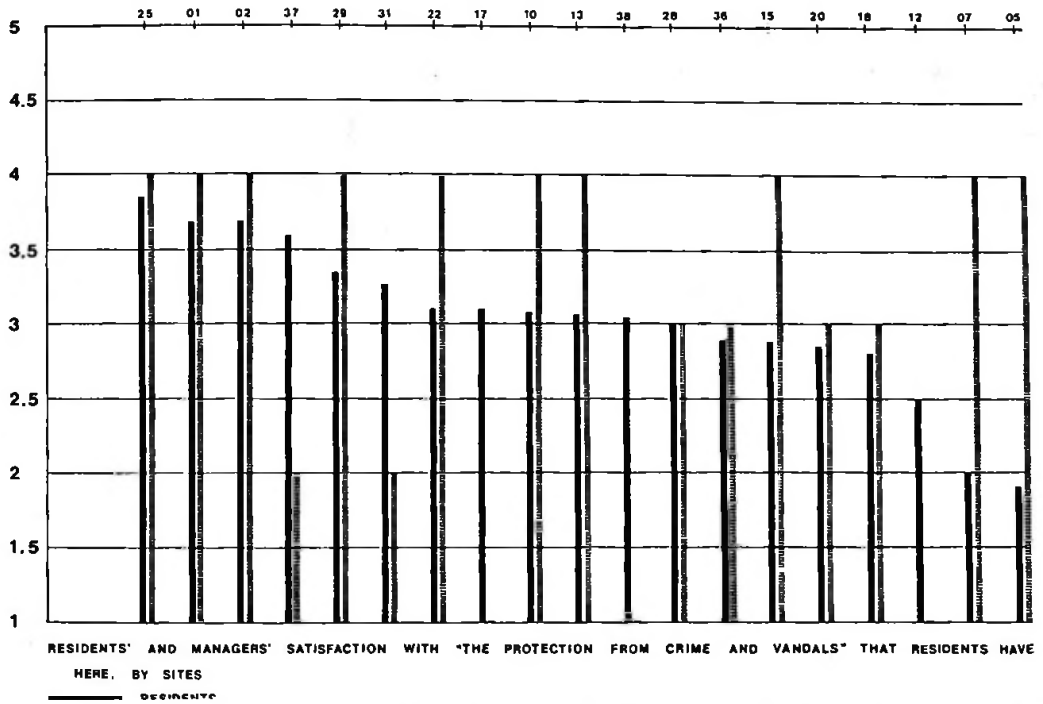

Figure 6-15: Comparison of ratings of protection from crime by residents and managers

6.8 Vacancy Rates

One measure that may, in some instances, reflect the degree of management performance is the vacancy rate of a development. We did not conduct a study of vacancy rates over time. Such a study should give a better idea of the significance of this measure for a development. However, we did ask the managers about the number of units that were vacant at the time of our study. Figure 6-16 shows the percent of vacant units by sites and programs.

Again, there were no major differences among the various assistance programs and ownership forms in our sample. The mean vacancy rate in the public housing sites (2.60 percent) was better than that of the other sites[3] (4.18 percent). When one considers that some of these vacant units were reported by managers to be only temporarily unoccupied due to repairs or redecorating, the overall vacancy rates shown in figure 6-16 do not appear unduly high. With minor exceptions, they are in the range reported by the Urban Institute study of management performance in 60 publicly-assisted housing developments (Sadacca and Isler, 1972).

[3]Site no. 12 was not included in this computation because of its abnormally high vacancy rate of 40 percent.

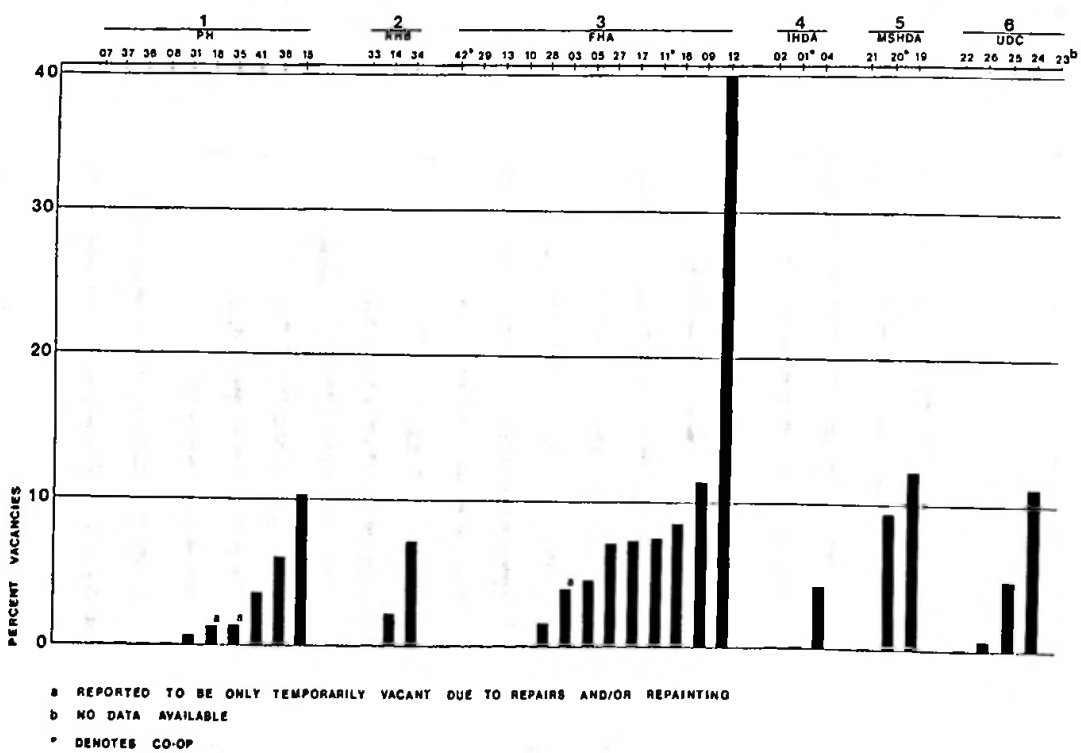

Figure 6-16: Vacancies, by sites and programs

The Urban Institute study suggested that a mean vacancy of 1 percent could be considered an appropriate criterion value for a high performance site, 2 percent for a medium performance development and 3 percent for a low performance project. By this criterion, the vacancy rate of the Public Housing group in our sample would be medium, while that of the other sites, as a whole, would be indicative of low performance with respect to vacancies.

6.9 Screening of New Tenants

Among various questions asked of the managers about applicants or new occupants, there were two concerning credit and references. The first question was: "Is there a credit check run on applicants who want to live here?" Of the 19 managers who answered this question, less than half (47 percent) said that they always checked an applicant's credit. Another 16 percent ran credit checks "often," 21 percent "sometimes," and 16 percent "never."

The second question was: "Are the references or previous landlords of applicants checked?" This question was answered by 19 managers: only 37 percent always checked references or landlords, 16 percent checked "often," 26 percent "sometimes," and 21 percent "never."

From these results, we can conclude that procedures for screening applicants, at least as they applied to credit and reference checks, were not uniformly followed in these 19 projects.

6.10 Resident Managers

It has sometimes been argued that having the manager live among the tenants might give managers a better feeling for residents' problems and perhaps a greater empathy towards them. In the first form of the tenants questionnaire, we asked our respondents whether they agreed or disagreed with the statement: "The manager should be required to live in this housing development." Fifty-one percent agreed, 32 percent were neutral, and 17 percent disagreed.

We found that this particular item was not associated with other measures of management's attitudes, policies, and performance, but rather to a set of items measuring the respondent's self-esteem (e.g., "I am a person of worth"). We also found that the factor containing the self-esteem measures and the residents' opinions about the manager living on site was not a significant predictor of overall satisfaction.

Of the 36 managers that were willing to be interviewed, 7 (19 percent) lived on site, while 29 (81 percent) did not. No manager lived in any of the Public Housing sites. Of the 7 managers who lived on site, 5 managed developments that scored above the mean on residents' satisfaction with management.

In conclusion it appears that, although roughly half the residents would have preferred the manager to live in the development, there was no association between measures of this preference and satisfaction with management or overall satisfaction.

6.11 HUD Management Guides

In addition to the perceptions discussed in prior sections of this chapter, we asked the managers' opinions about HUD management guides. Specifically, we asked the following two questions: "Are you familiar with any of the HUD management guides, for example 'Management of HUD-Insured Multifamily Projects Under Section 221(d)3 and Section 236'?", and "How helpful is the information found in such management guides?"

Of the 18 managers who answered the first question, all but one were familiar with the guides. Of the 16 who answered the second question, 50 percent found the guides very helpful, 31 percent found them not helpful or not very helpful, and 19 percent were neutral. These results suggest that the guides may require some improvement. It may be useful to survey managers of HUD-assisted housing to ascertain the specific reasons for their opinions about the guides.

6.12 Summary

Satisfaction with management was found to be among the strongest predictors of overall satisfaction. In practical terms, the key role played by responsive, fair, efficient and effective management in fostering residents' satisfaction cannot be overemphasized.

Among specific aspects that were found to be highly associated with satisfaction with management were perceptions that management was respectful, friendly and cooperative, that the policies and rules were appropriate and were fairly and equally enforced, that repairs were made promptly, that maintenance was adequate, and that there was good protection from crime and vandalism.

Policies and rules that were found to be a source of dissatisfaction included the system by which rent and rent increases were determined, the rules against decoration and personalization of both the inside and outside of one's dwelling, the rules about pets, the lack of strictness and enforcement of rules designed to curb noise, vandalism and other undesirable behavior, and the management's prerogative of entering dwelling units at will for maintenance or control purposes.

Management's performance in responding to tenants' complaints was rated as mediocre: only about half of the respondents were satisfied with managements' quickness and efficiency in reacting to tenants' complaints.

Management's performance in terms of overall maintenance was also not very satisfactory for a sizable proportion of our respondents. When asked to rate maintenance of specific features, only 30 to 50 percent of the respondents (depending on the particular feature) considered them well maintained.

Less than half of our respondents were satisfied with the protection they received from crime and vandalism. Although the responsibility for this protection was perceived to be shared among management, residents and police, there were numerous complaints regarding the lack of effectiveness of security systems (particularly guards) and the lack of screening of undesirable tenants by management.

When we compared the tenants' and managers' assessments of various areas of management's responsibility, we found that there were notable differences in assessment: the managers generally were more positive in their ratings. Regardless of which of the two groups was more objective, these differences in perceptions seem likely to stand in the way of better management response and better tenant-management relations.

Vacancy rates in the projects included in our study did not seem excessive, except in one development which was 40 percent vacant.

From analysis of our data we found no relationship between having a resident manager and overall satisfaction, satisfaction with management, or any measure of management's attitudes, policy and performance.

Finally, only about half of the managers who answered questions about HUD management guides found them helpful, thus suggesting that such guides may require study leading to modifications and improvements.

PART III. APPLYING RESEARCH FINDINGS

Chapter 7

Implications of Research

In this chapter we discuss some caveats that need to be considered before attempting to apply the results of our study. We also provide a comprehensive interpretation of our findings in the form of a model of residents' satisfaction and examine the general implications of these findings for the formulation and evaluation of housing policy and for the planning, design, and operation of HUD-assisted housing. More detailed implications, in the form of recommendations, are found in chapter 8. In both chapters, whenever possible, we compare our results with those of other researchers, in order to: a) strengthen our conclusions when the available evidence so warrants, or b) supplement our findings with those of other studies when the data of our study did not lead to a specific conclusion.

7.1 Limitations and Usefulness of the Study

Inevitably, a discussion of research implications involves interpreting results of data analyses and assessing the meaning of such interpretation for the solution of practical problems. In order to draw appropriate conclusions from the interpretation of data analyses, it is important to keep in mind the limitations of the study which produced the data, and the limitations of research in general.

These limitations have been alluded to in the introduction of this report, but they need to be summarized here, in connection with the following questions:

To what extent do the study variables measure all relevant aspects of residents' satisfaction?

To what extent can our findings also be true for housing developments not in our sample?

To what extent are the findings of any study conducted at one time applicable to future housing conditions?

There are no *definitive* answers to these questions. This is due in part to the intrinsic complexity of housing issues, in part to methodological problems, and in part to the limitation in resources available to carry out the study.

However, this does not mean that we have *no* answers at all. For an answer to the first question we can look at the results of regression analyses reported in chapter 3, page 3-7 and at the results of path analysis, described in pages 7-5 and 7-7. These results show that a relatively high proportion of the variance in residents' satisfaction (the criterion variable) was accounted for by the significant predictors. Two conclusions can be drawn from these results:

The study variables measuring characteristics of the residents, of the design, and of the management are sufficiently comprehensive to explain a large proportion of the variance in residents' satisfaction.

However, in order to increase the comprehensiveness of the explanation, it will be necessary in future studies to include aspects not stressed in our research (for instance, variables measuring aspects of the surrounding community).

For an answer to the second question, i.e., the question of generalizability of our findings to other housing developments, we must look at the manner in which the sample was selected. As explained in chapter 2, page 2-2, it was not possible to select a sample of projects that would be representative of *all* HUD-assisted housing developments. Given the variety of population, design, and management present in HUD-assisted housing, this ideal research condition would have required a study of much greater scope than that allowed by our resources. Nevertheless, given that more than 1900 individuals responded, and given the diversity of the projects studied, we can state the following conclusions:

It is difficult to assess the generalizability of our findings to projects other than those in our sample without benefit of further research.

However, the number and diversity of projects studied and the size of the residents' sample are such as to give reasonable confidence that most findings would apply to most HUD-assisted housing.

Finally, for an answer to the third question, i.e., the influence of time, we can compare the results of our study with those of other work carried out at different times and hope that future research can be conducted in a time series or longitudinal mode so as to result in a better understanding of the influence of the time factor. In conclusion:

It is impossible to insure that the results of a one-time study will be equally applicable in the future.

However, when the results of our study support or strengthen conclusions from previous work, there can be reasonable confidence that such results are relatively stable over time. When comparisons with previous research are impossible, the need arises for future research conducted over long periods of time.

In addition to these caveats, a further research limitation should be noted. It is always unwise to apply findings of a single study, no matter how comprehensive and technically proficient that study may be, without the benefit of corroborating findings from other studies. Ordinarily, in fields with a more rigorous and longer research tradition, confidence in the findings of one study will be increased not only by the technical proficiency of that study but also by the congruence with findings of other research, which are built up over a number of years in a body of knowledge. This route is not yet available in the field of housing, and particularly in regard to residents' satisfaction, owing to the scarcity of systematic research.

The above caveats do not mean, however, that at the present stage of research there are no applicable findings. If caution is exercised and if applications are carried out in an *experimental mode*, we believe that even in its present state, research can profitably supplement the experience of those who are involved in the process of formulating and executing housing policy, designing and constructing housing, and operating housing developments.

By "experimental mode" we mean an approach in which every attempt at application is accompanied by an evaluative component aimed at testing the results of that application. What has been variously called "post-construction evaluation," "post-occupancy evaluation" or "user-needs research" should become a widespread practice.

There seem to be at least two important requirements of the evaluation of applications:

1. It should be done in a systematic, non-amateurish way and on a scale commensurate with the need for generalizing the information obtained, and

2. the findings should be fed back into the process of designing, producing, and operating housing, including, most importantly, the process by which HUD approves submissions.

Until such evaluations are carried out in a coordinated manner over time, there will remain a degree of uncertainty when dealing with recommendations for application.

7.2 Complexity and Interdependence in Housing

Many research studies in the housing field are guilty (for a number of possibly very good reasons) of overstressing one aspect or one issue. Thus, they ignore the question of *interdependence* among variables that may either interact with the issue under study or be important in their own right in making a development successful. At times this procedure may be inevitable; for instance, an issue reputed to be particularly critical may need to be "isolated" for special study. Nevertheless, this approach tends to be construed as an indication that if we could only solve *that* particular problem, then all would be well. Unfortunately, this is very seldom, if ever, the case.

Examples of this type of research include studies of "problem tenants" (Scobie, 1975), building type preferences (Canter and Thorne, 1972), the occurrence of accidents (Neutra and McFarland, 1972) family "adjustment" to housing (Morris and Winter, 1975), the congruence between architects' intentions and tenants' use (Zeisel and Griffin, 1975), or the issue of crime prevention through design (Newman, 1972, 1973, 1976).

It is not our intention to criticize these studies which, as mentioned earlier, were specifically aimed at obtaining answers to one set of issues. The point that we want to stress is that the complexity of housing issues and the interdependence of various aspects of those issues must be kept firmly in mind when attempting to apply research findings, particularly those of studies which deal with a limited set of variables.

In the real world, residential environments are systems involving not only physical objects (such as buildings) but also human behavior, with all the complexity which this implies. In turn, both the physical and the behavioral domains are composed of many interacting variables which, to complicate matters even further, interact in different ways for different groups of people, each of whom may have different values, expectations, and perhaps even different needs (see chapter 4, section 4.1).

To those housing professionals and government officials who have to deal with everyday concrete problems such as inadequacy of operating funds, high vacancy rates, and abandonment, the above considerations may seem excessively abstract and of doubtful impact in solving their concrete problems. Nevertheless, we believe that a reasonably clear understanding of the complexity of interrelationships involved in a housing environment is a prerequisite for successful action.

A parallel for the notion of complexity and interdependence that we are attempting to stress in this section can perhaps be found in medical practice, where, until relatively recently, the interdependence of physical and mental health had not been sufficiently emphasized or understood. Just as a patient is a complex whole and must be treated as such if his or her health is to be restored, so a housing development is a complex whole which must be seen as such if success is sought.

We do not claim that understanding the complexity of housing will solve concrete problems. Rather, it seems a *necessary precondition* in order to go on to the next step, that is, determining the strategies and concrete actions that are most likely to succeed in a given situation. Otherwise, those strategies and actions are likely to be too narrowly focused and to miss related factors associated with overall residents' satisfaction. Under these conditions, the possibility of generating undesirable and unforeseen side effects becomes real. To give but one example of how this type of attitude may affect residents' satisfaction, one has only to think about the negative effects of many regulations imposed by management (a number of these effects are discussed in chapter 6, section 6.3).

The notion of complexity and interdependence, however, does not mean that in housing environments "everything is related to everything else" in a confusing and undifferentiated manner. From the work of other researchers, as well as from our own, we can begin to identify aspects that are more important than others in generating residential satisfaction for the general population or for specific groups. These aspects and the hypothesized relationships among them can be displayed in the form of models. We can begin to identify some of the most crucial causal relationships among important aspects and to examine, by means of statistical analyses, how well the data fit a model. Of course it must be kept in mind that more research, consistently carried out over time, will be needed before we can be confident that these models are close approximations of reality. Nevertheless, even at this stage, these models can point out useful avenues both for direct interventions and for future research.

In chapters 4, 5, and 6 we examined in some detail a number of specific aspects of the three domains of residents, physical environment, and management. In this section, we are interested in providing an interpretation (model) of the interrelationships among those aspects which appeared to be most strongly associated with residential satisfaction.

One way to provide such an interpretation is to examine the data from our residents' questionnaires by the procedure of path analysis. In this procedure, a variety of conceptual models are tested with the object of ascertaining which model best "fits" the data. Figure 7-1 shows the model that best fits the responses from our tenant questionnaires. As can be seen from the figure, this model provides empirical verification for the notion of complexity and interdependence already discussed.

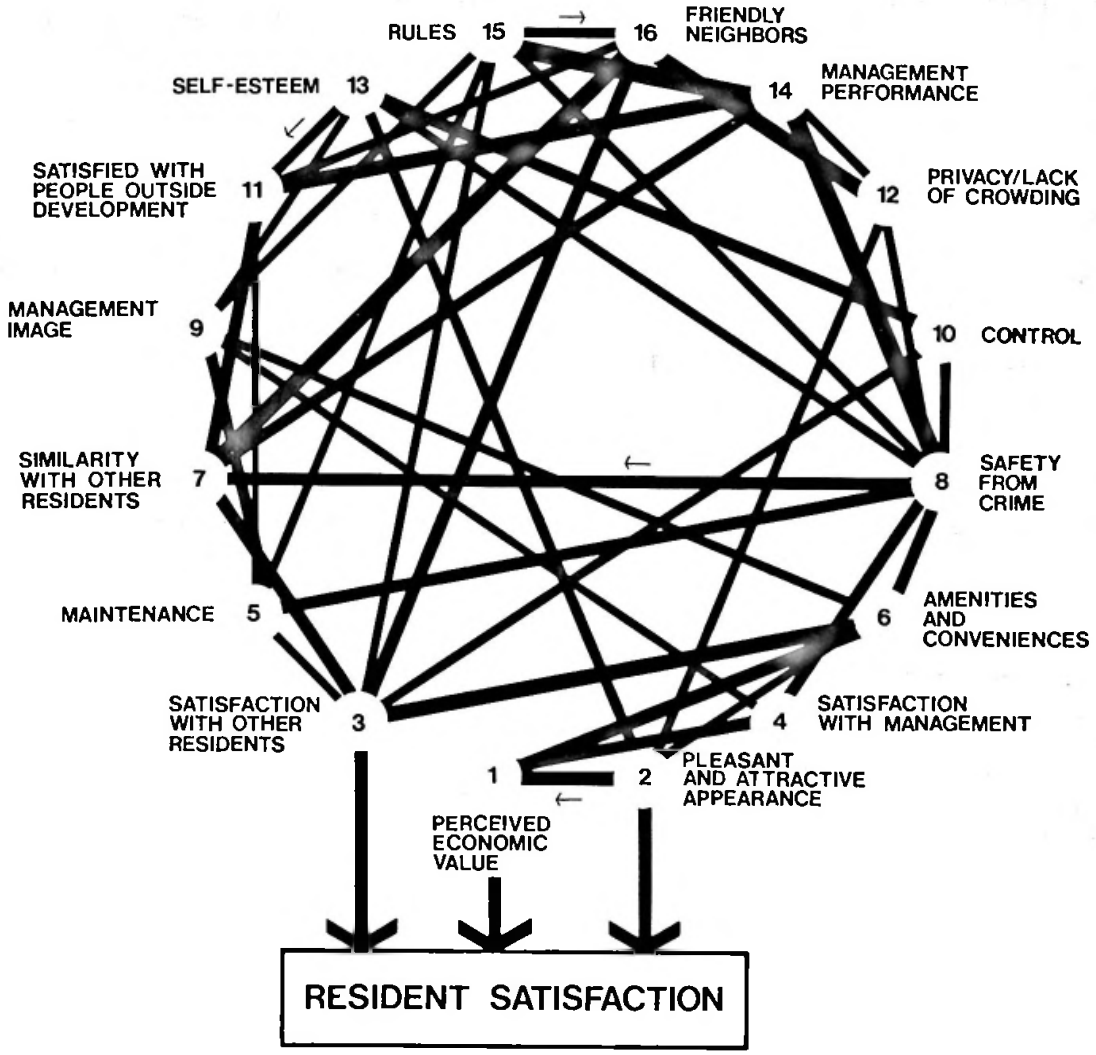

Figure 7-1: Model of residents' satisfaction

The thickness of the arrows shows the relative importance of the effect likely to be produced in one aspect by a change in another, thus providing a sense of *relative priority* of various aspects. The direction of each arrow represents the direction in which change in one aspect affects change in another aspect (the direction of causality).

All aspects in this diagram belong to one or more of the three domains of residents, physical environment and management discussed in this report, except for the aspect labelled "perceived economic value," which is an index of the extent to which a development represented a good buy. This is an important comparative factor that mediates residents' satisfaction with aspects of the physical environment and of management. The presence of this factor corroborates the notion discussed in chapter 1 that residents' satisfaction is a relative concept, tied more to what is available and practically obtainable than to concepts of the "ideal" home.

Three aspects directly influence residents' satisfaction. In order of importance, these are "satisfaction with other residents," "pleasant appearance" of units, buildings and grounds, and of the development as a whole, and the "perceived economic value" represented by living in the development. These three aspects together account for a significantly large proportion of the variance in residents' satisfaction (approximately 74 percent).

These three aspects are, in turn, influenced by other variables. Satisfaction with other residents is influenced by having neighbors that are perceived as "similar" on a number of socio-demographic dimensions and, to a lesser extent, by the level of maintenance in the development. In addition, having friendly and helpful neighbors, the management rules, and a sense of having control over one's life also influence satisfaction with other residents.

Perceived economic value, on the other hand, is influenced by the appearance of the development, by satisfaction with management and by the amenities and conveniences provided on site (such as recreation, laundry and parking facilities).

Pleasant and attractive appearance is influenced by maintenance, amenities and conveniences, privacy and lack of crowding, and a sense of self-esteem.

Reading the model from the bottom up, it is possible to go on to further levels and examine the various sets of relationships among all the sixteen aspects associated with residents' satisfaction. For purposes of clarity, a simplified model showing only the first four levels is presented in figure 7-2.

One implication of the model shown in figures 7-1 and 7-2 is that it suggests ways for improving the performance of housing developments. For instance, if the economic value of a project is perceived as low (this could be indicated by difficulties in filling vacancies), then improvements in the three aspects of appearance, management, and amenities and conveniences, or even in only one of these aspects, are likely to increase the perceived economic value. Intervention strategies can be formulated on the basis of the relationships indicated by this model.

Models of residential satisfaction can also be applied in conjunction with results from evaluations of a specific development, which may point out what aspects are considered to be deficient by the residents. For example, in figure 7-3 we have shown the mean scores, on several important indices, for a number of projects in our sample that scored highest and lowest on satisfaction with living here.

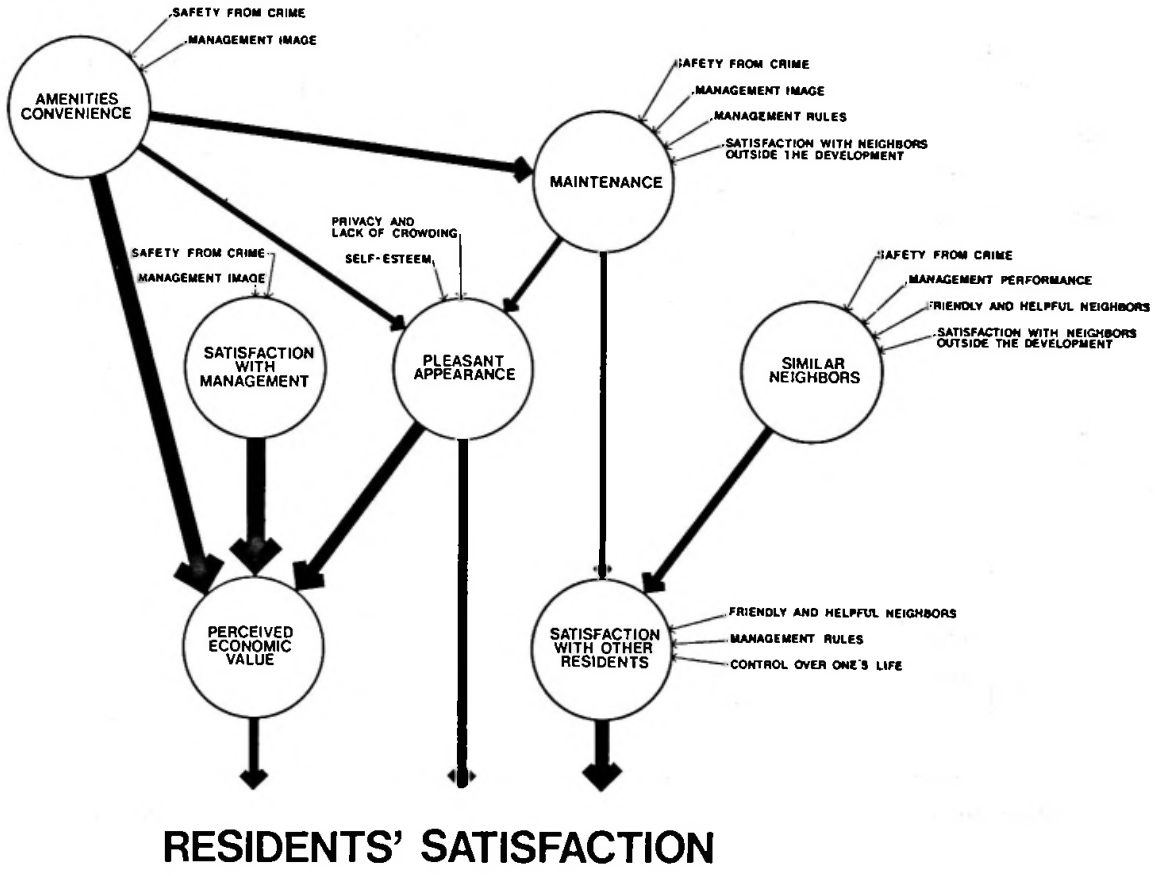

Figure 7-2: Partial model of residents' satisfaction

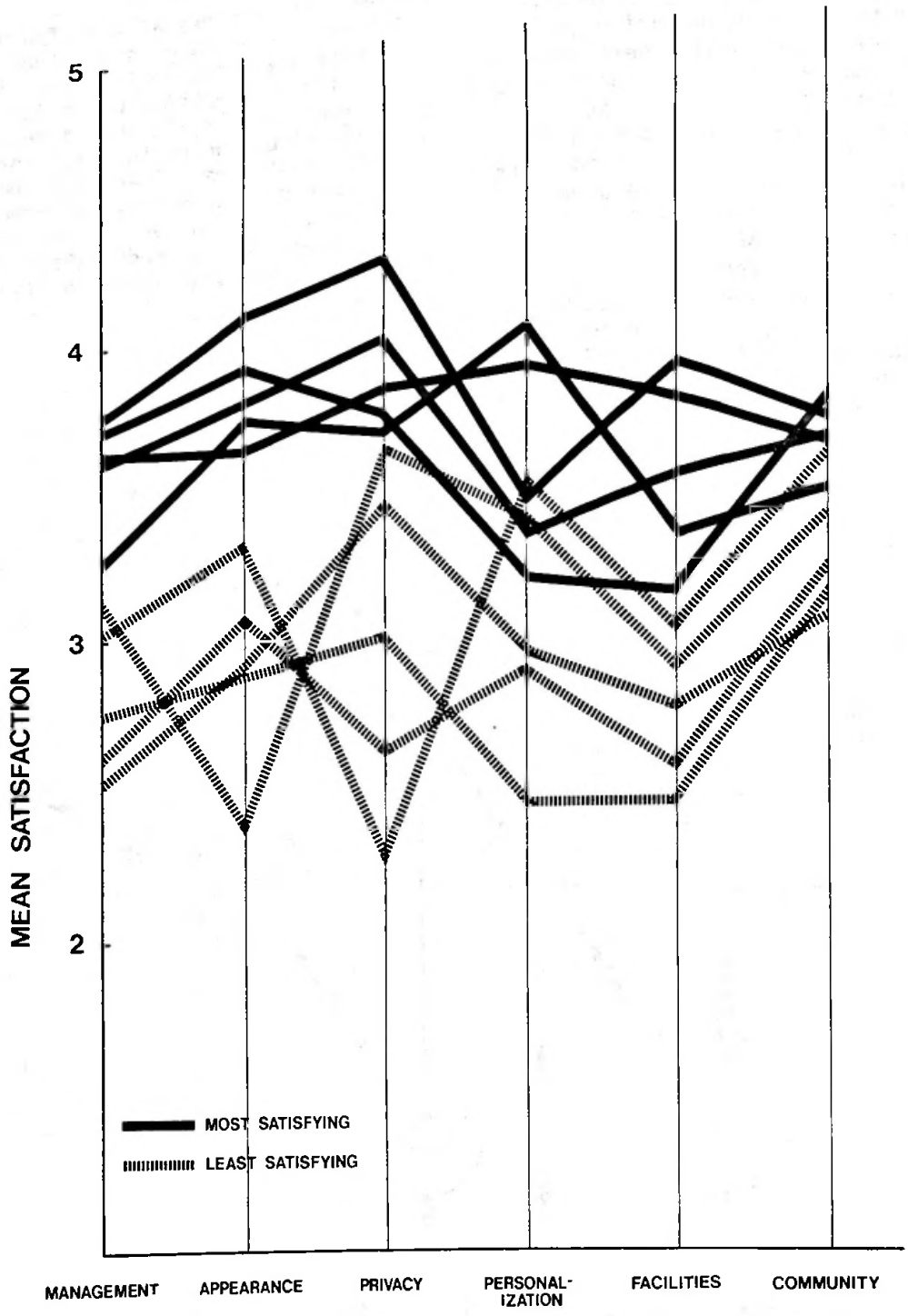

Figure 7-3: Profiles of most and least satisfying developments on a number of important indices

Although it is clear that successful developments tend to achieve high scores on most or all aspects and unsuccessful projects tend to perform poorly on most items, still there will be instances when a site will have one or two aspects rated significantly lower than the others. If the aspects that received a poor rating are known, then it is possible to identify, by means of the model, what actions are more likely to cause an improvement.

Another implication of the model shown in figures 7-1 and 7-2 is that there are components of residents' satisfaction that lie outside of the domain of interventions. For example, if it is desired to improve safety from crime, it may be possible to intervene in some aspects that influence perceived safety, such as lack of crowding, management's rules, and management's performance. But it is clear that the two other aspects related to safety from crime, i.e., a sense of self-esteem and of control over one's life, are more a function of factors that are beyond the control of designers and managers.

In summary, models of residents' satisfaction derived from path analysis show the interdependence of various characteristics of the residents, their neighbors, the physical environment, and the management. Three major aspects directly influence residents' satisfaction. In order of importance, these are a sense of satisfaction with other residents as neighbors, the pleasant appearance of the development, buildings, units, and grounds, and a perception that living in the development represents a good economic value. The direct influences of these three aspects account for approximately 74 percent of the variance in residents' satisfaction.

The model shows the complexity of the network and begins to identify the paths of cause-and-effect relationships that are likely to occur when interventions in one or more aspects are carried out. This model also suggests that there are a few aspects relevant to residents' satisfaction that are influenced by factors not likely to be altered by design or management interventions.

7.3 Implications for Policy

In the context of formulating a National Housing Policy, and of the attendant debate of the last few years, two central questions are frequently encountered:

1. *Should there be a national assistance program for low and moderate-income households?*

2. *Should housing assistance programs follow the pattern set by past and current programs or should they take different directions?*

Implicit in these questions is the notion that past assistance programs have not lived up to expectations and that the concept of publicly assisted housing is inherently unsuccessful.

Obviously, when broad issues of national policy are reviewed, a number of criteria (such as economic impact, social inequities, etc.) will have to be considered in attempting to answer the two questions above. However, in terms of satisfying the criteria and expectations of low and moderate-income residents, our results suggest that there is no evidence for the widespread notion of the "failure" of publicly assisted housing. Since 66 percent of our respondents were satisfied while only 19 percent were unsatisfied, we must conclude that HUD-assisted housing is not as unsatisfying to the residents as one would have been led to believe from the many negative accounts that have appeared, particularly in the press.

Findings from other studies support this conclusion. For example, Cooper (1975) reported that 75 percent of respondents interviewed at Easter Hill Village, a public housing development in Richmond, California, generally liked their living environment. Becker (1974), in a study of seven developments of the Urban Development Corporation in the State of New York, found that a high proportion of the residents at each development (from 68 to 100 percent) indicated that they were satisfied with living there.

This rather positive assessment, however, does not mean that all is well. It is of interest, in this respect, to compare the above responses with those obtained by researchers who have investigated both assisted and non-assisted housing. Although these comparisons should be made with great caution in view of possible differences in sample selection procedures, specific questions asked, and other methodological differences, nevertheless it seems clear that, as a whole, residents in assisted housing are less satisfied that most other residents.

For example, Burby and Weiss (1976) in their extensive study of new communities, reported that 65 to 75 percent of respondents living in rental units were satisfied with their housing. Campbell, Converse, and Rodgers (1976) reported that fully 76 percent of respondents in a national representative sample containing people from all income brackets and having various forms of housing tenure were satisfied with their housing. These differences between open market and HUD-assisted housing are not only statistically significant (that is, the probability of their chance occurrence is less than 5 percent) but quite likely represent meaningful differences as well. Thus, the conclusion that can be drawn from these comparisons, albeit tentatively, is that assisted housing, though not as unsuccessful as often portrayed, nevertheless is not as satisfying to the residents as some other living environments.

Further examination of the results of our study reported in chapter 3, figure 3-4 shows that a number of HUD-assisted developments were excellent performers, as satisfying as, or more satisfying than, housing in the non-assisted or "open" market. An important implication of this result is that a number of difficulties exhibited by the less successful developments could be ameliorated or even eliminated in both existing and new housing, if it were known what makes the more successful developments successful. In other words, there appears to be no inherent reason why assisted housing should not be equally as satisfying to its residents as housing available in the open market.

Policy modifications may be necessary to foster the desirable goals of bringing all, or at least most, HUD-assisted housing up to the level of performance of the most successful projects in our sample. However, an implication of our finding that there are good and poor performers in all programs is that such a desirable goal is more likely to be achieved by acting on specific shortcomings in the domains of residents, physical environment, and management rather than by instituting new types of assistance programs. From the point of view of residents' satisfaction, all the programs represented in our sample -- public housing, 221(d)3, 221(d)4, 236, rehab, and programs of city and state housing development agencies -- appear to have approximately the same potential for success.

It was not the purpose of our study, nor is it the purpose of this report, to suggest specific steps that HUD can take so that the positive features of successful projects can be applied to other housing developments. The determination of such specific steps is best left to experienced HUD officials who have a much greater familiarity with the details of policies and programs that can be expected of any researcher. However, in the next two sections, we summarize the *directions* in which these steps should be taken, based on research results. The basic principle governing the choice of specific steps should be that *housing is a web of social services which go beyond the mere provision of shelter* (see section 7.2).

Housing programs that are geared simply to the production of shelter complying with minimum physical standards are bound to be unsatisfactory. Likewise, housing policy which overemphasizes economic criteria, technological breakthroughs, or even specific social goals (such as racial integration, or the eradication of poverty) over the *delivery of housing services that are deemed important by the residents* is also likely to be unsatisfactory and, in the end, difficult to defend politically.

A corollary of the above principle is that residents of publicly assisted housing need to be considered as *consumers* of a service, and attention must be paid to meeting their criteria for evaluating the quality of that service. This implies that residents should be directly consulted when evaluating project success or distress, and that a program of continuous monitoring of residents' satisfaction should be a part of the operation of HUD-assisted housing.

Also, we believe that the levels of overall satisfaction found in our study have some implications for the formulation of new housing policy. If our data paint a less gloomy picture of assisted housing than that which we are accustomed to hear, then the rush to scrap programs because they have "been a failure" should perhaps give way to a more objective consideration of what these programs have in fact achieved. There is no question that failures exist in HUD-assisted developments -- and a number of well-publicized ones have been dismal failures indeed. But it seems clear not only from our data but also from the results of other studies, that in a greater number of cases HUD-assisted developments have fulfilled the need for satisfying housing for those groups of the population that could not be adequately served by the open market.

In summary, we can list here the policy implications derived from the three findings of: relatively high satisfaction levels, lack of clear differences in satisfaction among programs, and existence of highly successful assisted developments.

1. *Assistance programs for low- and moderate-income households should be continued and strengthened.*

2. *It is unlikely that new types of assistance programs, per se, would result in more satisfactory housing.*

3. *Housing programs should include requirements for consultation with residents and for feeding back the result of such consultations into the housing delivery and operating process.*

4. *Housing policies should include specific steps directed at ameliorating the shortcomings printed out in various parts of this report. These steps, however, should be implemented together with a mechanism for evaluating the impact they may have on residents' satisfaction.*

7.4 Implications for Existing Housing

Although, as discussed in previous sections, HUD-assisted housing as a whole appears to be reasonably successful, there are many existing developments that could be improved considerably, given: a) knowledge of what is wrong, b) appropriate intervention strategies, and c) resources commensurate with the task.

In the course of our study, we had informal discussions concerning distressed developments with a number of owners, designers, and managers. Often these individuals would profess to know exactly what was wrong with the project in question. In one case the problem was thought to be the location, in another it was a poor manager, in yet another a high incidence of vandalism. For all we know, these individuals may have been correct in their assessments. However, they had little evidence to support their conclusions and no effort had been made to ascertain in an objective manner what were the causes of the problem. Also, it appeared that in projects where remedial action was taken (more often than not the manager was changed), there was no improvement.

Of course, the judgment of people experienced in housing problems can be very helpful in identifying the shortcomings that may exist in a project, but we have seen from our data that managers, for instance, had quite different perceptions from tenants about a number of issues (see chapter 6, section 6.7). In addition, a number of other studies have shown that the judgments of experts often differ from those of the users (e.g., Michelson, 1968; Lansing and Marans, 1969; Troy, 1971; Cooper, 1975; Carp et al., 1976). For these reasons, it is important to gather, as objectively as possible, reliable information on the problem at hand. Successful operation and improvement of existing housing developments can be thought of as analogous to maintaining a state of health in the human body. As in medicine, appropriate diagnosis is a prerequisite for a successful cure.

Moreover, as in medicine, a program of periodic check-ups can go a long way towards discovering simmering problems before they become crises. Thus, a systematic monitoring program in which perceptions of residents and management staff are periodically obtained offers potential benefits not only for the formulation of policy, as already pointed out, but also for the day-to-day operation of housing developments. Ideally, this should be a part of normal activities just as bookkeeping and other record-keeping procedures currently are.

Objective and systematic monitoring of residents' and management's perceptions need not be a complicated or prohibitively expensive proposition. There is no need for replicating, for instance, the comprehensiveness and length of the questionnaires used in our study. Standard data-collecting instruments could be developed on the basis of the experience of our study and of other research. The "Housing Appraisal Kit" (1973) developed by the Department of the Environment in Great Britain is an example of this type of approach.

Large housing authorities or management firms could develop in-house capability for administering these surveys and analyzing the data. For smaller units, these services could be provided at the regional or national level by HUD or by independent research organizations. In all cases, it would seem particularly crucial to provide technical assistance at the data-analysis stage, so that appropriate statistical analyses and interpretations can be insured.

In addition to formal systematic monitoring, tenants' councils or other tenants' organizations can be a means of communicating information between tenants, managers, and owners, thus helping to identify problems, to set priorities, and to define appropriate intervention strategies.

In attempting to define the problems that may exist in a housing development, a *key principle is to focus on the potential causes of those problems, rather than on the symptoms alone*. For instance, if a low level of maintenance and repair is evident, it is important to ascertain to what extent this is caused by some physical reason (such as poor construction and material), by management difficulty (such as inadequate staffing or lack of operating funds), by a tenant-related situation (such as bad housekeeping or vandalism), or by a combination of conditions. Again, this observation may seem obvious, but it has been frequently overlooked in practice, with the result that much effort and money have been expended without achieving the desired objectives. The symptoms may have been treated, but because the causes of the problem were not removed, the "cure" did not last.

Once the causes of distress are identified, attention must be focused on the possible interventions. But what interventions are appropriate?

On the basis of the research findings discussed in this report as well as from informal contacts we had with tenants, managers, and owners, it seems to us that there are two key concepts that have to be kept in mind when the question of appropriateness of interventions is considered.

The first concept is that *there is no uniformly applicable set of strategies or rules that will insure success:* what succeeds in one development does not necessarily succeed in another, unless the problems and the conditions are similar. Thus "transfer" of strategies from one project to another should be attempted only when conditions have been found to be roughly comparable.

Secondly, it is important to keep in mind the implications of our finding that *no single aspect, per se, is responsible for success;* it is rather a "blend," or "bundle," of aspects that will make success possible. Thus, simplistic approaches to interventions that promise to "turn around" seriously distressed projects by focusing on one aspect only are almost sure to fail, no matter how well conceived the intervention itself.

In addition, certain problem areas (for instance, tenant admission and eviction policies) are influenced to a large degree by conditions that are external to a particular housing development and may be dictated by legal requirements, HUD's practices, the overall state of the national economy, or other factors beyond the control of those who are interested in improving the performance of a specific housing development.

Examination of the findings presented in chapters 4, 5, and 6, together with the recommendations found in chapter 8, should be helpful in defining appropriate intervention strategies.

Finally, implementation of the chosen intervention requires resources commensurate with the task at hand. Particularly when conditions have been allowed to deteriorate over a long period of time, these resources may be of large magnitude. This is even more obvious when one considers the interrelationships among housing aspects examined in section 7.2, which suggests that an appropriate intervention strategy will often require action in more than one domain. An example of the scale and diversity of interventions that might be required is the current "Tenant Management" experiment sponsored by HUD and by the Ford Foundation in six public housing authorities. This experiment involves expenditures of $15 million in *physical improvements* and of $5.2 million in *management and social service* interventions (Seessel, 1977).

In summary, three conditions appear to be necessary for successfully improving existing housing. First, the causes of distress must be ascertained in an objective manner that includes both the opinions of experts and the perceptions of residents and management staff. Second, intervention strategies must attack the causes of the distress, rather than the symptoms, and they must be comprehensive, thus avoiding simplistic solutions. The selection of appropriate intervention strategies can be helped by the results of studies such as the one reported here. Finally, adequate economic and manpower resources must exist so as to insure comprehensiveness of the effort and evaluation of its outcome.

7.5 Implications for New Housing

One of the potential uses of research such as that reported here is that it should make it easier to provide new housing in which the deficiencies noted in existing projects have been removed. But, what is the best way for HUD to insure that such deficiencies are avoided in new housing?

There seem to be three instruments that HUD has at its disposal for applying research results to this end: a) the process of approval of submissions, b) the Minimum Property Standards, and c) the Management Guides. No doubt modifications in these three instruments, which would result in more successful housing are possible. Some directions in which these modifications could take place are suggested by the results of our study and are summarized in chapter 8.

However, there are two reasons why, in our opinion, modifications to these instruments are limited in their ability to generate success. First, the regulatory nature of these instruments requires specificity. But research results of a generalizable nature, by reason of the very requirement of generalizability, are broad in scope and lack such a detailed specificity. For example, while it may be possible to modify Minimum Property Standards on noise transmission between dwelling units and thus achieve better aural privacy, it is not clear how standards could be modified to positively affect the residents' perceptions of pleasant appearance, which were found to be a strong predictor of overall satisfaction (see chapter 5, section 5.6).

Secondly, regulatory instruments have a tradition of relative powerlessness when it comes to influencing the actual behavior of owners, designers, and managers, from which, as the results of our study suggest, such a great proportion of the success of a development depends. In other words, professional competence and positive attitudes are difficult, if not impossible, to regulate. For instance, to what extent can one expect Management Guides to produce a cooperative attitude or fairness in applying the rules on the part of individual managers?

For these reasons, it would seem that a more effective way for HUD to use the experience of existing housing in new developments would be to embark on a continuous program of education of those involved in making policy and decisions about housing. By "education" we mean an effort at *sensitizing* individuals involved in housing to a view of residents as consumers and to the desirability of paying increased attention to the expectations and criteria of those consumers.

More specifically, HUD officials both at the central and field offices, owners (including executive and operative staff of housing authorities), planners and architects, managers and management staff should be the target of educational programs geared to publicize the experience obtained in existing housing and to bring that experience to bear on the housing policies and decisions for which those individuals are responsible.

This, of course, is not to say that there are not at present those who have reached high levels of sensitivity and understanding of the issues discussed in this report. The fact that we have found some highly successful examples of assisted housing testifies that in all these groups there are capable and competent professionals. What research indicates, however, is that such high levels of competence are not widespread. The object of the suggested educational program would be to bring everyone involved in housing up to the level of competence which is at present shared by an apparent minority.

For instance, the physical characteristics of developments discussed in Chapter 5 suggest that frequently design decisions have been made, with the participation of HUD officials, lending agencies staff, owners, and architects, which do not in any significant way reflect the needs and desires of future occupants.

It is by now a relatively well agreed upon observation that designers, by-and-large, have had to depend mostly on their own esthetic objectives and intuitive grasp of the requirements, needs, and expectations of the building users rather than on reliable and valid information obtained by some appropriately rigorous means. Gans (1975), among others, has provided a clear and succinct analysis of this phenomenon and has pointed out that peer opinion, rather than users' acceptance, is often the success criterion for the designer, simply because peer opinion plays a much greater role in the designer's status among other professionals and potential clients than any other factor.

But, added Gans, "the priority of peer opinion over user opinion is not inevitable; if private and public agencies judged the designers they hired on the basis of postoccupancy studies among the users of their previous buildings and spaces, then user evaluation would become as important as peer evaluation, and designers would henceforth be impelled to pay more attention to their eventual users" (p. xii).

The designer's attitude is important. Many architects still regard their role more as providers of original stylistic innovations than as providers of a public service. For those who hold this view, Gans' (1975) pleas for "empathy on the part of designers for their users, and with it the ability to imagine how design solutions will be lived in and with" may be made more cogent by a program of education based on *persuasive evidence,* such as that gathered by means of research.

In turn, when designers are sensitive to issues of residents' concern, their proposals seem to have been frequently thwarted by insensitive or ill-informed owners, or excessively narrow regulations. Or, excellently designed projects have become distressed by subsequent inappropriate operation of the development. For instance, in one of the least successful projects we studied, we received the following comment from a dissatisfied family:

> *When we came to see this apartment, we thought it was right out of 'Home and Gardens' (that's how beautiful it was). We waited a year for the strike to be over [in order to move in], and now cannot wait to move out."*

Sensitizing people to the expectations of the residents would, in our opinion, promote more successful housing. However, education per se would probably not be sufficient to improve the performance of new assisted housing. The necessary incentives should also be present in HUD programs so that individuals would be rewarded, rather than penalized, for their sensitivity to residents' needs and expectations.[1]

In conclusion, applying the knowledge obtained from the experience with existing housing, including the results of research in residents' satisfaction, should improve the performance of new housing. For a number of reasons discussed in this section, the potential of regulatory instruments, such as design and management standards, for fostering this desirable objective would appear to be only slight. In contrast, a consistent educational program stressing the residents' viewpoint and sensitizing all concerned to viewing the assisted housing tenants as a consumer could materially and practically affect both the level of competence of those making housing policies and decisions as well as the level of satisfaction of the people who are the target of such decisions.

Undoubtedly, an educational program would not be a "quick and easy" way of obtaining results. However, particularly if coupled with continuing support for post-occupancy research and with incentives for using its results, this approach would probably be more effective, in the long run, than the application of regulatory standards alone.

7.6 Summary

In this chapter, we have presented some caveats regarding the application of research findings and an empirical model of residents' satisfaction. In addition, we have discussed some general implications of our research findings for housing policy, for improving existing housing, and for the provision of new housing.

While definitive answers cannot be given to questions regarding the comprehensiveness of the variables in our study and the generalizability of our findings to other projects and over time, there are reasons that suggest that reasonable confidence can be placed in our findings. If the results of this and other studies are applied in an "experimental mode," that is, together with an evaluative component measuring the impact of applications, then further evidence will be built up over time.

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[1] An example of designers being penalized for their perceptions of the residents' desires is cited by Cooper (1975) in her study of Easter Hill Village, in which she related that "federal design reviewers strongly balked at the idea of private [back]yards" (p. 3).

A comprehensive interpretation of our results involved the empirical testing of a series of "models" of residents' satisfaction. The diagrammatic model which summarizes this overall interpretation shows that a high proportion of variance in residents' satisfaction is accounted for by three aspects. In order of importance, these are: satisfaction with other residents as neighbors; the pleasant appearance of dwelling units, buildings and grounds; and the perceived economic value represented by living in the development. The model also shows that a high degree of complexity and interdependence among physical and non-physical aspects of residents' satisfaction is evidenced by the data. Some of these aspects, moreover, are beyond the control of housing policies, programs, and day-to-day operations.

When the results of our research are examined in regard to their overall policy implications, a number of conclusions seem apparent. Because of the relatively high levels of satisfaction that were encountered, we can conclude that assistance programs should be continued and strengthened. Because no program of assistance appeared to clearly outperform other programs, it seems unlikely that new types of assistance programs, per se, would result in more satisfactory housing.

Our results also suggest the need for consultation with the residents and for feeding back the results of such consultations into the housing delivery and operating process. This is another reason for evaluating the impact that specific research applications may have on residents' satisfaction.

In regard to existing housing, our results suggest that intervention strategies are more likely to succeed if three conditions are met. First, the causes of distress must be ascertained objectively. Second, the intervention strategy must be geared to taking care of the causes of distress, rather than the symptoms, and should avoid simplistic attempts at solutions. Third, adequate economic and manpower resources should exist so as to insure comprehensiveness of the effort and evaluation of its outcome.

Finally, in connection with new housing, applying the results of our study and those of other researchers should result in improved performance of new housing in comparison with existing projects. Some modifications in existing design and management standards appear possible and desirable. However, it is probable that a program of education stressing the residents' viewpoint, and sensitizing all people concerned to the residents' needs and expectations, would be more effective than regulatory standards in affecting the level of competence of those involved in housing policies and decisions. In particular, the potential of an educational program would be increased if coupled with continuing support for post-occupancy evaluations and with incentives for using results of such evaluations.

Chapter 8

Summary and Recommendations

The study from which this report originates had three major goals. The first was a methodological objective: the development of valid and reliable research measures for assessing residents' satisfaction with their housing. The second objective was substantive: the evaluation of a number of projects for the purpose of identifying and measuring aspects of the residents and their neighbors, of the physical environment, and of management that influence residents' satisfaction. These first two objectives were achieved with the assistance of a $261,000 grant from the Ford Foundation.

The third objective was to make the findings of the study available to government agencies, legislators, planning and architectural firms, management firms, owners, and others involved in publicly assisted housing. This report, made possible by a contract from the U.S. Department of Housing and Urban Development, is intended to fulfill this third objective.

In chapter 1 we discuss the reasons for choosing residents' satisfaction as an evaluation criterion. These can be summarized as follows:

1. Traditionally, the point of view of the residents has not been sufficiently stressed either in research or in the formulation and evaluation of policy, and

2. A number of undesirable social and operational consequences of ignoring the residents' viewpoint have become apparent.

Of course it is necessary, particularly at the policy level, to take into account other criteria in addition to residents' satisfaction. For instance, economic soundness or political viability cannot be ignored. Nevertheless, in light of the available experience with existing housing, it seems clear that these and other desirable criteria are unlikely to be met when the residents are not satisfied with their housing.

In chapter 2 we summarize the research process. We describe the criteria for selecting 37 HUD-assisted developments, of which ten were Public Housing and twenty-seven were built under Titles 221(d)3, 221(d)4, and Section 236 of the National Housing Act. The site selection process was based primarily on the need for maximizing diversity in terms of location, date of initial occupancy, characteristics of the population, overall site design, building types and assistance programs.

The residents of these 37 developments, the management, and teams of trained observers were selected as the sources of information. Originally, we also had included the architects as a potentially interesting information source, but architects frequently had considerable difficulty in recalling the projects that were several years old and tended to respond primarily in terms of their current work. Thus, architects were not utilized as a source of information. The surrounding community was also considered to be an important information source, but our resources simply did not permit any data collection in this area. This omission should be remedied in future studies.

The variables selected for our study included measures of a number of concepts considered by other researchers to be relevant to residents' evaluation of their housing. In addition, we had informal interviews with residents and management staff in developments not included in the study sample. From these interviews, and further discussions among members of the research team and with other researchers, we selected variables in the following domains:

1. Physical characteristics of the housing development.

2. Residents' perceptions, behaviors, and socio-demographic characteristics.

3. Management's perceptions, characteristics, policies and rules.

4. Surrounding community.

Data collection was carried out by means of a battery of instruments which included: Resident Application Data Survey (RADS), Physical Attributes Recording System (PARS), Building/Unit Maintenance and Resource (BUMAR), Behavioral Observations Recording System (BORS), Landscape and Architectural Photographic Survey (LAPS), Occupant Satisfaction and Perception Survey (OSAPS), and Management Operations and Perception Survey (MOPS and MMOPS).

The data collected with these instruments were analyzed by means of analysis of variance, principal component analysis, stepwise multiple regression analysis and path analysis.

Our findings are reported in chapters 3, 4, 5, and 6. An empirically based interpretation of the interrelationships of relevant variables is provided in chapter 7.

Because our study was carefully conducted in a methodologically sound manner, a high level of confidence can be placed in these findings. However, as in any scientific research, corroboration of these results will depend, to some extent, on their being supported by findings from other studies.

For this reason, our recommendations, particularly when they run contrary to established policy or commonly held views, should be applied in an "experimental mode," i.e., together with an evaluative research component, thus permitting further testing of each recommendation.

8.1 Most residents (66 percent versus 19 percent) were satisfied with HUD-assisted housing.

This finding suggests that the overwhelming negative image of assisted housing frequently encountered in impressionistic and journalistic accounts is not deserved by these developments. Evidence from other studies supports this conclusion (Becker, 1974; Cooper, 1975). Thus indirect housing assistance (supply side, as contrasted with direct, demand type of assistance, e.g., housing allowance) appears to be a valid concept that has made satisfying housing available to those groups of the population that could not be adequately served by the open market.

Recommendation 1:

Based on the experience of Public Housing, 221(d)3, 221(d)4, and Section 236, supply-side programs should continue to be pursued as a viable means of providing housing which is satisfactory to its occupants, in addition to other assistance efforts such as housing allowance or other types of direct assistance.

8.2 When properly designed and managed, HUD-assisted housing was as satisfactory as, or more satisfactory than, housing in the open market.

As a group, fewer residents in our study were satisfied with their housing than residents in a national sample living in all types of housing (mostly unassisted). While 66 percent were satisfied in our sample, 76 percent were satisfied in the national sample (Campbell et al., 1976).

However, in a number of the 37 assisted developments we studied, the residents were more satisfied than those living in the national sample, particularly when assisted developments were perceived to represent a "better buy" than open-market housing. The perception that assisted housing was a better buy was not only a function of the availability of subsidy, but also of satisfactory physical environment and management.

Recommendation 2:

Successful design and management features of existing developments should be applied both to present and future housing in order to bring all HUD-assisted developments to the levels of satisfaction now attained in only a limited number of projects.

8.3 There were no significant differences in levels of satisfaction that were attributable to differences in assistance programs.

Even though Public Housing projects were somewhat less satisfying than privately owned assisted developments, the type of assistance program, per se, was not related to general satisfaction. This result appears to agree only partially with findings reported by the Urban Institute in their study of housing management (Sadacca, Isler, and Drury, 1971). They found that 52 percent of residents in Public Housing were satisfied, while 63 percent were satisfied in the privately owned projects. However, the Urban Institute sample included a higher proportion of cooperative housing than our study, thus notably increasing the satisfaction level in private housing, which otherwise would have ranged between 54 percent (for limited-dividend projects) and 62 percent (for non-profit developments).

A significance test of the difference between the *percentages* of satisfied residents in Public Housing and private developments showed that the difference in satisfaction was statistically significant in both the Urban Institute study and our own. However, when a similar analysis was performed on the *mean satisfaction scores* (which can be considered a more sensitive test, since it accounts for the effect of response distribution over the entire range of possible answers), we found no statistically significant differences between the Public Housing and private subsamples. No mean scores were reported in the case of the Urban Institute samples.

Recommendation 3:

HUD should concentrate on strengthening and fine-tuning existing and past programs rather than pursuing the hope that new types of assistance programs, per se, will result in greater satisfaction. However, results from other studies tend to indicate that, under certain conditions, cooperative developments may be somewhat more successful. Thus, further research involving larger co-op samples is needed.

8.4 While many interrelated aspects influenced residents' satisfaction, three major factors explained a high proportion (74 percent) of the total variance in overall satisfaction. These were: satisfaction with other residents, pleasant appearance, and economic value.

Our data corroborated the hypothesis that residents' satisfaction with housing is influenced by both physical and non-physical aspects. A model containing 16 indices pertaining to these aspects showed a high degree of complexity and interdependence among characteristics of the residents and their neighbors, of the physical environment, and of management. Within that model, the three major variables listed above directly influenced overall satisfaction.

This result supports conclusions reached by other researchers, particularly those of some recent studies. For instance, Michelson (1977), in a comprehensive study of residential satisfaction in Toronto, concluded that people's evaluation of their housing is based not only on physical characteristics but also on complex sets of criteria involving social and economic aspects (p. 359). Marans, reported in Campbell et al. (1976), also noted the interrelationship of environmental and personal characteristics in assessments of residential satisfaction.

Recommendation 4:

Simplistic approaches that concentrate on one aspect of housing to the detriment of other satisfaction-related factors should be avoided. The policies and strategies most likely to be successful are those in which the complexity and interdependence of residents' characteristics, physical environmental attributes, management factors, and economic value are taken into account. Specifically, assessments of housing quality should include not only "objective" physical measures but also perceptions of both physical and non-physical aspects.

8.5 As a whole, the residents in our sample of HUD-assisted housing were a non-homogeneous population with respect to a number of socio-demographic characteristics including income, education, values, and lifestyles. Differences in these characteristics were related to differences in satisfaction levels and in aspects predicting satisfaction. Differences in socio-demographic characteristics were perceived more accurately by tenants than by management.

These results suggest that the heterogeneity of the population in publicly assisted housing needs to be taken into account by designers and managers. This does not necessarily mean that design features or management strategies be specifically targeted to identifiable subgroups of the population. The very fact that, over time, different subgroups may occupy a housing project would make this a doubtful proposition in most instances. Rather, these results seem to indicate that there is a need for "sensitizing" both designers and managers to the fact that differences in education, values, and lifestyles do exist. Hence, a flexible attitude of responsiveness to these differences should help in making a development more successful. Specifically, if managers recognized that heterogeneity may at times cause friction among tenants, they could be better prepared to deal with a number of tenant-related issues.

Recommendation 5:

Socio-demographic differences among households in HUD-assisted housing should be brought to the attention of designers and managers. For designers, the implication of socio-demographic differences may involve greater flexibility and variety of design solutions. For managers, it should result in increased readiness to perceive tenant heterogeneity, thus making it easier to tailor management's policies and practices to the various subgroups living in a development.

8.6 The more other residents in the development were perceived to be similar to oneself, the higher the level of satisfaction with other residents and with living in that development.

Both our data and the comments from our respondents indicate that satisfaction with one's neighbors in the development was higher when other residents were perceived as having similar beliefs about right and wrong, similar childrearing ideas, similar interests, and similar education. In turn, satisfaction with one's neighbors was a significant predictor of overall satisfaction.

This result supports Cooper's (1975) finding that among residents of a low-income project in Richmond, California, those who perceived their neighbors as being in the same social groups as themselves were also the most satisfied with the project as a whole (p. 36).

A distinction must be made between the socio-demographic differences mentioned above and differences in household income. Because, in our sample, income variance by project was not high (few developments had a broad range of income levels), we could not investigate the effects of income mix on satisfaction. However, Ryan, Sloan, Seferi and Werby (1974), in a study of sixteen developments, found that income mix did not significantly contribute to either satisfaction or dissatisfaction.

Thus, research findings do not support the notion that socio-economic mix is a desirable feature of residential environments at the scale of a single development. Indeed, to the extent that such mix is perceived to result in dissimilar neighbors, it is likely to have a negative effect on overall satisfaction.

Recommendation 6:

A re-examination of policies fostering socio-economic mix should be undertaken, including further research on this aspect. Presently available findings (discussed more fully in the report) suggest that mixing households having widely different moral beliefs, lifestyles, and education should be avoided within a single development.

8.7 The perception that other residents were friendly and well-behaved was a very important component of overall satisfaction.

This finding, which is closely related to the perception of similarity with one's neighbors (summarized in 8.6 above) supports results reported by other researchers. Among others, Gans (1967), Keller (1968), Lansing and Marans (1969), Michelson (1970), Cooper (1975), and Carp (1976) found that satisfaction with one's residential environment was, above all, a function of satisfaction with one's close neighbors.

In our study, satisfaction with other residents as neighbors was closely related to similarity, friendliness and trustworthiness, the degree to which they cared for upkeep and cleanliness, the degree of privacy, lack of crowding, and protection from crime and vandals, and the degree to which management rules and performance were perceived to have an effect on these aspects. For obvious reasons, involving both the rights of individual households and the difficulties inherent in dealing with human behavior, interventions which directly affect the residents are most delicate and problematic to perform. However, it is clear that policies and practices that avoid discriminating between acceptable and unacceptable tenants' behavior are a major factor in causing dissatisfaction and project distress. Even if a development is well located, designed, and managed, it cannot survive at a satisfactory level when the habits and behavior of its tenants fall below acceptable standards. On the other hand, when residents are responsible and cooperative, overall satisfaction is higher.

In dealing with residents, it seems important to distinguish between different types of HUD programs, particularly in terms of socio-economic groups to which these programs are targeted. It may even be necessary for HUD to address anew the question of whether the characteristics of the target population in these programs are sufficiently identified. For instance, it is a well-known fact that Public Housing projects, originally designed to take care of working-class families on a temporary basis are increasingly becoming "semi-permanent communities of the dependent and vulnerable poor" (Seessel, 1977, p. 18). Clearly, if a Public Housing development is seen as "housing of last report" for these dependent households, then, for example, a policy of careful screening of applicants may not be appropriate. A resident-oriented strategy that depends on massive doses of social services together with firmness by management in enforcing behavior rules may be more successful.

It has often been argued that dependent households, such as those found in increasingly large numbers in Public Housing, inevitably bring about large numbers of "problem tenants" and that the resulting undesirable behavior is extremely difficult, if not impossible, to control. Unfortunately, little systematic research has been done in connection with these conditions. The definition of what constitutes a "problem tenant" is far from being settled.

For instance, Scobie (1975), in a study of Public Housing in Boston, used as a criterion for identifying problem tenants the manager's judgment that a tenant's activities were detrimental to the welfare or peace of mind of neighbors or management. Obviously, this criterion can only be considered a starting point toward a more rigorous and accurate reassessment of the problem-tenant syndrome. Even by this criterion, Scobie found that only 2.2 to 4.1 percent of the residents of the projects in his sample were problem tenants.

Within our sample, we found different policies and practices concerning applicants. For instance, in a number of projects credit and reference checks on new applicants were not carried out. But even when some kind of screening of new applicants existed, it was not always effective in keeping undesirable tenants from being admitted.

At the level of national policy, the implication of conditions brought about by dependent households need to be framed in the broader context of the causes of dependency and of appropriate social policy aimed at removing those causes. In this sense, publicly-assisted housing, no matter how well designed and managed, is in the same condition as public education: it is expected to be a way of curing social ills, the roots of which may be in unresolved conflicts and inequities.

Recommendation 7:

Admission and eviction policies and practices should be continuously re-examined and re-evaluated in terms of their effectiveness in fostering acceptable residents' behavior. In the case of developments targeted to dependent households, appropriate social service programs, together with firmness by management in enforcing behavior rules, appear to be needed.

8.8 Not feeling stigmatized for living in assisted housing was strongly associated with overall satisfaction, but only 15 percent of our respondents felt they were so stigmatized.

This finding confirms the popular view that it is important for residents of publicly-assisted housing to be treated with the respect and consideration that any consumer of a service would expect in the general economy. However, this result does not confirm the notion that most people in assisted housing feel they are "looked down" upon because of their living in such developments. Public Housing residents felt somewhat more stigmatized than residents in private assisted projects.

Recommendation 8:

Design features and management attitudes similar to those expected by housing consumers in the private sector should be encouraged.

8.9 The appearance of the physical environment was an important component of residents' satisfaction.

Attractive appearance was a strong predictor of overall satisfaction. It was not associated with any particular architectural style, but rather with the specific treatment of buildings, units, and grounds. Variety in shapes and materials, bright colors, good landscaping and pleasant views, a sense of elegance and newness, and the lack of an institutional look were strongly associated with pleasant appearance. Maintenance, as influenced by management's and residents' care, was also related to appearance. In the case of two very similar projects designed by the same architectural firm, satisfaction with appearance differed, suggesting the influence of resident and management variables in assessments of attractiveness.

These findings generally confirm results of other studies. In the housing literature there is a remarkable consistency concerning the importance of the attractiveness of the development and dwelling units in promoting residents' satisfaction. For instance, Reynolds and Nicholson (1972), in a study fo 50 developments in England and Wales, confirmed findings of previous surveys (carried out at the U.K. Department of the Environment) that the "overall appearance of the estate is the aspect which has most influence on tenants' satisfaction with the estate outside their dwelling" (Vol. I, p. 8). Cooper (1975) also called attention to esthetic attractiveness as one of the major factors influencing overall satisfaction.

The strength of appearance and attractiveness in predicting overall satisfaction can perhaps be best understood in relation to Becker's (1977) concept of "housing messages," which is linked to the issue of stigmatization already mentioned. In other words, the data suggest that appearance plays a crucial role because it says, both to the individual residents and to others, things about oneself, one's social status, life-style, and values. In the case of HUD-assisted housing, it may also broadcast to the residents the "official" view that society, through its institutions, holds of them.

In summary, research findings indicate that attractiveness of the physical environment should be considered as a social need and not just as an abstract esthetic concern.

Recommendation 9:

The attitudes of designers and their clients should reflect a greater concern with those visual aspects that appear to be important to the residents themselves. These attitudes are likely to be reinforced if the process by which submissions are reviewed and approved by HUD included stronger consideration of these visual attributes. Post-occupancy evaluations and in-depth assessments of innovative designs can help in uncovering such attributes.

8.10 Perceptions of spaciousness and privacy were moderately strong predictors of overall satisfaction.

Spaciousness and lack of crowding were important for our respondents, but were not purely a function of the amount of space available. Design features such as the absence of a "boxed-in" look or the presence of well-landscaped grounds helped to generate feelings of spaciousness, but these feelings were also related to the availability of privacy from neighbors and from members of one's family. Privacy, both aural and visual, was frequently not satisfactory. Perceived high noise transmission was a source of numerous complaints. There were also complaints about management staff's invasion of tenant's privacy through excessive or unscheduled inspections of dwelling units.

Recommendation 10:

More attention should be paid to matching space needs of tenants to the number and size of rooms. In terms of design, kitchens and storage rooms appear frequently to be too small. In the area of management, assignment of units that do not contain a sufficient number of rooms, particularly for families with several children, should be avoided. There is a need for improving aural and visual privacy. Sound transmission standards should be upgraded, possibly by more stringent performance specifications. Fences and screens around patios, backyards and balconies should be provided as a means of achieving visual privacy.

8.11 Location was found to be associated with overall satisfaction, but it was not a controlling factor.

There were two types of locational aspects. The first was related to the desirability of the neighborhood with regard to the kind of people living in the area immediately surrounding the development and the absence of crime. These aspects were found to be moderately strong predictors of residents' satisfaction.

The second type of locational aspect involved access to the surrounding community and to jobs, recreation, services, and friends. This type was less significant as a predictor of overall satisfaction.

These findings generally agree with those of other researchers. For instance, Burby and Weiss (1976), in their study of American new towns, emphasized that "housing and the character of the immediate neighborhood were major factors in families' decisions to move to both new and conventional communities" (p. 189), (emphasis added). Michelson (1977) reported that 14 percent of the wives interviewed in his study of residential environments in Toronto and 13 percent of the husbands gave neighborhood-related reasons for moving away from their home, while 18 percent of the wives and 20 percent of the husbands cited the same reasons for choosing a new residence.

Marans, in a study involving a national sample (reported in Campbell et al., 1976) noted that there are substantial relationships among measures of satisfaction of community, neighborhood, and housing. He suggested that these three concepts "can be thought of as nested environmental realms" (p. 249).

However, the importance of locational factors should not be construed to mean that a development cannot be successful if located in an undesirable neighborhood. Success can still be achieved as long as the undesirable locational factors are offset by a combination of well-behaved tenants, good physical environment within the development itself, and good management.

Recommendation 11:

Locational factors, particularly in regard to crime, vandalism and other socially undesirable behavior in the neighborhood immediately surrounding a development, should receive more careful attention before a decision is made to build. When undesirable neighborhood characteristics exist, design and management features will have to compensate for such undesirable conditions if a satisfactory environment is to be obtained.

8.12 Density, per se, was not a predictor of residents' satisfaction.

This finding does not agree with notions frequently encountered in the design and planning literature. For instance, Norcross (1973), in a well-known study of townhouses and condominiums, claimed a direct relationship between density and satisfaction, although he admitted that the one project with the highest density (out of 49 in his sample) was also among those which were rated highest in overall satisfaction. However, two considerations limit the confidence that can be placed in his conclusion: densities in his sample were not generally very high (the median density ranged from 6.3 to 10.5 dwelling units per acre), and his inferences were inappropriate for the level of analysis used.

Reynolds, et al. (1972), in a study of 50 developments conducted by the U.K. Department of the Environment, reported that projects at lowest densities were the most satisfactory, but that schemes in the middle densities were no more satisfactory than those in the high densities. Unfortunately, these findings were based only on an examination of correlations, an analytical method which does not address the question of whether it is density, or one of many other variables covarying with density, that accounts for the variance in overall satisfaction.

Cooper (1975) hypothesized that density, per se, is not as important a predictor of satisfaction as is density combined with a number of other variables. Our findings tend to support her hypothesis. This does not mean that density is not an important design parameter, for it is obvious that certain design aspects, such as visual and auditory privacy, become more difficult to obtain as densities increase.

Recommendation 12:

Measures of density should not be used in assessing the potential of design proposals for residents' satisfaction. Rather, specific solutions to problems of spaciousness, privacy, and related issues should be evaluated.

8.13 Smaller developments tended to be only slightly more successful.

The size of a development (in number of dwelling units) was a weak predictor of residents' satisfaction. Although the research literature contains little evidence on the issue of size, this finding confirms results reported by Reynolds et al. (1972). They identified a size of about 90 dwellings as that above which satisfaction tended to decrease. As previously noted, though, their analytic procedure does not distinguish between the influence of size and that of other aspects confounded with it.

The relative weakness of size as a predictor should serve as a caution against making undue generalizations. All that can be said is that for smaller developments certain design and management issues appear easier to deal with.

Recommendation 13:

In most instances, keeping the size of a development relatively small should make it easier to cope with factors associated with overall satisfaction.

8.14 The type of site layout was not related to residents' satisfaction.

Although certain types of site layout are believed by planners and designers to exhibit special virtues, our findings do not confirm this belief. A wide variety of site designs appeared to be acceptable as long as specific features such as good landscaping, good facilities and amenities, and the previously mentioned aspects of attractiveness, spaciousness, and privacy were present.

Recommendation 14:

In assessing the site plan of a proposed development, the type of site layout should be considered in connection with the manner in which it may solve specific problems offered by a particular site, rather than in regard to a preconceived notion of its intrinsic advantages.

8.15 There was no significant difference in general satisfaction between subsamples of residents living in high-rise and low-rise developments.

This finding contradicts widely held notions to the effect that high-rise projects are inherently less satisfactory for family living.

However, our results agree with those of two recently reported studies. Michelson (1977), in a study of housing moves and choices in the Toronto metropolitan area, found generally high levels of satisfaction in high-rise housing. Klobus-Edwards, Edwards, and Booth (1978), in a study of the relationship between housing type and quality of life, also found no evidence that high-rise living was especially debilitating to the quality of life experienced by the residents.

At the present stage of research, we must conclude that well-designed and well-managed high-rise housing can be as satisfactory as any other well-designed and well-managed building type. Indeed, in our sample the high-rise residents were more satisfied than low-rise residents with privacy from neighbors, recreation facilities and parking arrangements. We also found that aspects of privacy from neighbors, having desirable neighbors in the 2-3 block area around the development, and being secure from crime and vandalism were more important for residents of high-rises than for those living in low-rise developments.

Recommendation 15:

When high-rise housing is contemplated as a result of economic or planning conditions, it should not be rejected off-hand as inherently unsatisfactory. Rather, it should be assessed in regard to specific satisfaction-related aspects that are important for the residents.

8.16 The type and quality of the facilities and amenities provided were moderately strong predictors of residents' satisfaction.

There was a definite association between recreation, parking, and laundry facilities and assessments of pleasant appearance, good economic value and overall satisfaction with living in a development. Recreation facilities with well-equipped playgrounds and playfields, a swimming pool if at all economically feasible, good-size trees and extensive landscaping, well-located parking with enough space for residents and visitors, and well-equipped and well-maintained laundry rooms were all very much appreciated by the residents.

These findings confirm results of other researchers such as those of Becker (1974) and Cooper (1975), among others. These research results suggest that facilities and amenities are not perceived as frills, but rather as important ingredients of the quality of the residential environment.

Recommendation 16:

All efforts should be made to provide more than minimal facilities and amenities. Landscaping and recreation areas should be treated as an integral part of the necessities of a satisfying residential environment. Whenever possible, private or semi-private parking and laundry facilities should be provided. HUD policies and practices should support reasonably high levels of facilities and amenities.

8.17 Management aspects were strong predictors of residents' satisfaction.

As stressed in this report, success is not a function of any one single factor. Nevertheless, our data suggest that management plays a key role in fostering overall satisfaction. Among specific aspects highly associated with satisfaction with management were perceptions that management was respectful, friendly and cooperative, that the policies and rules were appropriate and were being fairly and equally enforced, that repairs were made promptly, that maintenance was adequate, and that there was good protection from crime and vandalism.

These results generally support findings from the Urban Institute studies of housing management, (Sadacca et al., 1971; Isler et al., 1974). There were a number of indications in our study that professional qualities, provided they occurred together with empathy for the residents, were present in successful management operations. These qualities included not only the obvious organizational, communication, and leadership skills, but also the ability to assess development conditions realistically. We found that there were often wide discrepancies between assessments by residents and managers.

Recommendation 17:

Housing authorities and other owners of assisted housing developments should place greater emphasis on tenant-oriented management practices. Management professionalization efforts, including management training and certification, should be stepped up.

8.18 A number of management policies and rules were perceived as unsatisfactory by the residents.

Policies and rules that were the source of tenants' complaints included the rules against decoration and personalization of both the inside and outside of one's dwelling, the rules about pets, the lack of strictness and enforcement of rules designed to curb noise, vandalism and other undesirable behavior, and the management's prerogative of entering dwelling units at will for maintenance or inspection purposes.

Recommendation 18:

Rules should be aimed at insuring orderly and peaceful coexistence and reasonable upkeep, not at making management's job easier. Rules should respect tenants' privacy and permit reasonable decoration and personalization by tenants. Enforcement of rules should be fair and equal.

8.19 Management's performance in providing adequate maintenance and in responding quickly and effectively to tenants' complaints was generally not satisfactory.

Only about half of our respondents were satisfied with management's response to complaints, and only 30 to 50 percent of respondents felt that a number of specific items in the development were well maintained. When one considers that management's response and maintenance performance were closely associated with satisfaction with management and that good maintenance was also related to satisfaction with the appearance of the development, improving management's performance would seem to be an effective way to increase overall residents' satisfaction.

Recommendation 19:

The delivery of management services should be improved to insure more prompt and effective response to tenants' complaints and higher maintenance levels.

8.20 Protection from crime and vandalism was inadequate.

Less than half of our respondents were satisfied with the protection they received from crime and vandalism. Although the responsibility for this protection was perceived to be shared among management, residents and police, there were numerous complaints regarding the lack of effectiveness of security systems and security guards, and the lack of screening of undesirable tenants by management.

Recommendation 20:

Security measures, including both physical environmental security and protection by guards and police, need to be applied in a more rigorous and widespread manner.

8.21 On-site resident managers were not perceived as performing better than managers living off site.

Residents frequently expressed a desire to have the manager live on site. However, our data analysis showed no relationship between having a resident manager and satisfaction with management or with living in the development.

Recommendation 21:

Having the manager live in the development should not, by itself, be considered an effective way to increase residents' satisfaction.

8.22 HUD management guides received mixed evaluation.

Although about half of the managers who answered questions about HUD management guides found them very helpful, approximately 31 percent found them not helpful or not very helpful. These results suggest that the guides may require some improvement.

Recommendation 22:

A survey of housing managers should be conducted to ascertain specific improvements that they may suggest in HUD management guides.

8.23 Rent policies were a frequent cause of complaints.

Our study was not aimed directly at testing the influence of rent policies on residents' satisfaction. However, we found many complaints about the sliding rule system of establishing rent rates, income ceilings, income declarations, etc. This is admittedly a complex area in which there have been conflicting positions. In addition, this situation is affected by the regulations of other social and financial assistance programs. But there are indications that the system could be made more efficient and fairer by streamlining the requirements, and more conducive to residents' satisfaction by not forcing the residents that become more independent from subsidies out of HUD-assisted housing.

Often tenants appeared ill-informed about reasons for rent increases and other rent-related matters. This tended to produce resentment among the residents.

Recommendation 23:

At the policy level, a re-examination of the rent system seems necessary. Such examination should attempt to simplify the system and to prevent the eviction of tenants that become more independent from subsidies. At the project level, communication about rents and rent policies between management and tenants should be improved.

In addition to the findings and recommendations summarized above, our research suggests the continuing need for consulting the residents and for feeding back the results of these consultations into the housing delivery and operating process. As previously mentioned, specific steps taken to ameliorate the shortcomings indicated by research should be implemented, together with a mechanism for evaluating the impact they may have on residents' satisfaction.

As more fully discussed in chapter 7, a program of education stressing the residents' viewpoint and sensitizing all people concerned to the residents' needs and expectations would, in our opinion, have great potential in insuring more satisfactory housing for low and moderate-income households.

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APPENDIX B: STATISTICAL TABLES

INDEX[a] OF SAFETY FROM BEING THE VICTIM OF A CRIME[b]

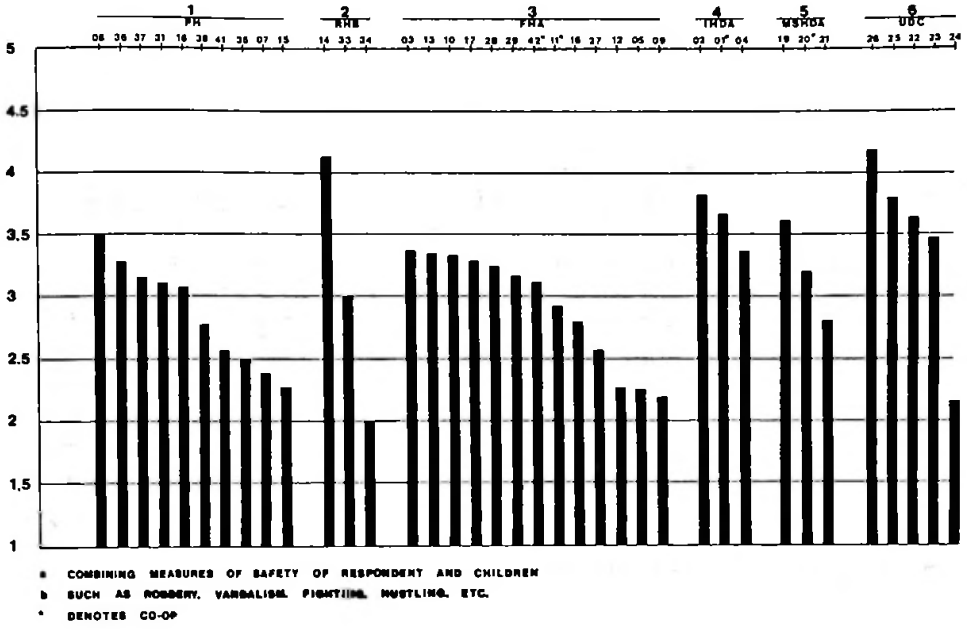

Figure B-1

MEAN SCORES ON "I FEEL THAT PEOPLE LIVING OUTSIDE THIS DEVELOPMENT LOOK DOWN ON ME BECAUSE I LIVE IN THIS HOUSING DEVELOPMENT"

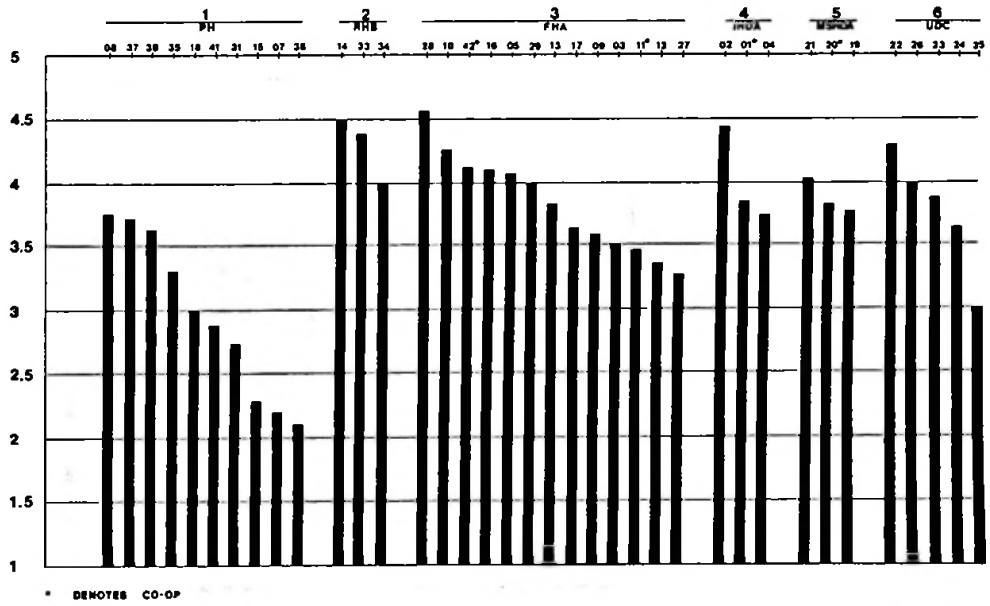

Figure B-2

MEAN SCORES ON "EVEN THOUGH THE HOUSING ITSELF IS QUITE ADEQUATE, I DO NOT LIKE LIVING HERE BECAUSE OF WHAT OTHER PEOPLE THINK ABOUT IT"

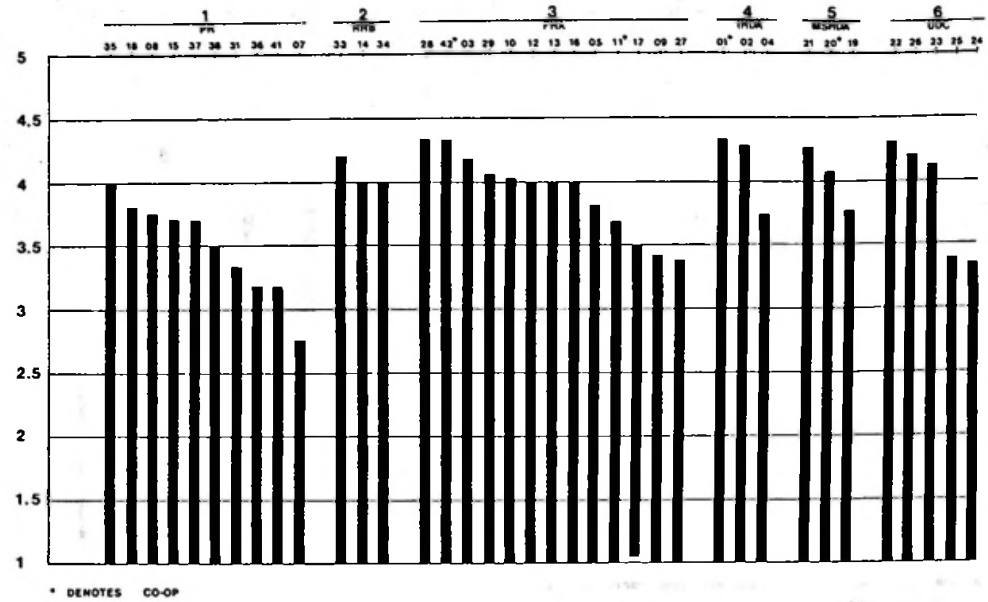

Figure B-3

INDEX OF SATISFACTION WITH FREEDOM TO MAKE CHANGES INSIDE AND OUTSIDE THE HOME BY SITES AND PROGRAMS

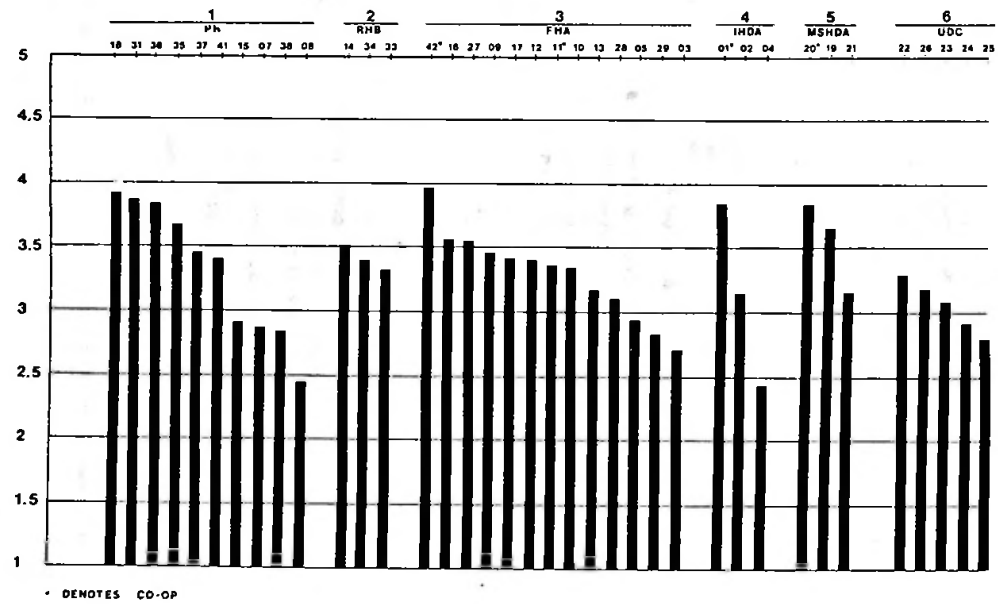

Figure B-4

COMPARISON OF MEAN SCORES ON SATISFACTION WITH MANAGEMENT RULES

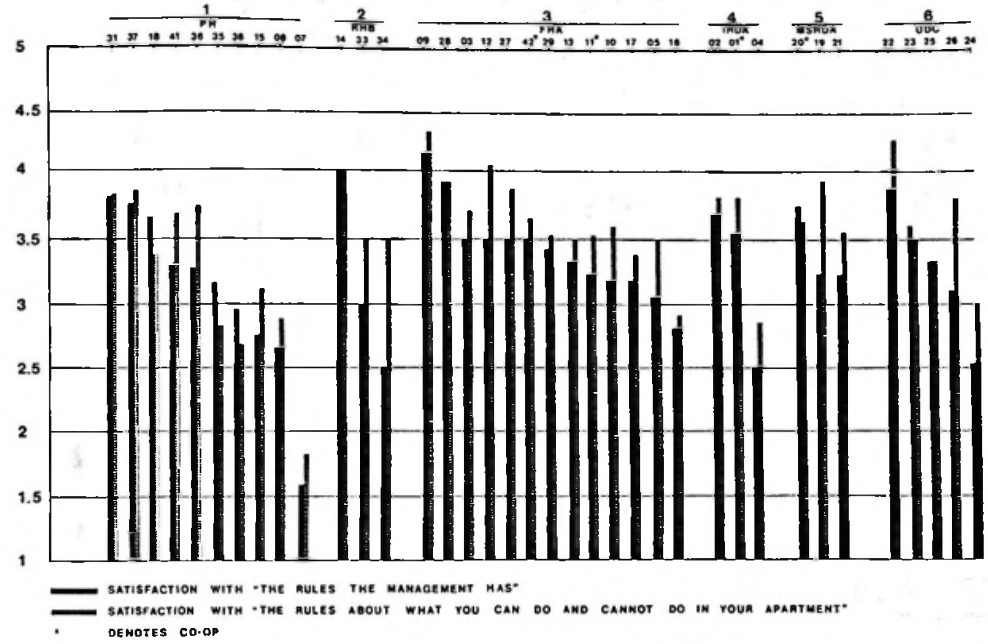

Figure B-5

MEAN SCORES ON "THE RULES ARE ENFORCED FAIRLY AND EQUALLY FOR EVERYBODY IN THIS HOUSING DEVELOPMENT"

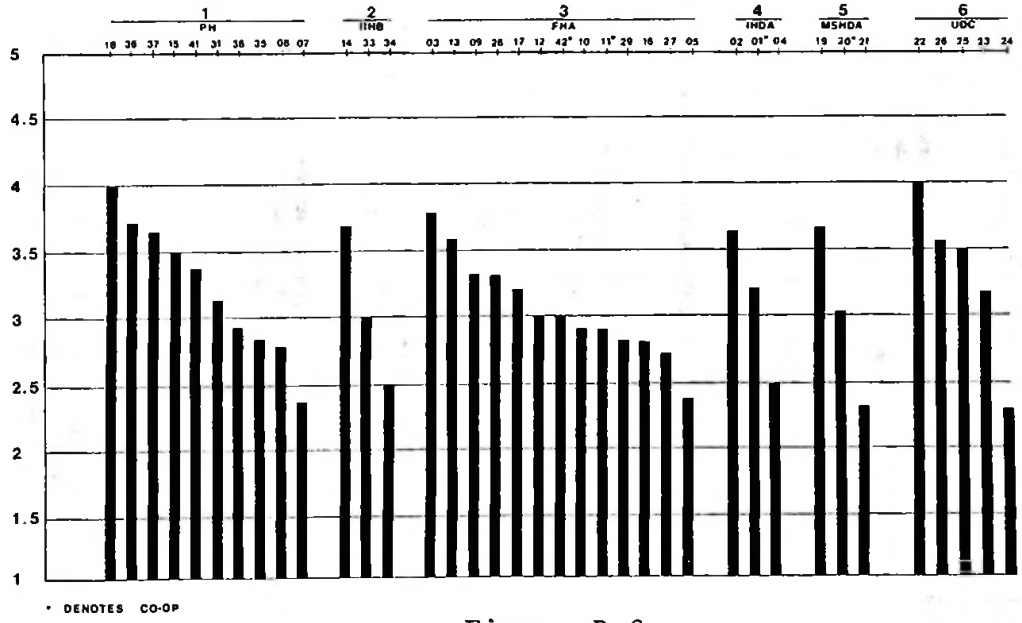

Figure B-6

COMPARISON OF MEAN SCORES ON MANAGEMENT RESPONSE

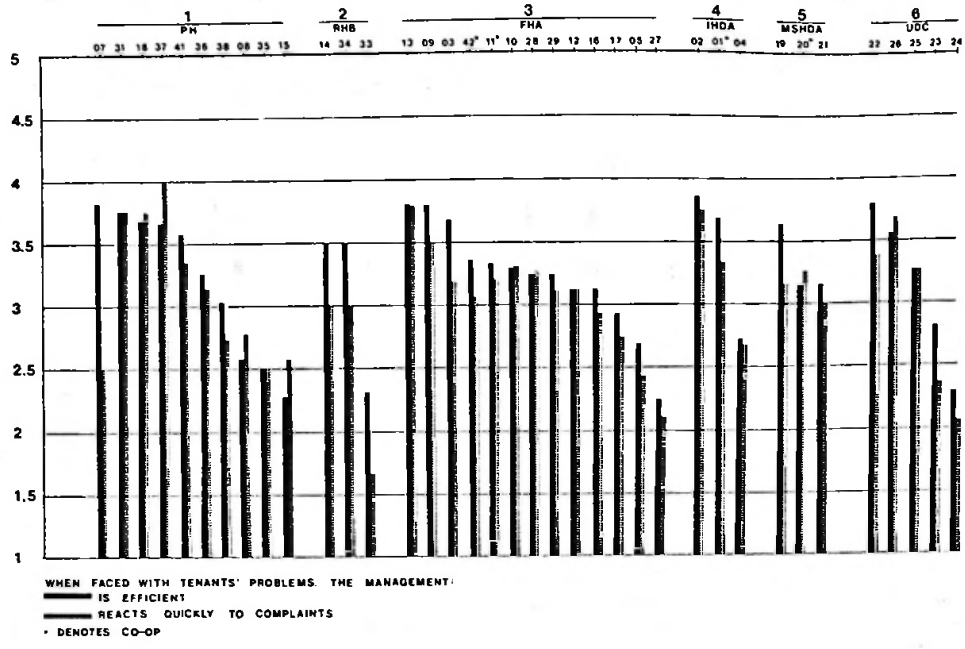

Figure B-7

INDEX OF THREE MAINTENANCE MEASURES*

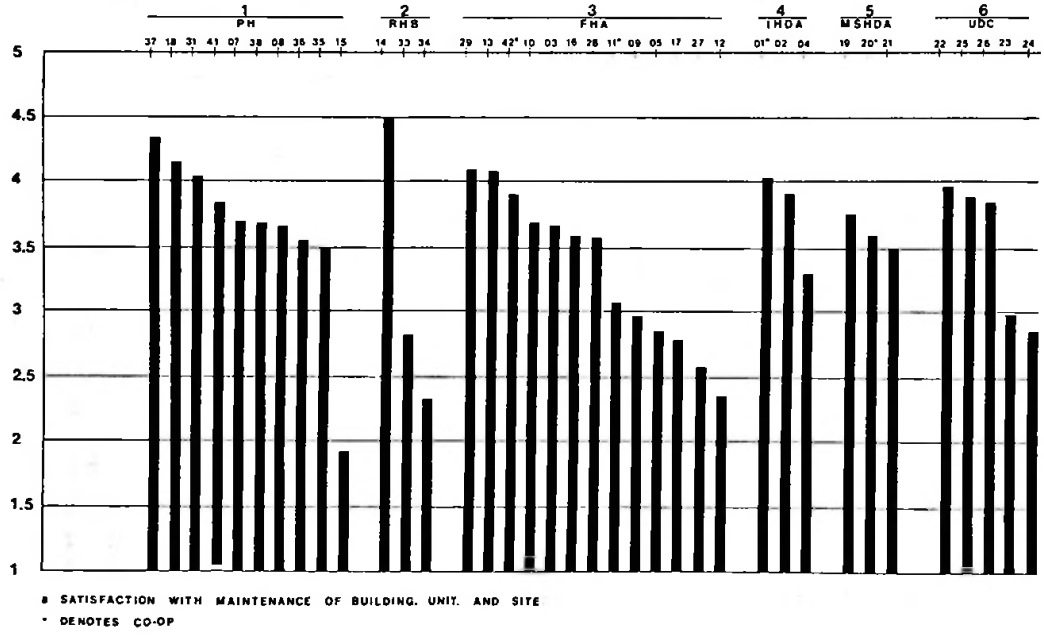

Figure B-8

INDEX OF "NORMAL AND EMERGENCY REPAIRS ARE MADE QUICKLY ENOUGH"

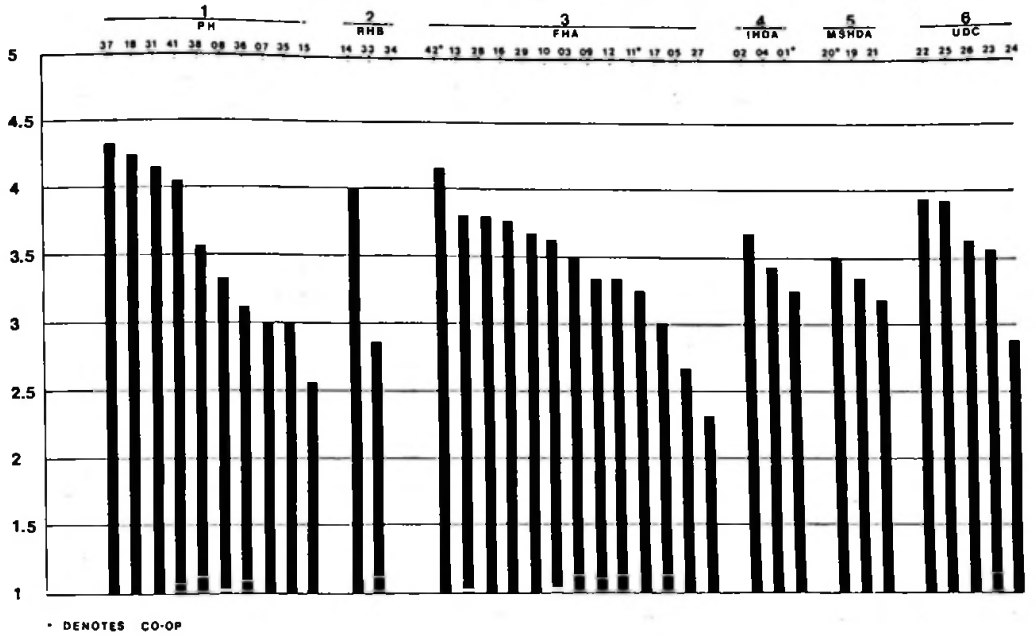

Figure B-9

INDEX OF SAFETY FROM ACCIDENTS DUE TO POOR MAINTENANCE

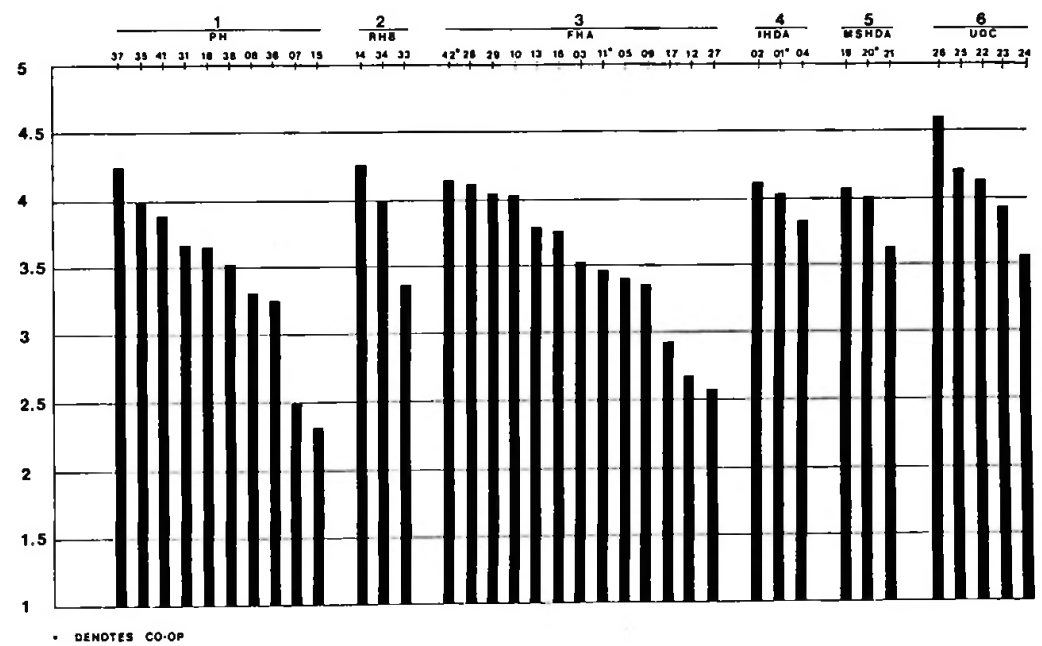

Figure B-10

MEAN SCORES ON SATISFACTION WITH "THE PROTECTION FROM CRIME AND VANDALS THAT YOU HAVE HERE"

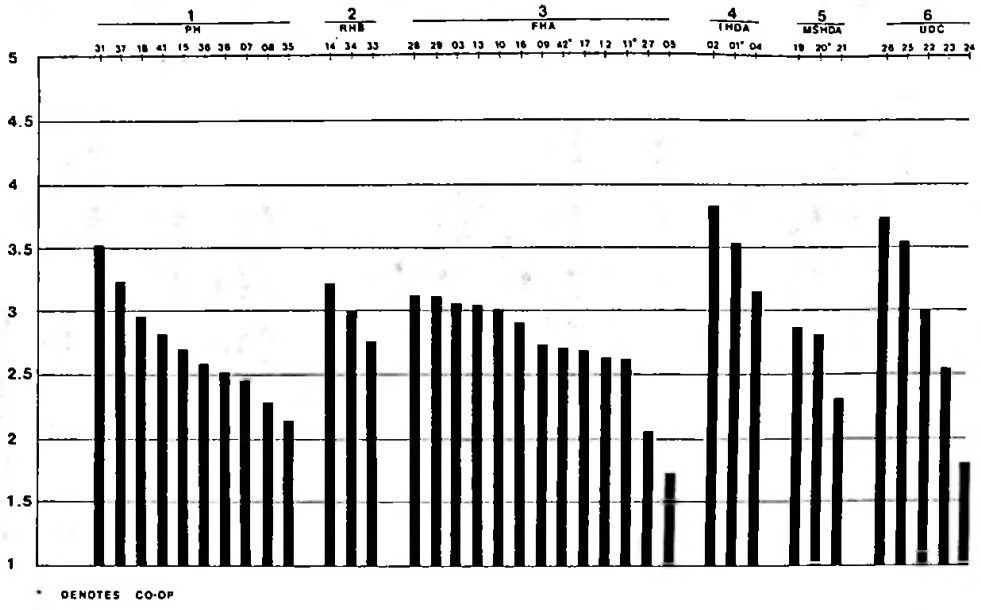

Figure B-11

Table B-1

Composition of Factors[a] that Predict Satisfaction with "Living Here"

FORM I

Management

Satisfied with management
Management cooperative and friendly with tenants' problems
Management reacts to complaints quickly
Management efficient with tenants' problems
Management available to talk to
Rules enforced fairly and equally for everybody
Satisfied with rules about what you can do in apartment
Satisfied with crime protection
Satisfied with community access
Satisfied with laundry facilities
Satisfied with appearance of grounds
For the money, this place is desirable
Satisfied with appearance of site
Satisfied with appearance of house
Satisfied with neighbors (other residents)
Management better than at last place
Management lets me fix up apartment
Satisfied with changes allowed inside
Satisfied with privacy from neighbors
Rules too strict
Satisfied with parking arrangements
Satisfied with recreation facilities
Satisfied with changes allowed outside
For the money, this place is not cramped

Comparison

Appearance of grounds better than at last place
Appearance of site better than at last place
Appearance of home better than at last place
Living here better than at last place
Other residents better than at last place
Privacy from neighbors better than at last place
Recreation facilities better than at last place
Protection from crime better than at last place

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[a]Listed in order of predicting strength. Within factors, items listed in order of loading coefficients.

Comparison (cont'd.)

Parking better than at last place
Rules better than at last place
Changes allowed outside better than at last place
Privacy from family better than at last place
Satisfied with appearance of grounds
Laundry facilities better than at last place
People outside development better than at last place
Satisfied with appearance of site
Satisfied with appearance of home
Management better than before
Changes allowed inside better than at last place
For money, more here
Satisfied with other residents
Management better than at last place
Prefer neighbors to non-neighbors
Neighbors not often rude
Satisfied with privacy from neighbors
Satisfied with recreational facilities
Satisfied with protection from crime
Satisfied with parking arrangements
Satisfied with rules
Satisfied with rules about what you can do in apartment

Life Status

Daily tasks not a painful experience
Am not usually very bored
Am not out of control of own life
Would not let others take care of my business
Success depends on ability
I have much to be proud of
Don't prefer that someone else decides for me
Prefer neighbors to non-neighbors
Life seems exciting
Haven't achieved as much as possible
Don't have trouble paying rent
Neighbors not often rude
Don't feel I am a failure
Prefer casual to close friends
For the money, this place not cramped

Expectations

Will have more satisfying job someday
Will have better neighbor relations someday
Will have more education someday
Will have higher income someday
Satisfied with appearance of site
Satisfied with appearance of home
Satisfied with appearance of grounds
Will have better housing someday

(FORM I, cont'd.)

Demographic

Years lived in town
Respondents' age
Respondents' education
Haven't achieved as much in life as possible
Months lived in this development
Will live in better housing someday
Frequency of parking lot usage
Choice in selecting this development
Length of residence, last place
Will have higher income someday
This place not as expensive as last
Choice in selecting dwelling unit
Prefer income mix here

FORM II

Neighbors

Am satisfied with most of my neighbors
Satisfied with other residents
People here are friendly
Can trust people here
Neighbors and I have similar beliefs about right and wrong
People would offer help if needed
Neighbors and I have similar housekeeping standards
Proud to call this home
Neighbors and I have similar childrearing ideas
People care about grounds/building maintenance
Satisfied with privacy from neighbors
Neighbors and I have similar interests
Satisfied with appearance of grounds
Residents better here than last place
Organization membership brings tenants together
Satisfied with appearance of development
Neighbors and I have similar education
Would trust neighbors with young child in emergency
Satisfied with outside home appearance
Development not crowded
Satisfied with management rules
Satisfied with protection from crime
Satisfied with people outside development
Satisfied with management

Comparison

Living here better than last place
Site appearance better than last place
Outside home appearance better than last place
Grounds appearance better than last place

Comparison (cont'd.)

Privacy from neighbors better than last place
Residents better here than last place
Management better than last place
Management rules better than last place
Privacy from family better than last place
Parking arrangements better than last place
Crime protection better than last place
Less crowded here than last place
Changes allowed inside home better than last place
Changes allowed outside home better than last place
Laundry facilities better than last place
People outside development better than last place
Access to community better than last place

Physical Environment

Satisfied with recreation facilities
Satisfied with laundry facilities
Satisfied with appearance of the grounds
Satisfied with protection from crime
Satisfied with appearance of the development
Satisfied with management
Satisfied with appearance of outside of home
Recreation facilities better than last place
Satisfied with parking arrangements
Satisfied with community access
Satisfied with management rules
Number of open ended-negative comments
Crime protection better than last place
Satisfied with changes allowed inside apartment
Laundry facilities better than last place

Lack of Crowding

Apartment not too small for my family
Enough play space in apartment for kids
Enough room in apartment to "get away" from others
Satisfied with privacy from family
Less crowded here than last place
Privacy from family better than last place
This development not crowded
Development not too small for number living here

Demographic

Years lived in this town
Many friends living out of town
Visit friends out of town frequently

Demographic (cont'd.)

Respondent's education level
Sex of respondent
Size of childhood town

Participation in Organizations

I participate in tenant union
I participate in social club
I participate in day care
I participate in car pool
I participate in babysitting pool

FORM III

Neighbors

People outside development don't "look down" on me because of living here
People outside development don't "look down" on it
Satisfied with privacy from neighbors
Housing development is serene
Neighborhood around development is pleasant
Satisfied with residents
Am safe from crime in this development
Others regard residents as hardworking people
Satisfied with crime protection
Housing development not too big
Children are safe from crime
Family as safe here as anyplace we might live
Noise from other units/outside building not easily heard
Housing development is spacious
I think hardworking people live in this development
Satisfied with people outside the development
Others think this development for rich people
Satisfied with privacy from family
Residents here better than last place
Housing development is safe
Children safe from accidents due to junk, poor construction

Maintenance

Satisfied with building maintenance
Satisfied with unit maintenance
Satisfied with window maintenance
Emergency repairs are made quickly
Satisfied with site maintenance
Normal repairs are made quickly
Outdoor paint maintenance
Indoor paint maintenance
Sidewalk maintenance
Satisfied with management
Parking lot maintenance

Maintenance (cont'd.)

Am safe from poor construction
Grass, shrub, tree maintenance
Am safe from accidents due to poor maintenance
Carpet maintenance
Children safe from accidents due to poor maintenance
Playground equipment maintenance
Housing development safe
Housing development sturdy
Satisfied with appearance of grounds
Storage maintenance
No problem with bugs
Satisfied with rules
Am safe from crime
Laundry maintenance
Housing development elegant
Garbage maintenance
Satisfied with crime protection
Family safe here as anywhere
Management better here than last place
Safe from poor construction
Pleasant outside building

Appearance

Attractive building color
Attractive building material
Pleasant outside building
Housing development colorful
Housing development beautiful
Attractive building generally
Satisfied with appearance of site
Satisfied with appearance of outside of home
Doesn't look like military housing
Pleasant landscaping
View from unit pleasing
My apartment is pleasant
Housing development is new
Buildings here do not all look alike
Housing development is elegant
Satisfied with appearance of grounds
Site appearance better than last place

Comparison

Grounds appearance better than last place
Living here is better than last place
Outside home appearance is better than last place
Site appearance better than last place
Privacy from neighbors better than last place
Privacy from family better than last place

Comparison (cont'd.)

Changes allowed outside home better than last place
Changes allowed inside home better than last place
Residents better than last place
Crime protection better than last place
Parking arrangements better than last place
Management rules better than last place
Laundry facilities better than last place
Recreation facilities better than last place
Management better than last place
People outside development better than last place

Parking

Satisfied with parking
Parking lots are pleasant
Parking better here than last place
People outside development better than last place
Parking lots well maintained

Recreation

Suitable recreation for toddlers
Suitable recreation for children
Suitable recreation for adults
Satisfied with recreation facilities
Pleasant play areas
Enough benches and picnic tables around
Recreation facilities better here than last place
Satisfied with changes allowed

Laundry

Laundry areas well maintained
Laundry areas comfortable
Laundry facilities satisfactory
Satisfied with laundry facilities
Laundry maintenance, well kept
Laundry facilities better here than last place

Time on Site

Hours/day spent inside home
Hours/day spent on site
Swimming pool well maintained
Frequency of property destruction by juvenile gangs

Demographic

Years lived in this town
Respondent's education level
Months lived in this development
Respondent's age
Choice in selecting development
Housing development is new
Lived in last home "long time"
Times/week drive out of parking lot
Apartment wall colors are attractive
Minutes travel time to doctor
Minutes travel time to church
Management charges for repair