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# SOCIAL AND PSYCHOLOGICAL ASPECTS OF HOUSING,
## A Review of the Literature

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### INTRODUCTION

The emerging field of environmental psychology is now beginning to attract a great deal of interest. Also known as architectural psychology, and ecological psychology, it is particularly exciting and interesting because of the multi-disciplinary nature of the research. One of the first reviews of this area appeared in 1970 (100). Kenneth Craik presented an excellent overview of research efforts in the field of environmental psychology in 1973 (21).

Psychological and sociological aspects of housing can be considered a segment of the larger field of environmental psychology. There is already a substantial body of published materials in this area of housing. Of the presently available bibliographies, of special value is the one by Sanoff (81) and one by Canter (12) which appeared in the Exchange Bibliography series. The present review attempts the rather immodest goal of synthesizing and summarizing the current state of research in this area, in addition to supplementing the two aforesaid biblio-graphies. The emphasis is on books and articles published since 1960. Because there is already a voluminous amount of literature, this review does not attempt to be comprehensive. Materials included are those which are considered to be illustrative of particular approaches or methods, and which are indicative of trends in research. Needless to say, the selections reflect the biases of the reviewer.

### SOME RECENT HISTORY

There seems to be an impression that in "simpler" cultures, there is a coherance between the form of housing and the pattern of social life. The igloo is used as an example of the fusion between a physical form which reflects the constraints of the environment, and the life of the inhabitants (2). This congruence is somehow lost in more technological societies where there appears to be no relationship between those who design buildings and those who occupy buildings (54). Designers seem to be fashioning forms for contexts and forces which they no longer understand.

This century has seen the emergence of public and private mass housing programs. Housing activity was particularly pronounced after the second World War. The types of housing which were provided reflected the architectural thinking of the day, which was primarily functionalism. Louis Sullivan's form follows function school of architecture resulted in housing designed for the masses without concurrent social considerations about the mass client. One of the major influences in 20th century architecture, Walter Gropius, stated in 1924 "The majority of citizens of a specific country have similar dwelling and living requirements; it is therefore hard to understand why the dwellings we build should not show a similar unification as, say, our clothes, shoes or automobiles (69, p. 83). Functionalism, combined with technology, and the housing shortage subsequent to World War II, resulted in the development of large scale monotonous housing developments.

Although housing was technically adequate, it was socially inadequate. Architects began to see the implications of Gropius' thinking. Instead of open ended design, housing was being designed for a generalized type who existed only in the minds of architects (75). In one of the earlier articles on this subject, Chapin found the state of knowledge about the relationship between housing and man to be primitive. He found a lack of systematic research on psychological responses to housing, or relationships of factors such as privacy, light, and noise, to attitudes and emotional states. He argued for research on housing that would look at the complex of housing influences as a whole (15).

Festinger, another early writer on this subject, felt that there was a lack of cooperation between the architect, builder, and social scientist. He urged livability studies that actually attempt to discover what people do in their houses and the development of improved research techniques (27).

In the 1960's increasing emphasis began to be paid to the social, psychological aspects of housing. Housing was seen not only as a backdrop for activities, but also as part of the ecological environment which could shape behavior. Variant forms of housing would have variant kinds of social and psychological impact. The physical form allowed certain types of behavior. This belief, in combination with the liberal ethic, resulted in public housing programs which viewed the aim of housing as more than the construction of housing units for shelter. The ultimate aim of public housing was improvement of the physical, social, and psychological well-being of the citizens (96). Housing was seen as an instrument of social policy. It could be used to eliminate social insecurity for the poor and it would allow them to improve their circumstances (82). It could be used to strengthen family life and to achieve personal dignity (92).

In order to achieve these desired social consequences, there
was a need to discover the social and psychological determinants
in housing design.  Is there an optimal housing environment that
would enable human beings to reach their full potential? What
kinds of housing would facilitate development? (7).  This
extension of functionalism questioned in a more scientific
fashion the functions which were to be accommodated by housing.
Perhaps functionalism should mean more than just manifest
function.  It should also consider those latent functions, such
as desired psychological and social states (6).

Although the problem called for an interdisciplinary approach,
the direction taken by researchers reflected their backgrounds and
training.  Architects tended to focus on research that tried to
create a taxonomy of environmental factors.  They used slides,
and pictorial representations to determine the impact of forms
on laymen.  Psychologists tended to consider mental and emotional
needs that the housing environment could attempt to meet and the
impact of housing on mental health.  Sociologists engaged in
surveys and field studies.  They urged a holistic approach to
the study of housing which would examine it as an integral part
of social life (18).  They hoped to clarify the relationship
between man's biological and social needs and design, in order
to develop an optimal environment (34).

On the other hand, there were those who believed in the
adaptability of man and denied that physical features had much
impact on behavior.  Gans believes that ways of life are
determined principally by economic and social conditions, and
not by architectural schemes (30).


## IN SEARCH OF PARADIGMS

Traditional housing research consisted primarily of case
studies of public housing projects.  These were evaluative and
attempted to gauge the impact of public housing on physical, and
sometimes, mental health.

In the last ten years, there has been interest in developing
new research paradigms in order to meet the need for research
into social and psychological correlates of varying housing
environments.  Many advocate a holistic approach that considers
the total "behavioral environment" (72).  This means considering
the total pattern of the basic dimensions of the phsycial environ-
ment, and not discrete physical stimuli.  In addition, they
urge that the problem be approached phenomenologically, in terms
of the environment as experienced.

Some psychologists are also opposed to correlating fragmented responses to equally discrete stimuli and urge that behavior be considered a molar event involving actors in a broad contextual setting (87). This would entail getting at the meaning of the situation and the responses to the motivational properties of the external stimulus pattern. The elicited behavior would depend on what the person perceives to be relevant and also on his need to respond appropriately.

Most researchers find the holistic approach to be unmanageable. One method which has managed to retain the holistic approach while limiting the context was developed by Barker (3). Environment/ behavior interaction is studied in terms of ecological units or behavior settings. These ecological units are defined by the following criteria: they are self-generated, they have a time-space locus, and they have an unbroken boundary separating an internal pattern from an external pattern. He believes that these are natural units of the phenomena under study and that knowledge of the ecological context is essential in order to understand behavior stream and what actually happens at momentary intersections between the individual and the ecological environment. Research has shown that the same behavior is evidenced by different children in a given behavior setting, and the same children exhibit different behavior in different settings. This leads to the belief that the settings in which behaviors occur are coercive. Since the focus is on observable behavior rather than experience, and since behavior in given settings show consistency over time, this avoids the problem that there are as many environments as there are people to experience them. It relates physical factors in the environment, such as facilities and space, to behavioral factors, such as activities, and attempts to determine the "synomorphy" or fit between milieu and behavior (36).

Another way of limiting the problem is to consider environmental factors only. Since, according to architectural determinism, the form determines the behavior, it then follows that it should be possible to identify those physical aspects of housing which condition emotional and mental health (16). Loring suggests the following cluster of physical determinants: living space, public or private space, neighborhood circulation patterns, indoor and outdoor common areas, physical diversity, distance, and presence of hidden places (55). Michelson uses a different set of housing characteristics in his survey, such as, housing type, private or shared open space, access to community facilities, and tenure (59). If these factors are systematically studied, then designers would know which variations in physical form would cause resulting variations in behavior. Since the above variables cannot be easily varied in real life situations, researchers have devised pictorial representations of buildings, such as photographs (60), diagrams (25), displays and media presentations (20), and slides (11). These have been administered in conjunction with verbal instruments, such as, semantic differential scales, questionnaires on likes and preferences, value orientation scales, and attitudinal responses to the representatives. All of these attempt to develop a taxonomy of environmental stimuli and use subjective scaling methods to determine the dimensions of the stimuli (101).

The counterpart to the environmental approach is one that considers the human being as the independent variable. It recognizes that the individual is not a passive instrument and that external stimuli are mediated, structured, filtered, and otherwise organized in an individual fashion. Human beings have biological and non-biological requirements which have to be accommodated. This approach involves a description of the system of human requirements and asks that the requisite behavioral system be defined first, before specifying the environmental system (89). Ittelson recommends a technique of behavioral mapping for studying the relationship between environment and behavior. The behavior/environment interface may be viewed as a dynamic system in which reinforcements are contingent on certain behaviors. In this system, the kinds of behaviors to be studied are first determined. Behaviors are then classified into categories and observable categories of behavior are recorded. These then provide quantitative descriptions of the distribution of varying behaviors in various locations which can be used for comparative purposes and for the development of general principles on the uses of space (49).

At the present time, housing research, other than the traditional case study, is still at a paradigmatic stage. There is a lack of definition or agreement on focus. Thus, there is no commonly accepted research paradigm and little replicated research. The following sections will examine some of the varieties of actual research which have been done.

## THE TRADITIONAL CASE STUDY

Most of the early studies postulated a relationship between housing quality and health. There was general agreement that high morbidity rates were related to poor living conditions (32). This was particularly true for respiratory diseases. Later studies attempted to determine if there was a relationship between housing and mental health. In these studies, generally, two matched populations which differed only in their housing were followed over time. However, it was difficult to filter out, from housing type, the effects of other contributing factors, such as poverty, culture, and educational level. In a review of forty studies on the relationship between housing and health, Wilner found that 26 studies showed a positive relationship, 11 were ambiguous, and 3 were negative (99).

Government intervention into public housing gave impetus to a large number of studies which evaluated and, at first, justified public housing. The general supposition was that slum housing inhibited the development of wholesome family relationships and citizenship. It restrained the aspirations of families and was generally deleterious. Wilner reported that test families showed substantial gain in satisfaction and improved psychological state after being moved from a slum into a public housing project (98). Housing was also seen as an instrument of development which could result in positive labor productivity relationships (8).

Subsequent studies were not as rosy. At best, studies found
no difference between populations in public housing estates and a
comparable population in an older settled area (41). At worst,
it found that highrise public housing was unsatisfactory and
socially harmful for large families. Greater attention needed to
be paid to the design of these estates and to the population to
be housed (31).

Many case studies were conducted in Great Britain. They
suggested that housing facilities were creating problems of their
own, such as, high morbidity, accident rates, and feelings of
isolation (37). The Central Housing and Advisory Committee was
appointed in Great Britain to examine the social needs and
problems of families living in large blocks of flats. After a
series of surveys, the Committee issued standards and a list of
recommendations for the design of housing estates (33).

The most detailed study in this area was a six year long-
itudinal study of 1,000 families in the Baltimore area. A slum
population was compared to a population living in a housing
development in terms of quality of housing, health, and social-
psychological factors, such as attitudes to community, social
self-concept, aspirations, life style, and school performance.
Although the findings showed directional trends which confirmed
expectations that the population in the housing development would
show more positive results, they were inconclusive (99).

The most disastrous public housing project was the Pruitt-
Igoe Neighborhood Corp. in St. Louis. It condensed into one 57
acres tract all of the problems generally associated with race,
poverty, and the worst housing conditions. The design of
Pruitt-Igoe did not provide for semi-public space and facilities
around which social networks could develop. Instead, the design
had an atomizing effect. It has been pointed out that these
networks are vital devices for coping in the lower classes. In
its absence, members are not integrated into a protective social
system, and they view the environment as threatening (103). Many
children were kept almost prisoners for years because of parental
fears. Behavioral strategies of occupants were those of survival
and represented an adaptation to a harsh and punishing milieu.
Dr. Rainwater notes that if a comparable amount of money had been
given as subsidy, the tenants could have found more satisfactory
accommodations elsewhere (94).

A comparable project was the 23 January housing project in
Caracas. This consisted of 104 highrise buildings totaling 9649
units. Not only did the housing not fulfill expectations, it
became the problem rather than the solution. Occupants were rural
peasants who were totally unprepared for highrise living. Social
disorganization resulted and tenants left the project to return to
slums as quickly as they could (93).

Not only were there problems with the housing developments themselves, there were problems associated with dislocations and relocation. The dislocated were primarily lower, working class people who have a sense of spatial identity which is tied to a specific locality, and who value stability. To them, the neighborhood is of prime importance as it represents security and home territory (28). Little support has been found for the idea that social pathology is decreased by slum clearance (29).

## THE IMPACT OF DESIGN

Many articles discuss the effects of highrise housing. Highrises are generally less flexible, more restrictive in function, and have less amenities than single family homes (9). In one case, it was found that highrises resulted in kinetic deprivation of children, poor socialization, and anomie (14). Interviews with mothers reported the loneliness and general unhappiness of those with children (66). Fanning substantiated these findings in a comparison of the general morbidity of families living in flats compared to those in homes. He found three times as many psychoneurotic disorders in women living in flats, and striking contrasts in the degree of communication between those in flats and those in houses (26).

On the other hand, a series of extensive studies undertaken by the British Ministry of Housing's Sociological Research Station found no difference in satisfaction between those living in highrises and lowrises. They sampled 1,334 housewives and husbands in six housing estates throughout Britain. However, mothers with children expressed dissatisfaction with lifts, and there were differences in the play habits of children. Very tall buildings of over 20 stories were generally regarded less favorably. Expressed unhappiness was generally associated with existing sociopsychological predispositions rather than the type of housing (77).

These findings were substantiated by a study in Melbourne, which showed that, with the exception of families with children, those living in highrises were satisfied with their dwelling. It was agreed that more care should be given to the design of highrises since the concept itself embodies more restraints (88). Some of the major problems are separation from the ground, the loss of identity given the pigeon-hole type of design, and the lack of privacy (95).

Oscar Newman points out that the surveillance properties of highrises are crucial design factors in public housing. Residential settlements should be so structured that they can be controlled by the inhabitants. The essential ingredients are territorial definition, and surveillance properties. These allow the area to be defensible, thus reducing crime. He notes that although density is not a controlling factor, it is more costly to make high density areas safe (67). Again, this has particular relevance to the lower classes where there are many real threats of violence. They want the home to be a controlled, safe place (74).

Related studies have shown that the physical orientation of buildings is related to the degree of social interaction (44). Variations in internal architecture are also related to social interaction among occupants. In a comparison of partitioned military barracks with unpartitioned barracks, it was found that in the former, social relations increased significantly with others in the same cubicle, and were reduced with those located in different cubicles. There was more intensive small group interaction and it was more difficult for outsiders to intrude or to participate (5).

Although architectural design may not control behavior, it serves as the context for behavior and influences it. The identification of those aspects of physical design which have either positive or negative impacts have particular significance for the design of hospitals and psychiatric facilities. It is possible that building design could have therapeutic qualities. Much of the work in this area has been done by Osmond Humphrey. He conceptualizes buildings as being "sociopetal" or engendering social relationships, or "sociofugal", reducing the extent of social relationships. Each quality would be appropriate for different buildings, thus a railway station should be sociofugal in design. He believes that homes should be "anthropophilic" or fostering human relationships (48).

## SPACE AND TERRITORIALTY

Hall's concepts of different types of space have relevance for the design of buildings. He notes that buildings often show a lack of congruence between design elements and activities to be performed. Space requirements vary according to a number of factors, including cultural background (39). He believes that there are optimal space conditions, and either too much or too little space is equally detrimental for children. The organization of space in varying ways represents design elements and has varying effects on behavior. A complex organization would result in diversion, excitement and induced movement, whereas a confined space would facilitate relaxation (40).

The concept of personal space has additional implications for the study of crowding. Sommer has extended the idea of personal space and makes a distinction between personal space, which a person carries around with him, and territoriality, which is stationary and visible (84). Territoriality implies control of a specific area (83). Territories are further categorized as public territories, home territory, interactional territories, and body territories. Various types of territorial encroachment, such as violation, invasion, and contamination, result in behaviors such as turf defense and insulation (56).

DENSITY

A discussion of the relationship of density to housing
would merit a review by itself. Therefore, it can only be
briefly noted here. Recent bibliographies on residential density
demonstrate that there is an abundant literature on the subject
(76, 47). In spite of the abundance of literature, there are
almost no conclusive findings on the relationship between density
and psychological states. Researchers distinguish between density
and congestion, or activity crowding, which consists of simult-
aneous demand for use of limited resources (63). Other researchers
indicate that overcrowding per room is more significant than
density per acre (58). Although no specific psychological
responses have been related to density, crowding, or congestion,
Keyfitz points out that the inevitable effect of density is a
decrease in individual freedom since people have to regulate
their activities to those of others. It requires a degree of
self-discipline, and an etiquette of non-interference with one's
neighbors (51).

In addition to density, other factors may be viewed as
"stressors." Elements of the spatial environment need to be
analyzed to identify their stress producing potential. These
may include the size of the dwelling, facilities, and the
neighborhood (19).


PRIVACY

Complaints about high density are often correlated with
complaints about the lack of privacy, both visual and aural. As
with other housing factors, no specific privacy requirements
have been determined. Not only do differences in visual privacy
requirements vary according to room function, but also according
to the personality of the occupant. Interestingly enough, in
one study, those considered extroverts on Eysenck's Personality
Inventory had higher privacy requirements than introverts (45).

Obviously, the siting and design of buildings, particularly
highrises, have critical effects on the availability of privacy.
Those with interior corridors seem to provide the most privacy
and least occupant contact (73). Often, siting which is planned
for one purpose, has unplanned for side effects. In one
residential development in England, homes were staggered in a
way that was intended to create an interesting visual design.
This resulted in a total lack of privacy, which in turn affected
neighbor relationships (52). Siting is believed to have an
impact on social life and organization through its effects on
the communication network (38).

Privacy has been given varying degrees of importance.
Chermayeff believes that the experience of privacy is essential
for the health and sanity of society and is the critical factor
in dwellings. He urges that urban structures be developed to
provide for all degrees of privacy (17).

## AESTHETICS

Although impossible to define, aesthetics, or the general appearance of buildings, has been found to be related to satisfaction. Satisfaction with various housing estates was found to be correlated with whether the development was considered to be attractive (77). Attempts have been made to isolate some aesthetic criteria which are instrumental in providing a satisfying residential environment. In one study, visual presentations were made of a number of housing structures. These varied in terms of the degree of visual complexity, perceived cost, and perceived privacy. Subjects chose those homes which they thought looked the most expensive (22).

The complete lack of aesthetic considerations in institutional settings such as prisons, with their drab, monotonous and sterile appearance, suggest affective consequences (1). Again, these are examples of design decisions which are made with total disregard of the population served. Researchers have demonstrated that the presence or absence of amenities and a visually satisfying environment has behavioral effects. Subjects were placed in "beautiful" and "ugly" rooms. In the ugly rooms, subjects had reactions, such as monotony, fatigue, headaches, irritability, and hostility. In the beautiful room, subjects had feelings of comfort, pleasure, enjoyment, importance, and energy (62). Researchers have also found that embellished, pleasant rooms are more conducive to mental tasks, such as retention (91).

## THE INDIVIDUAL

Most of the foregoing research considers the impact of the external environment on behavior. However, the environment is structured according to moods and tensions in the individual. Different attitudes and psychological states result in differential perceptions and experiences of the external environment. The individual is not a passive reactor, but brings to the situation a variety of cognitive factors which mediate the impact of the environment. Perception of the environment is, to a large extent, conditioned by expectancies built up by the individual with regard to constraints to which he has become habituated (50).

Housing satisfaction in slum areas is not determined by the objective physical quality of the dwelling, but by the entire living pattern, and the total living situation. Residential satisfaction in the West End of Boston was found to be related to attachment to the neighborhood. People who had contact with their neighbors, and who experienced social and personal satisfaction with the local area, were satisfied, regardless of the condition of their dwellings (42). Housing serves different purposes. Thus, to the lower classes, a house is seen  as a

haven and a retreat from real external threats (74). In addition to socio-economic status, variations in response to housing are related to factors such as life style, stages in life cycle, prior experience, and sex (61). Whether one is a native or non-native will also have an effect on one's perceptions and responses to the environment (86). There is a need for research on behavioral responses to actual surroundings and studies of mental and emotional needs that design should try to meet (68).

It seems clear that housing serves different functions for different groups. However, the lack of definition or clarity about the "meaning" of housing has resulted in a sparsity of research in this area. In addition, if one could determine what types of psychological and social meanings the user wants housing to have, is it possible for the designer to translate this meaning into a physical structure which would then convey the same meaning? Some interesting work has been done to determine if buildings constitute a "code" which communicates the architect's intention to the user. If architects attempt to communicate to users through buildings, then for there to be a fidelity of communication, both groups should perceive similar representations of buildings in a similar fashion. Semantic differential scales have been used to measure these qualities of buildings (102). In one study, architects agreed with one another as to the novelty, potency, and pleasantness of a building. However, there was little agreement between the architect and the user (43). It appears that meaning may be in the form, either intrinsically, or conferred through custom and culture, and it is also given to the form by the viewer.

CONCLUSION

The housing "problem" as perceived by most writers, is a lack of fit between the housing delivery system and the user. The process of depersonalization which is prevalent in our society, is present in the housing delivery system. At the present time, only the rich can afford personalized housing that takes into consideration the relationship between housing form and the requirements of the occupants. Although totally personalized housing is not possible, there is a need for behavioral input into housing design so that the housing delivery system can be more responsive to varying requirements of the user population (59).

The housing delivery system is part of a larger social, political and economic system. It is tied in with a national housing policy. In spite of the lack of knowledge about the relationship between people and housing, governmental programs continue to be implemented. Our national housing policy is based almost entirely on the number of housing units produced per year. Housing statistics are inadequate as clues to the nature and extent of the housing "problem." Current housing

statistics are in terms of the number of units, vacancy rates, tenure, and substandard housing. These serve primarily the construction and lending industries, and federal agencies. They do not give any meaningful measurement of housing quality or satisfaction. Pruitt-Igoe came out beautifully in statistics.

For 20 years, New York City concentrated on construction and rehabilitation since it viewed the "problem" as one of shortages. During this time, the quality of New York's residential environment continued its decline. Today, the present Chief Housing Economist with the State's Urban Development Corporation dismisses the concept of shortages as constituting the problem. According to Marcuse, "Sophisticated commentators are more and more conceding the inadequacy of the available measures to reveal those factors crucial for the development of policy in housing" (57). Both Marcuse and Perloff urge the development of adequate social indicators as policy tools which can measure the "quality of life" (70). Just as present day economic indicators serve as tools for monitoring business cycle changes to be used in governmental and private decision making, social indicators would allow private and public agencies to evaluate the effectiveness of housing policy.

Marcuse lists a number of criteria for such indicators: they must be mutually exclusive, complete, and aggregatable; they must be based on readily available information; they must be readily understandable; they must be separable into geographically localized components; they must be sensitive to the specific effects of public actions; they should reveal the differential effects of given trends on different groups within the population; they should indicate the intensity of short falls from social goals; and they should indicate when major spillovers are likely to occur.

He suggests a policy matrix for housing indicators which would include inputs, groups affected, and outputs. The inputs would include the physical, service, and socio-economic characteristics of the dwelling unit and residential environment. The ouputs must have the ability to measure the end result of actions and allow for community feedback. Among the outputs of housing could be indicators, such as satisfaction, livability, and comfort. Such outputs must be in terms of the perceptions of the different groups involved. What is important will vary with the perceptions of the different populations. Housing may be physically above standard, but it is only better if the residents perceive it as being better.

A few studies have tried to ascertain indicators for housing satisfaction. Grunfeld tried to identify those factors which could be used to indicate habitation patterns which are responsible for specific housing requirements. He found one indicator of life style patterns to be socio-professional position (35). Sanoff tried to identify those attributes which

result in residential satisfaction. He found that high satisfaction with dwelling was associated with high neighborhood satisfaction. Another group of factors contributing to satisfaction were services, such as police, fire, garbage services, and good schools (100).

While researchers continue to search for optima and clarification of user/residential environment interactions, government continues to implement a housing policy. Instead of continuing in parallel streams, it seems fruitful to suggest a fresh approach to housing; not in terms of perconceived notions of problems based on inadequate statistical measures, but in terms of its existing condition as perceived by the user and the aspirations and preferences of the consumer. Instead of blindly prescribing for the user, it is necessary to determine actual user requirements and to translate these requirements into design decisions, and into indicators which can effectively monitor and modify policy decisions in housing. While this may not achieve optima, it will perhaps be the beginning of a more satisfying residential environment.

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