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HOUSEHOLD DENSITY AND CROWDING
IN LOWER-CLASS SALVADORANS

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IGNACIO MARTIN-BARO

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INTRODUCTION
HOUSING IN EL SALVADOR

This is my country;
lots of people; millions
of people; a honey-comb of people
who don't even know
where the semen
of their deeply bitter lives
springs.

Oswaldo Escobar Velado
Salvadoran Poet (1918-1961).

1. El Salvador

El Salvador is a small Republic on the Pacific coast of Central America having an area of 8,259 square miles (Figure 1) and an estimated population of 4,797,000 inhabitants (OEA, 1978, V. 3, p. 3), with an average density of 580.8 persons per square mile. The rate of population growth is officially estimated at 3.06 % (Ministerio, 1976, p. 14) although many believe that the real growth is higher. The average life expectancy in El Salvador is 56 years (Dirección General, 1977, p. 14).

In 1971, 64 % of the Salvadoran population was rural (OEA, 1978, V. 3, p. 13). However, there has been a steady trend of migration toward the cities. The capital city,

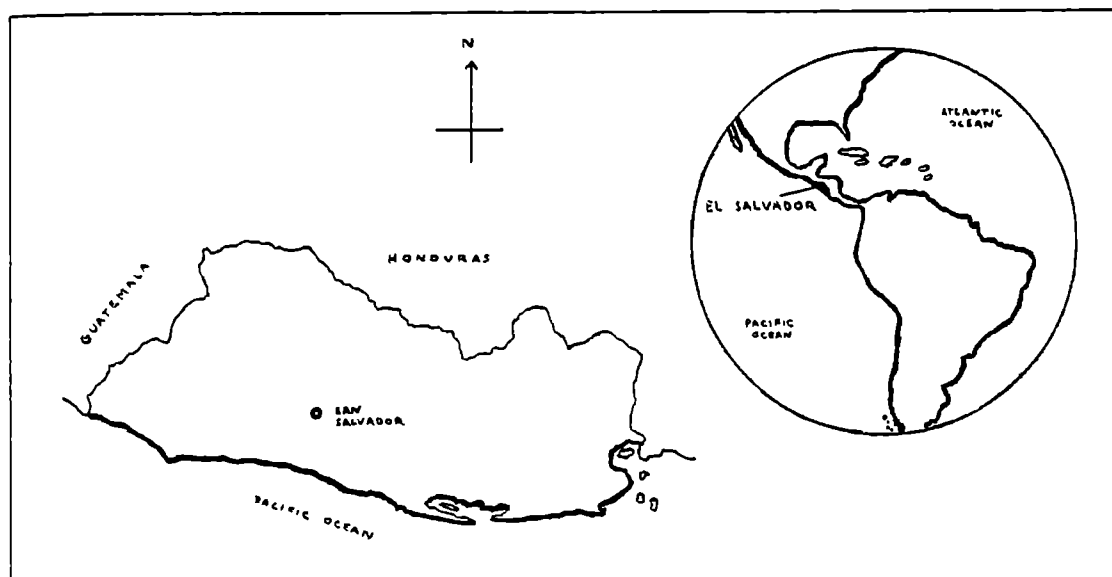


Figure 1. The Republic of El Salvador.

San Salvador, has an estimated population of about 500,000 inhabitants, but the metropolitan area (which includes two more of the largest cities in the country, Mexicanos and Ciudad Delgado) has an estimated population of almost 800,000 inhabitants, with an estimated growth rate of 6,24 % per annum.

By constitution, El Salvador is a parliamentary Republic, with a government democratically elected, and divided into three independent branches: legislative, executive, and judiciary. Actually, since 1932, when a popular revolution occurred and was unmercifully and bloodily quashed (Anderson, 1971), El Salvador has been authoritarily ruled by the military, with the backing of

a small economic élite: both the elections and the independence of the three governmental branches have been sheer "window dressing" (White, 1973; LAB, 1977; Mariscal, 1979). After a fraudulent presidential election in 1972 (Hernández-Pico et al., 1972; Webre, 1979) the government has steadily lost any remaining traces of political legitimacy and has increasingly resorted to violent repression in order to stay in power. This political deterioration became especially clear after a failed attempt at land reform in 1976 and a new fraudulent presidential election in 1977 exhausted the patience of many Salvadorans (LAB, 1977). Since 1972, several guerrilla groups have appeared in the country and have been kidnapping wealthy individuals or foreign executives and harassing the military. The Catholic Church has become supportive of popular demands and strongly critical of human rights violations. And, more recently, the popular hopes and elitist fears triggered by events in Nicaragua have led to widespread unrest and continuing clashes between popular movements and military or paramilitary forces.

The Salvadoran economic system is based on the production and export of coffee, cotton, and sugar cane (White, 1973). During the sixties, the establishment of the Central American Common Market stimulated the industrial development of the country. However, this process of

industrialization had come to an abrupt end by 1969, and this end was marked by the so-called "Soccer War" between El Salvador and neighboring Honduras (Carías & Slutzky, 1971; Jiménez, 1974; Durham, 1979).

Inequitable land distribution underlies the major problems within this country: while 1.9 % of the owners possess 57.5 % of the land (and usually the best land), 91.4 % own 21.9 % of the land, and 6.7 % the remaining 20.6 % (Dirección General, 1966). In 1976, the annual per capita income in El Salvador was 503 U.S. dollars (OEA, 1978, V. 3, p. 14), but the distribution of this income is highly skewed: the richest 5 % of the population received as much as the poorest 60 % (Table 1).

TABLE 1
SOURCE AND DISTRIBUTION OF INCOME AS OF 1971

Socio-Economic Stratum (%)	Percent of National Income	Source of Land	Income Other
Lowest 20	5.5	100.0	-
Lower 30	10.5	87.9	12.1
Middle 30	22.6	30.4	69.6
Higher 15	28.4	23.3	76.7
Highest 5	32.9	18.8	81.2

Source: OEA/BID/CEPAL, 1973, pp. 344-6.

Most social indicators reflect this unequal economic distribution. For example, in 1971 58.3 % of the economically active rural population was unemployed (SIECA, 1973, p. 186, Table 21), 42.9 % of all persons over fifteen years of age was illiterate (OEA, 1978, V. 3, p. 102), and there were only 2.8 medical doctors per 10,000 inhabitants, with most of them concentrated in the metropolitan area (OEA, 1978, V. 3, p. 50). These figures have not substantially changed in the last decade, although they are frequently omitted from governmental statistics (see, for example, Dirección General, 1977).

2. Housing in El Salvador

A quick tour through San Salvador, the capital city, gives the visitor an accurate glimpse of the housing situation in El Salvador. There are a few exclusive neighborhoods with luxurious housing; a few more neighborhoods of good and mediocre housing; and a large majority of neighborhoods of shacks and other poor housing. In San Salvador, shanty towns are not located in the outskirts; rather they cut the city along several ravines which stretch into even the wealthiest zones.

According to reliable estimates, in the rural area the housing deficit (i.e., dwellings without minimal conditions of habitability and which cannot be rehabilitated)

for 1978 was 230,880 units, that is, 48 % of the total rural housing existing in the country (Salegio, 1978, p. 7). In the urban area the housing deficit for 1980 will be 221,709 units, that is, 53.9 % of the total urban housing existing in the country. Obviously, this deficit basically affects the lower socio-economic strata of the population (Harth, 1976, p. 251).

Harth (1976) has distinguished between the formal and the informal housing market in El Salvador. The informal market consists primarily of single rooms rented in private houses and dwellings (generally, shacks) constructed by the individuals themselves. "In 1968, 76.4 % of the metropolitan population dwelt in the informal housing submarket" (Harth, 1976, p. 97). This situation has steadily worsened and it is estimated that, at present, only 6.5 % of the lowest socio-economic strata can obtain housing in the formal market (Table 2).

3. Housing Density in El Salvador

In 1971, housing in El Salvador had an average of 1.8 rooms and 5.4 persons per dwelling (Dirección General, 1977, p. 70; Harth, 1976, pp. 88-9) resulting in a national average density of three persons per room. However, this estimate is probably misleading since it does not distinguish between housing types. A greater proportion

TABLE 2

HOUSING DEMAND AND PRODUCTION
BY SOCIO-ECONOMIC STRATA (1971-1980)

Socio-Economic Stratum (Income in U.S. \$)	Demand in 1980 (Est.)	Formal Market	Informal Market
0 - 40	53,772	2,016	51,756
40 - 100	125,002	9,608	115,394
100 - 240	74,351	21,566	52,785
240 - 400	9,908	11,727	- 1,819
400 or more	24,667	21,074	3,593
TOTAL	287,700	65,991	221,709

Source: Harth, 1976, p. 98.

of the informal housing market is made of one or two-room dwellings indicating that high density situations are prevalent. According to the latest national census, 60.9 % of all the housing units existing in 1971 had only one room, while an additional 23.6 % had only two rooms (OEA, 1978, V. 3, p. 39).

Social scientists have traditionally assumed that high housing density produces both social and individual pathological effects on the population (see Chapter 1). If this hypothesis is correct, we can expect to find in the Salvadoran population, especially in the lowest socio-economic strata, very high rates of personal stress and social withdrawal specifically attributable to household density conditions.

Unless major socio-political changes occur, El Salvador's housing problem does not seem resolvable in the foreseeable future. Moreover, even if revolutionary changes take place in El Salvador, that does not necessarily mean that conditions of high housing density will be significantly changed. Therefore, if the density hypothesis is correct, an overwhelming majority of the Salvadoran population appears to be condemned to a life of social isolation and individual overstress.

This work attempts to answer the following questions: is the density hypothesis correct for lower-class Salvadorans? Is high density a pathogenic condition in El Salvador? If the answer is yes, a subsequent question will be: can anything be done about it? If the answer is no, that high density is not necessarily pathogenic, then the next question will be: is this because the density hypothesis is false, or is it because the density hypothesis is only conditionally true, and certain conditions of lower-class Salvadorans allow them to offset the noxious effects of high housing density?

In the first chapter, I distinguish the issue of crowding from other related issues, and I review and evaluate the existing approaches to crowding. In Chapter 2, I propose a model for examining the problem of crowding

and state four working hypotheses. Chapter 3 describes the samples and methods used in the empirical research. Chapter 4 through 7 present a detailed analysis and discussion of the results obtained, and Chapter 8 summarizes the conclusions of the research.

CHAPTER 1
STUDIES ON HIGH DENSITY AND CROWDING

1. Human Crowding and Other Related Issues

Some confusion reigns in the literature dealing with problems of high density and crowding. The confusion begins with the use of the concepts themselves: while some authors distinguish between high density and crowding, other authors use them interchangeably. In this study, density will be understood as an objective measure of the number of people per unit of space. Crowding, on the other hand, will be understood as the individual's perception that the space available in a given situation is scarce due to the presence of other people in the same place (i.e., to conditions of high density).

It is important to differentiate the issue of high density and crowding from other related problems involving the idea of density. Flicker (1977) has already stressed that the terms "crowding," "population density," and "personal space" are related, but not identical and that one term cannot be interchanged for another. Here, the issue of high density and crowding will be distinguished from the problem of urban density, the problem of

overpopulation, and the problem of territoriality. These issues have undeniable interfaces with the problem of crowding, but each of them constitutes a different issue. To treat all of them as a single issue can lead only to theoretical and analytical confusion.

1.1. Urban Density and Crowding

Since its inception, urban sociology has attempted to analyze the impact of a new social structure--the modern city--on the life of communities and individuals (Fischer, 1975; 1976). The early ecological approach advanced by the Chicago School assumed that population concentration within cities would lead to a new way of life called urban (Wirth, 1938) and to a disintegration of personal communities (Gemeinschaften). In other terms, population density would produce pathological consequences both at the social level (e.g., higher crime rates) and at the individual psychic level (e.g., higher rates of mental illness). More recent developments of the ecological approach, however, have emphasized the positive aspects of urban density (Hawley, 1972).

While it seems quite correct to consider crowding as an issue to be dealt with by urban sociology, it does not seem adequate to reduce it to an urban problem. In fact, crowding is not exclusively or necessarily an urban

phenomenon (Carnahan, Grove, & Galle, 1974). On the one hand, high population density, as in cities, does not automatically imply the ubiquity of high density micro-situations in which individuals would feel crowded. Actually, the population density of industrial cities in the "developed countries" has been declining since 1900 (Hawley, 1971; Fischer, 1976). On the other hand, small populations or small communities can experience situations of serious density; this is often the case for families living in poor rural housing. Thus, some authors have distinguished between micro-situations of high density, which they call situations of crowding, and macro-situations of high density (Baldassare, 1979). It is therefore ambiguous to state that crowding is "both a cause and a consequence of modern urban life" (Proshansky, Ittelson, & Rivlin, 1976, p. 179). The fact that a phenomenon takes place in cities does not make it automatically an urban phenomenon (Fischer, 1975, p. 67). High housing density has been a very common situation in human history, all across times and cultures (Mitchell, 1975; Altman, 1975), whereas the urbanization of society is a relatively recent phenomenon.

Having said this, it is important to acknowledge that high population density (macro-situation) multiplies the opportunities for dense environments (micro-situation)

and, therefore, multiplies the opportunities for individual experiences of crowding. Actually, the organization of life in most contemporary societies assumes that high density will be a common condition in many situations. Thus, urbanization and crowding are intimately, but not necessarily, connected.

1.2. Overpopulation and Crowding

Many psychologists stress the relevance of crowding studies by pointing to overpopulation problems (see, for example, Loo, 1977; Insel & Lindgren, 1978; Schmidt, Goldman, & Feimer, 1979). It is probably true that the whole field of environmental psychology was born as an offshot of the scientific concern with ecological problems (Bartz, 1970; Wohlwill, 1970). More specifically, the issue of crowding in social psychology emerged as an attempt to confront Neo-Malthusian predictions that the population explosion, especially in "underdeveloped countries," could lead to increasing food shortages, social unrest, and world chaos. Therefore, as American officials began requiring birth control campaigns as a condition attached to international aid programs, American social scientists began analyzing the character and consequences of human proliferation (for a psychological perspective, see Miller & Godwin, 1977).

However, high density is not the same as overpopulation. Situations of high density do not depend on the absolute size of a given population, but rather on its spatial distribution and, therefore, can happen even in underpopulated countries. Thus, for instance, the U.S.A. is not an overpopulated country; however, 70 % of its population lives in less than 2 % of the total land area (Kirk, 1973), which is a condition very favorable for the emergence of crowding problems. On the other hand, overpopulated countries like Belgium or Holland, or overpopulated cities like New York or Los Angeles do not imply situations of high density everywhere or for everyone. High density and crowding can happen in both overpopulated and underpopulated countries, in large or small cities, and in growing or declining populations.

Nevertheless, even if overpopulation and high density are not the same thing, they are intimately connected. A country, region, or city overpopulated or with a high rate of population growth multiplies the opportunities for highly dense settings and, therefore, for individual experiences of crowding at home, at work, or simply on the streets. This condition is particularly true when the material necessities of life are scarce, locally concentrated and, as is the case in El Salvador, controlled by a very few.

1.3. Territoriality and Crowding

Ethology, with its emphasis on natural habitats, has preceded psychology in the study of the impact of environments on behavior. The concept of territoriality is basic in ethology (Edney, 1974). Calhoun's experiments (1962; 1966), Christian's field studies (1960; 1963), and Wynne-Edwards' theoretical work (1962; 1965) have all been especially influential in the studies of human crowding.

There has been a related development in anthropology, more or less directly influenced by the ethological approach. Hall (1966) and others (for example, Sommer, 1969) have hypothesized that territory is also an important variable within human groups and that individuals carry with them a "personal space" as a kind of "small protective sphere or bubble." Despite its apparent advantages, the analogy between animal and human territoriality has created confusion (Edney, 1974; Lloyd, 1975; Baldassare, 1979) and has led to sweeping generalizations from animal to human behavior (Ardrey, 1966). It is ambiguous to say the least, to apply this term, territoriality, to a series of human phenomena which also include complex social and cultural variables. The result has been a blurring of basic distinctions between instinctual and cultural behavior (Altman, 1970;

Sundstrom & Altman, 1974; Edney, 1974; Baldassare, 1979). Space or territory in human beings is a social product, and not solely a condition determined a priori by biological or instinctual requirements. As Proshansky, Ittelson, and Rivlin (1976, p. 176) put it, "the analogy with territorial behavior in infrahuman species quickly reaches its limit. For example, much apparently territorial behavior in humans involves the concept of private property" (see also Bettelheim, 1971).

Crowding implies a relationship between people and space and, in this sense, it is tied to an individual's sense of territoriality or "personal space" (whether this sense is socially or biologically determined). However, human territorial problems do not necessarily presuppose situations of high density; and, on the other hand, individuals can experience crowding in territories that they do not claim to be their own.

Territoriality can be used as one model to explain the problem of crowding. However, in those cases territoriality denotes more than a sociological dimension (Lyman & Scott, 1967); rather, it becomes a sociological model by itself, and one which attempts to understand human phenomena from an animal perspective (Morris, 1969).

Whatever the opinion we have about this perspective, two points must be maintained: (1) human and animal

territoriality cannot be understood in the same sense, especially since human "territories" include social variables; and (2) crowding phenomena do not necessarily imply human territoriality, although territoriality can be proposed as one model to explain crowding.

From this triple comparison we get a better picture of the dimensions within which we attempt to examine the problem of crowding. The perspective here adopted is not that of the urban sociologist, the demographer, or the ethologist, but rather the perspective of the social psychologist. Crowding is considered to be a psychological experience related to situations of high density (Stokols, 1972a; 1972b). The habitat (i.e., the context and the space) of a given human group as well as the group's size are issues intimately connected with the problem of crowding. However, the problem of crowding has its own specificity and raises questions of its own.

There have been two basic approaches to the problems of high density and crowding: one a more traditional, sociological, approach which tends to identify crowding with high urban density; and another a more recent, psychological, approach which defines crowding in terms of the individual's experience.

2. The Sociological Approach

2.1. The Theorists

If population density has been an important issue for sociologists it is because since its inception sociology has been concerned with the problem of holding society together. It seems fair to assume that most historical changes in social relationships present a challenge to established social organizations, that is, to each social status quo. Population growth has always been a source of social change. When the pace of changes, whatever their nature, is relatively fast or affects the fundamental structures of society, the question emerges whether society and social life will be possible at all under the new conditions.

It is no wonder that the changes brought up by industrialization are at the root of modern and contemporary sociology. The development of industrial capitalism produced the mobilization and uprooting of vast sectors of the population, thus shaking the deepest foundations of social structures and community life. As Castells (1972) has pointed out, the process of urbanization occurring with the first industrial revolution implied the prior decomposition of agrarian social structures as well as a drastic change in economic

relationships. Social scientists wondered whether, and how, it would be possible to maintain the basic social order under new conditions, especially in the cities. Cities became the paradigmatic locations where the "moral order" was crumbling and where the rural, and retrospectively mythicized, Gemeinschaften had to become pragmatic Gesellschaften (Tönnies, 1887) in order to survive. Traditionalists and revolutionists have often shared an anti-urban bias, and have seen urban agglomeration as the source of numerous social evils.

Increases in population size had previously been considered one of the most important conditions for the evolution of societies and, therefore, a positive factor (Spencer, 1852, pp. 33-37). Since then, however, population concentration has also been seen as a threat to community life, that is, as a condition which breeds the disintegration of both persons and groups. This ambivalence regarding population concentration surfaces in Durkheim's writings.

Emile Durkheim (1893) assumed that no society could survive without a moral order. The question was how to hold society together when the bases of its solidarity were falling apart due to the emergence of a new social organization--a new division of labor. Durkheim's answer is well known: a mechanical solidarity,

based on commonalities and indifferenciation, gives way to an organic solidarity, based on interlocking diversity and differentiation. Large numbers of people make impossible a mechanical type of solidarity; instead, functional interdependence become the "glue" which keeps individuals attached to the same organism or society. However, a new moral order based on functional, impersonal interchanges involves a loss in the quality of human relationships. This loss is not a consequence of either population size or social density alone, but rather a consequence of the confluence of both conditions: "Wherever the density of the agglomeration is related to the volume, personal bonds are rare and weak" (Durkheim, 1893, p. 299). The state of anomie implies the lack of an internalized set of values and norms, a lack of social bonds analogous to what the Greeks characterized as "idiocy" or insufficient social identity.

Georg Simmel was the first to attempt a theoretical elaboration of the relationship between population density, especially in cities, and individual personality and life style. His explanation of this phenomenon, presented in an article called "The Metropolis and Mental Life" (Simmel, 1905), is psychological--as have been most of the related theories on "culture and personality" (see LeVine, 1973).

Simmel assumes that individuals have to adapt to the requirements of metropolis in order to preserve their autonomy and existence, and to resist being worn down. The metropolitan person develops characteristic psychological mechanisms in order to manage the intensification of nervous stimulation occurring in the urban context. These mechanisms extend from the organization of time into a detailed schedule, the predominance of intelligence over emotion, and the acquisition of a certain blasé attitude, consisting of blunting the discrimination between things and values. "The nerves find in the refusal to react to their stimulation the last possibility of accomodating to the contents and forms of metropolitan life" (Simmel, 1905, p. 415). The reserve that metropolitans show toward one another is a way to preserve an amount of personal freedom and to protect an intimate core of subjectivity. Simmel's model is known as the "overload" model since it assumes that an excessive stimulation impinging upon the subject's nervous system mediates the impact of cities (high density) on individuals.

The Chicago School was largely influenced by Simmel. The most elaborated statement regarding the relationship between population density and personality was an article by Louis Wirth (1938), who drew heavily from Simmel.

For Wirth, urbanization is one of the most impressive facts of modern times and it has produced a distinct way of life especially in cities, the characteristic loci of urbanism. A city is "a relatively large, dense, and permanent settlement of socially heterogeneous individuals" (Wirth, 1938, p. 8). A large population implies greater individual differentiation and segmentation of human relationships. Contacts become more impersonal, superficial, transitory, and segmented, with the possibility of individual emancipation going hand in hand with the possibility of individual anomie and alienation. The fact that a population is densely settled implies an increased specialization, a spirit of competition with subsequent feelings of loneliness, and the predominance of formal social controls.

It is important to stress that, although sociologists usually consider the problem of crowding in connection with urban life, this is because cities represent the paradigmatic form of population concentration. However, sociologists also tend to assert the significance of crowding (i.e., high density) as a variable in itself. The basic assumption running through the sociological approach is that population density requires and produces changes in social relations and, consequently, affects the persons involved.

In the traditional evolutionary perspective (Spencer, 1852), the relevance of social density was usually related to the scarcity and availability of the resources necessary for human life. In the authors examined above, a somewhat different idea emerges. The significant aspect is not so much the scarcity of resources, but the excess of stimulation; and the problem is not that individuals cannot get what they need (which is obviously another essential aspect), but rather that they get more than they can handle. Population density, by multiplying the necessary human interaction, puts too much pressure on individuals, forcing them to process more stimulation than their organisms are able to manage. The problem is one of adaptation and if the urban situation provides individuals with the opportunity to become more independent and differentiated, it also imposes a heavier burden upon them. It seems that, for these authors, individuals in a socially dense situation could obtain freedom and individuality only at the price of their physical, mental, or social health; that is, at the price of pathology.

2.2. Empirical Studies

There have been numerous attempts to verify empirically the sociological hypothesis about the relationships between high population density and pathology. Most of these studies have employed correlational techniques, taking as variables, on the one hand, one or several measures of density--usually understood as the number of people per given unit of space--and, on the other, different indicators of pathology. The basic assumption was that high density could be considered an antecedent condition of pathology and that a significant correlation (positive or negative) between these variables would imply some type of causality.

Three aspects of pathology have been studied: physical, mental, and social. Physical pathology has been operationalized in terms of hospitalization rates for different illnesses, fertility and mortality rates, etc.; psychological pathology has been examined in terms of hospitalization rates for mental illnesses; and, finally, social pathology has been measured in terms of crime, juvenile delinquency, suicide and divorce rates, and other indicators.

An interesting sociological study, which can be considered a predecessor of modern attempts to verify the

density hypothesis, was a study by Faris and Dunham (1939). Following Burgess' (1925) theory of concentric zoning, they related the different zones of Chicago with rates of psychotic illnesses. They found that the "transition zone," next to the "central business district" and usually occupied by light industries and slums, showed a higher rate of psychotic illness than other residential areas. Although Faris and Dunham were concerned with the location and mobility of the population rather than with their density, it is known that different zones --especially the zones distinguished by Burgess' model-- imply different densities.

This locational hypothesis was immediately challenged. Some authors (Myerson, 1940) charged that it was not location that produced mental illness, but rather that mentally ill people drifted to those areas as a result of their problems (the so-called "drift hypothesis"). However, the greatest flaw of Faris and Dunham's study was the lack of adequate socio-economic controls. Thus, in their 1950 study on the urbanized community of New Haven, Hollingshead and Redlich (1958) found that socioeconomic class was a more reliable index than place of residence for predicting hospitalization and category of mental illness. Since then, it has become increasingly clear that many of the effects

previously attributed to density were rather consequences of other socioeconomic variables, and that an adequate assessment of the effects of density on individuals requires a careful control of these other structural variables.

Schmitt (1957; 1966) used census data from Honolulu to relate several measures of population density with physical and social pathologies. When the percentage of dwellings with more than one person per room was held constant, the measure of population per acre showed no significant correlation with rates of pathology. However, in the inverse situation, that is, with population per acre held constant, the percentage of dwellings with more than one person per room showed a significant positive correlation with death rate, physical illness, mental hospitalization, juvenile delinquency, adult crime, and other indicators. The introduction of statistical controls for income and education did not change the significance of most of these correlations.

Are there situations or critical levels where population density has pathological effects independent of cultural factors? Studies have been conducted in other cultural settings which provide data on this issue. For instance, in a study with census data from Hong Kong, Schmitt (1963) found that the relationship between

density (population per acre) and different indicators of pathology (mortality rate, hospitalization for mental illnesses, various types of crime) was very mild, and certainly weaker than in many U.S. cities having less density than Hong Kong. Schmitt hypothesized that cultural factors, such as the scheduling of home activities, were responsible for differences in the meaning and effects of density. Some years later, Mitchell (1972) arrived at a similar conclusion, although his subsequent speculation about the emotional character of Chinese people seems to be insufficiently supported.

In his studies of Paris quarters, Chombart de Lauwe (1959-1960) found that, when there were more than 2.5 persons per room, aggressiveness and other types of crime were significantly higher. Moreover, he also found that "when a family disposes of less than eight to ten square meters per person, the relationships between parents and children are negatively affected" (Chombart de Lauwe, 1964). Probably the most interesting aspect of these studies is the specification of a threshold beyond which home density becomes pathogenic. Another interesting aspect is the distinction between social density (number of persons per room) and spatial density (amount of space per person), two measures of density which are related, but not identical. Unfortunately,

the issue of culture and density thresholds has not been sufficiently addressed by most researchers.

In a study using aggregate data from 75 Chicago community areas in 1950, Winsborough (1965) found that, once socioeconomic, housing quality, and migration variables were controlled, density as measured by persons per acre was negatively associated with death rate, tuberculosis, and the use of public assistance, and only correlated positively with infant mortality. However, he also found that a high proportion of persons per room was negatively correlated with health--a sign that there might be a threshold of pathogenic density.

Mitchell (1971) analyzed a large sample from survey studies of Hong Kong residents. One interesting aspect is that he distinguishes between density and congestion, the latter referring to "the simultaneous demands for the use of very limited resources" (Mitchell, 1971, p. 20). Mitchell's results indicate that dwellers of high-density housing are aware of the absence of space, but that this consciousness does not necessarily result in deep levels of emotional strain. Although high density has an effect on the levels of worry and unhappiness, especially for the poorest members of the community (interaction effect), "densities do not affect deeper and more basic levels of emotional strain and

hostility" (Mitchell, 1971, p. 27). However, high-density housing apparently has an impact on parent-child relationships; parents do not monitor their children's comings and goings and, in that way, high density reduces the parents' knowledge of and control over their children. Finally, "high density housing also discourages interaction and friendship practices among neighbors and friends" (Mitchell, 1971, p. 27).

Whether or not these effects of high density are considered serious is a matter of the researcher's values. Mitchell does not consider these effects "pathologic" (Mitchell, 1971, p. 20; also Mitchell, 1976, p. 307), as becomes evident when he subscribes to the conclusion of a report by Wilner and Baer (1970): "There is no body of convincing evidence that crowding in a dwelling unit contributes materially to mental disorder or to emotional instability. Nor is there evidence as yet that crowding (or other housing deficits) interferes with a promotive style of life; that because of crowding, family roles and rituals cannot satisfactorily be carried out; or that development of infants and children is severely impaired." Given the high density levels of housing observed by Mitchell in Hong Kong, this conclusion appears to imply a negative answer to the question about a threshold of pathogenic density. In fact,

"international statistics indicate that the human animal is able to live under widely different density conditions" (Mitchell, 1976, p. 319).

A study by Galle, Gove, and McPherson (1972) has been used as strong evidence that high density produces pathology. These authors examined aggregate data on 75 community areas of Chicago in 1960 and distinguished four different measures of density: persons per room, rooms per housing unit, housing units per structure, and structures per acre. Controlling for socioeconomic as well as ethnic variables, they found that persons per room was the most significant indicator of density and that it correlated positively with several indices of social pathology: rates of mortality, fertility, juvenile delinquency, and the use of public assistance. Galle, Gove, and McPherson concluded that "overcrowding may have a serious impact on human behavior," although they cautioned against the possibility of error due to the high intercorrelation between density and other structural variables. They also warned in a footnote that their data were ecological and that relationships occurring at that level of analysis might not necessarily occur at the individual level.

Some years later, one of the above authors, McPherson (1975), reexamined the same data included in

a different model along with additional data from the same communities, and arrived at opposite substantive conclusions. In his opinion, this difference seemed to be due "to the differences in the assumptions about causal lags" (McPherson, 1975, p. 87). However, he added, "if pressed upon the matter, the present author would probably assert that the effect of density upon pathology as measured is quite likely minimal" (McPherson, 1975, pp. 87-88). This statement is quite significant not only because of the importance attributed in the field to the study by Galle, Gove, and McPherson, but also because it acknowledges that some of the pathological effects traditionally ascribed to high density might be the outcome of methodological devices or theoretical assumptions. However, more recent studies by Galle and Gove (1979) have confirmed their previous results; specifically, they have found a positive association between household density and family disruption, and this seems to support Mitchell's hypothesis.

The conclusions of both McPherson and Mitchell point to a quite mild influence--if any--of high density on pathology. Levy and Herzog (1974) obtained even more surprising results. These researchers examined census tracts for 125 regional units in the Netherlands, and

found that whereas population density, in the sense of persons per economic geographic region, correlated positively with most variables of social pathology (delinquency, crime, divorce, and others), persons per room correlated negatively with some of these same variables--concretely, with delinquency, crime, and hospital admission rates. These unexpected and apparently contradictory results have been explained in different ways. For instance, some critics have suggested the "drift hypothesis," according to which people with psychological problems tend to live alone. Others have suggested that in the Netherlands people with higher incomes "are more likely to live in denser areas but less likely to live in crowded homes" (Saegert, 1978, p. 259). In any case, what appears clear in Levy and Herzog's study is that there is not a mechanical relationship between high density and pathology, and that some cultural or personal variables may mediate the meaning and effects of high density.

Some ethnological works contain observations that seem relevant to the density hypothesis, although their scope and methodology are basically different from the studies just reviewed. The studies most often mentioned in this context are those of Oscar Lewis (1961); the personal narratives he collects imply that high home

density constitutes another element of the so-called "subculture of poverty." Similarly, Suttles (1968) observes that home arrangements in a slum area of Chicago allow for little privacy, thus leading to conflicts over spatial usage which result "in a definition of personal power rather than situational rights" (Suttles, 1968, p. 91). However, Anderson (1972) found that Chinese families adapted to household crowding by regulating the use of space and, in a recent study with Herrera (Herrera & Martín-Baró, 1978), I observed a similar regulation of space in the life of a tenement house (mesón) in San Salvador.

Many different studies on the life and social conditions of poor sectors in Latin America assume the deleterious consequences of high home density on family life and on personal and social pathology. However, in these studies the concepts of density and crowding are not distinguished or defined; moreover, the connection between high density and pathology is not empirically examined. The density hypothesis is simply brought up as an explanatory device or as a matter-of-fact harmful condition (see, for example, Torres-Rivas, 1971).

2.3. Contemporary Reviews and Critiques

There are several recent reviews of the density hypothesis. At present, most sociologists are rather skeptical about the deleterious effects of high density, as an independent variable, on human subjects. In some cases the skepticism is theoretically based, but most often it is a simple conclusion drawn from the existing empirical evidence (or lack of evidence). Two particularly significant series of studies are those of Booth and Baldassare.

Alan Booth's (1976) study represents an excellent empirical examination of the density hypothesis and its different aspects. After reviewing all census tracts of Toronto and completing nearly 17,000 screening interviews, he obtained interviews with one or both of the parents of 560 families. He also obtained medical information about these families as well as other relevant residence data. At the beginning he only used two objective measures of density (persons per room and households per block face). However, he soon realized the need for including some subjective measures that would reflect individual perceptions of crowding. Therefore, he added two other measures (subjective household, and subjective neighborhood) and devised scales for each of the four measures of density.

Booth proceeded to analyze, primarily through multiple regressions, the relationships between those four measures and several indices of personal and social pathology. The results obtained were the following: high density had small negative effects on child health and development, quite marginal effects on political activity, equivocal effects on family relationships, and no effects at all on adult health, reproduction, and community life. Booth found that out of 344 relationships analyzed, only 48 (14 %) were significant at the .05 level. Thirty three of these 48 significant relationships pertained to household crowding, and 21 of these 33 had to do with the inhabitants' perceptions of their housing conditions (subjective household crowding). Therefore, Booth (1976, p. 100) seems well justified in concluding that "crowded conditions seldom have any consequences, and even when they do the effects are very modest."

Mark Baldassare (1975; 1977; 1978; 1979) asserts that the studies on density and crowding have been plagued with theoretical looseness and with blithe generalizations, especially in drawing inferences from animal studies and experimental micro-environments to human life and city conditions (see also Baldassare & Fischer, 1977). In a preliminary study and after distinguishing between high residential density and

household crowding, he examines the residential density hypothesis with a sample from the Detroit metropolitan area, and the household crowding hypothesis with data from NORC (National Opinion Research Center) national surveys. In both cases, the data do not lend much support to the idea that high density produces disorders or inhibits social interaction. However, Baldassare is quite aware that his data pertain to relatively low levels of density and therefore he does not reject the hypothesis of a density threshold. These low levels of density studied by Baldassare are very different from the levels found in Honk Kong (Mitchell, 1971) or San Salvador (Harth, 1976; Herrera & Martín-Baró, 1978).

Baldassare asserts that the problem has both theoretical and empirical components, and maintains that analyses should take into account the framework offered by solid sociological theories. Thus, he believes that researchers should examine instrumental uses of space and the differential power to control it, rather than emotional strain and pathology. "Instead of people in a small space 'overloading' individuals' psyches, what they do is compete for an instrumental resource, the space needed to engage in preferred activities (and perhaps to avoid the possibility of overload)" (Baldassare, 1977, p. 112).

Baldassare (1979) has attempted to follow his own advice in a broad study of residential crowding in urban America. In this study, he uses national survey data from ISR (The University of Michigan Institute for Social Research) and NORC. He applies a "contextual approach" which relates both residential density and household crowding to residential satisfaction and other social patterns and attitudes. Baldassare is concerned primarily with the effects of household crowding on familial relations. According to him, the effects of crowding on family members depend on the differential capacity of each member to control the use of space. Social power and status are assumed to mediate the potential effects of crowding; therefore, children are more likely than parents to suffer in crowded conditions. In an analogous way, Baldassare concludes that residential density does not lead to a generalized social withdrawal, but rather to a "specialized withdrawal" by which people limit superficial contacts, while maintaining the most socially relevant relationships.

Although the data used by Baldassare do not allow a full test of all of his hypotheses, the results obtained are encouraging for most of them. He certainly obtains good evidence supporting the idea of a

"specialized withdrawal" and the diverse effects of high residential density and household crowding on residential satisfaction. However, the evidence of differential effects of household crowding on family relations is still slim and unclear. Baldassare's conclusion is that "humans are not typically 'overcome' by high density, as one would expect from reports of animal studies, because in general they can adapt by organizing their space and reducing their contacts to minimize the more harmful impacts" (Baldassare, 1979, p. 208).

2.4. Discussion

In his evaluation of the empirical evidence for different hypotheses about high density and crowding effects, Sundstrom (1978, p. 69) includes among the hypotheses most supported those predicting negative effects on health, crime rates, and social interaction. According to Sundstrom (1978, p. 70), "the trends are reasonably consistent" even if the data are mainly correlational and, in some cases, based on aggregates. This conclusion seems too optimistic. By putting together different studies, Sundstrom is assuming that those studies can be aggregated, that is, that they address the same aspect of the issue. However, this assumption is hardly tenable. Independent of its

particular merits, the sociological approach to the density hypothesis is plagued with methodological and theoretical problems.

The first recurrent problem found in the sociological studies is the definition and operationalization of density and "pathology" variables. There have been multiple operationalizations of density: persons per acre, persons per community area or neighborhood, persons per block or structure, households per area or per structure, persons per household, and persons per room (see Mitchell, 1976; Saegert, 1978; Webb, 1975). Even the measure that has proved more significant, persons per room, cannot be considered a homogeneous type of operationalization, since the spatial dimension of the situation (spatial density) is omitted. In other words, it is different to have three persons in a 10 by 10 feet room than in a 20 by 20 feet room. And it is also important to distinguish high density from congestion, a distinction that few authors besides Mitchell (1971) have considered. These different ways of operationalizing density do not necessarily contradict Sundstrom's conclusion or the possibility that all these measures are only various aspects of the same phenomenon. However, they make that conclusion less reliable. The study of Levy and Herzog (1974), in which two different

measures of density led to different results, lends support to this cautious interpretation.

A similar argument can be made with respect to the way in which social pathologies have been measured. It is well known, for instance, that hospitals or public agencies have different ways of defining pathologies or of determining admissions. Official figures are often quite unreliable concerning the actual incidence of crimes and mental illness in a given zone. Once again, this caution does not involve automatically dismissing the value and meaning of the empirical results, but it makes much more questionable their aggregation under the same heading.

Another methodological problem comes from the fact that many of the studies reported have used aggregate data (census tracts, for example). When used for establishing individual relations, as in this case, aggregate data can lead to serious errors and false conclusions since statistical relations can be obtained which do not imply a real connection of the related factors at the individual level.

Finally, the use of correlational techniques in many of these studies prevents the reaching of any conclusion which implies direction of causality. Causality remains a quite ambiguous issue in the density

studies. Although the general hypothesis explicitly maintains a causal effect of density on the social variables, even if these studies do find strong relationships between density and social pathology, nothing can be said about whether high density produces that pathology or vice versa--as in the "drift hypothesis"--or simply that high density is one more aspect of a broader social or subcultural "syndrome." Fortunately, many recent studies (e.g., Booth, 1976; Baldassare, 1979) have applied a different analysis. But the use of different methodologies which obtain different results is still another reason to caution against a simple aggregation of the results obtained by different empirical studies.

The sociological approach also presents some theoretical difficulties. Probably the most obvious one is that the sociological approach predicts an effect of high density upon social pathology considered as an end product. It is not necessarily implied that the influence is direct or immediate, and most authors seem to accept the "overload" mediation, that is, the assumption that the pathological effects of high density are mediated through an increased psychic burden on individuals. However, the use of analyzing end products instead of the processes triggered by a condition of

high density ignores the possible influence of other intervening variables, otherwise accepted only in principle. This point is important, and has been raised by most psychologists (see Stokols, 1972a; 1978a; 1978b; Loo, 1977) as well as by Baldassare (1979).

Cultural and personality differences may mediate quite differently conditions of high density which present the same objective characteristics. It seems clear that space can have diverse meanings in various cultures (Hall, 1966; Mitchell, 1976) or that social norms can provide ways to handle positively situations of high density (Anderson, 1972; Baldassare, 1979; Mitchell, 1971; 1975). In other words, even in a culture or in a situation in which high density would be considered harmful, individuals can resort to coping mechanisms that will help them to undergo the experience of high density without pathological consequences. Baldassare's (1977; 1979) contention that status and social power mediate the effects of household crowding on family members seems very reasonable. Whether this happens or not is a matter of empirical verification, but it cannot be discounted a priori. It might be the case that some sociological studies obtain insignificant results not because high density has no deleterious effects, but rather because they are looking at the

terminal phase of the process when individuals may have already absorbed or compensated for those effects.

There is a second theoretical difficulty with the sociological approach, related to the first one. This difficulty is also found in some ecological approaches, especially as they have been advanced by some representatives of the Chicago School. The difficulty refers to the more or less explicit assumption that material forms are responsible for cultural contents. This assumption has two aspects: it takes space as a "blank" or natural fact (the Chicago School spoke of "natural areas"; see Burgess, 1925); and it maintains that spatial forms determine cultural values. The assumption appears in the treatment these authors apply to urban problems (Hawley, 1971; Berry & Kasarda, 1977). Fischer (1976) calls this approach "urban determinism," and maintains that empirical evidence does not support it. However, Fischer himself does not question the direction of the causal assumption. He also accepts that urban spatial organization produces particular cultural effects, although he attributes those effects to other conditions made possible by urban organization and he therefore assumes that the effects are only indirectly related to space.

"Urban determinism" articulates a sociological

view which does not take enough account of historical factors. In its strongest form, it assumes a mechanistic view of social causality, making cultural and social organization dependent upon natural, physical, factors. In this case the empirical data are not disputed --although it is well known that social data are also social cognitive constructs. What is questionable though is the analysis of those empirical data. Castells (1972) has called this type of analysis an "urban ideology" since it ignores and rationalizes away the social forces which are primarily responsible for any social organization.

The point is not to deny the structural meaning of physical settings; the point is that the meaning of physical settings is also socially determined. A river is a river whatever its location in the world. However, its meaning and relevance for a given human group will depend on the specific ways in which that human group appropriates and integrates the river into its social structures. The argument becomes still clearer when, instead of natural geographical accidents, we speak of human products, like a street, a building, or a park. Space is socially determined and cannot be simply taken as a natural, aseptic, given. As Castells (1972, p. 126) puts it, "to analyze space as an expression

of the social structure amounts, therefore, to studying its shaping by elements of the economic system, the political system and the ideological system, and by their combinations and the social practices that derive from them."

We can summarize the relevant aspects of our analysis of the sociological approach to density problems in four points:

- (1) High population density as an independent variable seems to have only minor effects on personality and social solidarity (Baldassare, 1977; 1979; Booth, 1976; Fischer, 1976). It seems important to distinguish between a condition of high residential density and one of household crowding, since they seem to have different effects on the individuals (Baldassare, 1979);
- (2) The measure of population density that yields more significant results is "persons per room," that is, a measure of household density;
- (3) It appears that population density as measured by "persons per room" interacts with other variables, and that cultural and personality factors as well as social power can

mediate between objective conditions of high density and social pathology. However, it is not yet known whether or not there exists an absolute threshold of pathogenic household density;

(4) Differential effects of population density upon individuals imply a social definition and normative distribution of space within each given society. Therefore, it seems necessary to relate conditions of population density to their historical context and to the social forces which determine the social organization and distribution of space.

3. The Psychological Approach

3.1. The Theorists

The status of crowding studies in the field of psychology is surprisingly irregular, and expresses a historical development pushed by socio-political concerns rather than by internal coherence. Thus, whereas the study of "temporary street crowds" (Edney, 1977) goes back to the very origins of social psychology as a modern scientific venture, psychologists have only recently

devoted their attention to the analysis of more stable situations of high density.

The classic conceptualizations of LeBon (1895), McDougall (1920), and Freud (1922) are well-known early attempts to deal with the nature and behavior of temporary crowds, especially referring to their role as group movements in a social context. Different principles were proposed to explain the emergence of crowd action: imitation, emotional contagion, unconscious identification with a leader. As it has been noted (Milgram & Toch, 1969), these studies were not only anecdotal and based upon unsystematic observations, but were also based on a politically biased perception of human crowds. The underlying assumption was that crowds were dangerous phenomena; within a crowd men became less than rational beings and potential aggressors of organized social life. The study of temporary crowds has continued to the present day, and constitutes an essential chapter of group psychology (Cartwright & Zander, 1968; see also Canetti, 1960). However, it has had very little, if any influence on the study of the crowding phenomena considered here.

I will divide the psychological theories of crowding into six models: (1) the territoriality model; (2) the overload model; (3) the intensification model;

(4) the ecological model; (5) the control model; and
(6) Stokols' synthetic model.

3.1.1. The Territoriality Model

The first contemporary author to analyze the problems of crowding was an ethologist, John B. Calhoun. Calhoun (1962) conducted a series of experiments with a colony of Norway rats, which bred to very high densities in a limited space. He observed that, under those high density conditions, rats developed a "behavioral sink," characterized by an array of abnormal behaviors, especially "the nearly total dissolution of all maternal behavior, predominance of homosexuality, and marked social withdrawal to the point where many individuals appear to be unaware of their associates despite their close proximity" (1966/1976, p. 187). The effects were striking, and Calhoun (1966; 1971) hypothesized that similar effects might happen in human groups. He proposed a model according to which there is an optimum amount of interaction in confined spaces. Once the size of the group leads to a higher level of interaction, contacts become dysfunctional with respect to individual needs and produce stress and frustration. Sometimes, humans can maintain the area available to each individual by enlarging their physical or even their "conceptual"

space--for instance, by means of role differentiation. However, when this is no longer possible, a "behavioral sink" can be expected.

Under the influence of ethological studies, especially those of Hediger (1950), Edward T. Hall (1966, p. 1) coined the term proxemics for the study of "man's use of space as a specialized elaboration of culture." Following closely Hediger's analysis of animal distances, Hall hypothesized that humans use four spatial zones to regulate social interaction: intimate distance (0-18 inches), personal distance (1.5-4.0 feet), social distance (4-12 feet), and public distance (12-25 feet). Although these spatial distances were not supposed to be universal, Hall's analyses seemed to imply that the differences would be in the specific magnitude of distances, not in their existence. Proxemic behavior is, in this anthropological perspective, a function of cultural, emotional, and personal factors (Hall, 1974, p. 16). Given a cultural definition and regulation of distance, a spatial intrusion, especially of intimate distances, will supposedly lead to negative reactions and feelings of stress.

Hall's theory does not directly address the phenomenon of crowding, but rather the wider issue of human territoriality (Edney, 1974). In addition, the

focus of his approach is on space as a means of interpersonal, nonverbal, communication (Altman & Vinsel, 1977). However, if humans really have different claims over space, as Goffman (1971) maintains, crowding is likely to multiply the opportunities of interference with those claims, thus perturbing social interaction and communication. Several authors have attempted to understand crowding as a situation of continuous violation of personal space (Worchel, 1978; Worchel & Teddlie, 1976). This line of thought has been best developed by Altman.

Irwin Altman's (1975; 1978) conceptualization of crowding is probably one of the most ambitious, since he relates crowding to other psychological phenomena and builds a model to account for all of them. In an earlier article with Zlutnick (Zlutnick & Altman, 1972, p. 50), he already maintained that "the concept of crowding involves a multidimensional set of interlocked properties," such as situational/environmental characteristics, interpersonal conditions, and personal or subjective circumstances. In other terms, crowding had to be analyzed at the physical, interpersonal, and psychological levels. Zlutnick and Altman (1972, p. 54) suggested that the possible parameters of crowding were: "(a) A high inside and outside density of people per unit of space,

(b) for long periods of time, (c) in an environment of limited resources, (d) with little ability to control interaction with others..., and (e) where there is a network of personal and subjective feelings reflecting inability to control interaction, discrepancies in expectations and attitudes, and incongruity with past experiences."

Altman's own model is centered on the notion of privacy, understood as "an interpersonal boundary-control process, which paces and regulates interaction with others" (Altman, 1975, p. 10) in order to obtain the optimal degree of desired social contact at any given moment. "Crowding occurs when privacy mechanisms fail to function successfully, causing a person or group to have more interaction with others than is desired" (Altman, 1975, p. 146). Crowding, then, is the experience of achieving less privacy than desired. An important implication of this model is that crowding can be experienced even in situations of low density. Thus density can be an antecedent condition of crowding, but is neither sufficient nor even necessary.

Crowding is seen by Altman (1975, pp. 154-159) as a network of the following factors:

- (a) precipitating conditions: situational factors (density, prolonged time, resource

scarcity), personal conditions (inability to adapt), and interpersonal conditions (such as interference);

- (b) psychological factors: feelings of stress or disruption;
- (c) coping responses;
- (d) costs: pathological outcomes.

Altman's conceptualization constitutes an equilibrium model, with all its advantages and disadvantages (see Peters, 1960; Davis, 1968; Mischel, 1971). The capacity of Altman's model to integrate a multiplicity of dimensions--at least in principle--represents a genuine gain in crowding theory. However, by relating crowding with the need of privacy rather than with the lack of space due to high density, the meaning of crowding is considerably extended and loosened. If we can speak of crowding even in conditions of low density, as Altman's (1975, p. 159) model proposes, the experience of crowding becomes completely subjective and the original reference to objective conditions of human density becomes accessory (it is only a possible "precipitating condition," rather than a necessary one).

Should we speak of "crowding" in that case? Is crowding an adequate concept for a psychological experience which is no longer related to an objectively

dense situation? It seems to the present reviewer that such an enlargement of the concept of crowding is confusing and leads to theoretical fuzziness.

3.1.2. The Overload Model

One of the most popular and best known models of crowding was advanced by Stanley Milgram (1970) in an article titled "The experience of living in cities." Milgram focuses upon experiential aspects of living in conditions of high density and, in this sense, his approach is psychological. However, he draws heavily from urban sociologists, especially from Simmel. In fact, his model represents a reformulation of Simmel's (1905) overload hypothesis, cast in terms of system analysis. His basic formulation maintains that a person living in conditions of high density is like a system "unable to process inputs from the environment because there are too many inputs for the system to cope with, or because successive inputs come so fast that input A cannot be processed when input B is presented" (Milgram, 1970/1976, p. 495). In situations of overload, man has to adapt. According to Milgram, city dwellers attempt to adapt to overload by devoting less time to each input, disregarding or blocking low-priority inputs, redrawing boundaries in social interaction and, in general, by

establishing a whole set of individual and institutional screening devices. These adaptive patterns restrict the moral and social involvement of individuals with others, thus explaining phenomena like social inhibition in crises (Latané & Darley, 1969) or those behaviors associated with urban anonymity (Zimbardo, 1969).

Cohen (1978) has recently proposed the same overload model, in terms of the individual's limited capacity of attention (see Kahneman, 1975). Cohen generalizes the model to include other urban stressors besides density, such as noise or air pollution, and suggests that the individual's total capacity for adaptation can "shrink" when there are prolonged demands on attention, especially with respect to the task at hand.

3.1.3. The Intensification Model

Freedman (1975) has proposed an "intensification" model of crowding, which departs from most common psychological assumptions about crowding, but shows a great resemblance to the traditional model of social facilitation (see Zajonc, 1965).

In 1897, Triplett observed that the sheer presence of other individuals could significantly affect the performance of certain tasks. At the beginning, it

was thought that this influence was always facilitative, but later on it was observed that performance could be either enhanced or hindered by others' presence.

It was F. Allport (1920; 1924) who first theorized that overt motor responses were enhanced by the presence of others, whereas the same social presence would hinder intellectual or implicit responses. Zajonc (1965) reanalyzed the social facilitation issue, and proposed a new interpretation: the sheer presence of others raises the arousal level of the individual and, in this way, enhances the emission of dominant responses. Therefore, whether the effects of others' presence are facilitative or not will depend on whether the response given is the learned (correct) one or other (incorrect) responses (for a more sophisticated model, see Henchy & Glass, 1968).

Jonathan L. Freedman (1975) undertook several experiments on crowding, examining the effects of high density on performance and aggression, and came to the conclusion that "crowding does not have generally negative effects on humans" (Freedman, 1975, p. 1), that high density "does not produce any kind of physical, mental, or social pathology" (p. 7), and that its effects depend on other factors in the situation. He proposed what has been called the "intensification hypothesis;" crowding intensifies, but does not change, existing reactions of

individuals to other people in a given situation (pp. 90, 105). Density acts to strengthen the individual's typical response to a situation, whatever that response may be.

One problem with Freedman's model is that it equates objective high density with crowding, apparently in order to emphasize that the experience of crowding is not necessarily stressful. Thus, Freedman's intensity hypothesis seems to be a contemporary version of the social facilitation hypothesis, especially as advanced by Zajonc (1965): the presence of others (high density condition = crowding) enhances the typical response or, in Zajonc's terms, the dominant response. This model, originally cast in behavioristic terms, articulates a mechanistic view of social influence. However, the importance of Freedman's analyses lies in his insistence upon the different meanings and effects that high density may have within situations and persons. Against the prevailing tendency to assume that crowding is essentially pathogenic, Freedman has attempted to prove that crowding is neither positive nor negative in itself, and that it can have either good or bad effects, depending upon the situation.

3.1.4. The Ecological Model

Allan W. Wicker (1973) has attempted to apply Barker's theory of manning to crowding problems. Barker (1968) takes the behavior setting as the basic environmental unit in ecological psychology. A behavior setting is characterized by: (a) one or more standing patterns of behavior; (b) coordination between behavior patterns and the inanimate objects nearby; and (c) definite time-place boundaries. He distinguishes between performers and non-performers in a behavioral setting, and hypothesizes that behavior settings are ecobehavioral systems capable of generating forces necessary for their own maintenance. Undermanning is defined as a behavior setting with insufficient people to carry out its essential functions. An undermanned setting will lead people to get more involved and to assume a greater diversity of roles, thus enhancing the importance of each individual.

Wicker (1973) has enlarged this perspective to analyze a situation of crowding, seen as an overmanned setting, that is, a behavior setting in which the number of members is larger than the maximum allowed by the capacity of the setting and its functional requirements. This situation is assumed to be unstable and to produce

effects in the participants; for example, it can lead to less involvement or withdrawal.

Although the overmanning hypothesis has not yet received adequate empirical support (see Wicker & Kirmeyer, 1977), it contains some interesting theoretical points. One of them is the emphasis upon the behavior setting, that is, the concrete space, time, and social conditions in which the phenomenon of crowding will happen. This emphasis points out that crowding is a phenomenon necessarily linked to a social and historical circumstance and, therefore, subject to great variability across time and cultures. Another important aspect of overmanning theory is its distinction between performers and non-performers, which directs our attention toward the relationship between crowding experiences and the activity or activity pattern involved in a given situation.

However, it does not seem possible to identify overmanning with crowding. First of all, manning theory goes back to the sociological perspective by formulating the problem in terms of density; it is the setting, not the personal experience, which counts. On the other hand, density itself is analyzed in systemic, not spatial, terms. A situation is overmanned when the number of participants is higher than the number required

by the system's functions. Obviously, this imbalance can happen even in settings or systems which have no spatial problems. Thus, it is not surprising that the model has worked best for analyzing formal organizations, such as churches, schools, and other service institutions.

3.1.5. The Control Model

In order to account for the emergence of crowding as a psychological experience related to, but different from, high density Proshansky, Ittelson, and Rivlin (1976, p. 172) suggested that "in any situational context, the individual attempts to organize his physical environment so that it maximizes his freedom of choice." It is the loss of freedom that makes crowding stressful and frustrating. Therefore, "crowding occurs when the number of people an individual is in contact with is sufficient to prevent him from carrying out some specific behavior and thereby restricts his freedom of choice" (Proshansky, Ittelson, & Rivlin, 1976, p. 180). Behavioral constraints constitute the link between density and crowding.

In this "control" perspective, crowding is not necessarily related to high density since individual freedom of choice and control over a goal-oriented behavior can also be restricted by few people as well

as by many. However, a major factor mediating the experience of crowding seems to be the importance of the activity involved. An individual's goal-oriented activities have certain objective requirements in terms of the resources needed from the environment and are, therefore, crucial factors for the determination of a minimum of space.

Other authors have elaborated this line of thought. Sundstrom (1975), and Schopler and Stockdale (1977) have hypothesized that the central source of stress in dense settings is the interference with one's own goals by other individuals. Stockdale (1978) conceptualizes crowding stress in terms of "perceived lack of control." In a related development, Rodin, Solomon, and Metcalf (1978, p. 988) have suggested that "control mediates responses to density and is directly related to the experience of crowding" (see also Rodin, 1976).

A series of interesting questions could be raised here. Is the experience of stressful crowding necessarily a conscious experience? Can high density produce stress, even when the individual is unaware of its causes? Can high density lead to individual loss of control independent of any perception or awareness of that fact? These questions are crucial since they pose the problem

of the relationship between objective high density and subjective crowding. They also raise serious doubts about the convenience of speaking of crowding as a purely subjective feeling, independent of the objective effects produced on the individual by a high density situation.

Rodin and Baum (1978) have hypothesized that recurrent experiences of crowding, that is, of loss of control, can lead to what Seligman (1975) has called "learned helplessness," and that this learning can be especially important within a developmental perspective. In a recent restatement, Baron and Rodin (1978) describe crowding as a multistage process which involves the instigation of stress, the attempt to cope with stress, and the consequences of the coping strategies used. "Crowding effects are assumed to occur whenever high spatial or social density leads to a loss of personal control regarding (1) the selection of importantly valued actions or goals, (2) the means by which they are attained, and/or (3) the actual attainment of these valued options" (Baron & Rodin, 1978, p. 145).

Schmidt and Kealing (1979, p. 680) have suggested that "crowding is an attributional label applied to a setting when situational density results in a loss or lack of personal control" (see also Schmidt, 1978; 1979).

They borrow Averill's distinction among behavioral, cognitive, and decisional control and organize the existing literature on human crowding in terms of this triple distinction. They present a model which suggests that there are "three distinct stages in the evaluation of crowding; the presence of environmental stimuli and objective environmental conditions, cognitive processing requiring an assessment of personal control and the subsequent attributional phase, and the final evaluation of crowding" (Schmidt & Kealing, 1979, p. 696).

3.1.6. Stokols' Synthetic Model

Daniel Stokols, the foremost researcher in this field, has proposed a very comprehensive model (Stokols, 1972b; 1976; 1978a; 1978b; Schopler & Stokols, 1976). In 1972, he achieved a break-through in the study of crowding by introducing a clear-cut distinction between the objective phenomenon of high density and the subjective experience of crowding. According to Stokols (1972a), density is a strictly physical measure which expresses the number of people per unit of space. Crowding, however, is a psychological concept, which implies density as an antecedent condition, but also an experiential dimension irreducible to the physical condition of high density. Thus, the experience of

crowding is "a motivational state directed toward the alleviation of perceived restriction and infringement, through the augmentation of one's space supply, or the adjustment of social and personal variables so as to minimize the inconveniences imposed by spatial limitation" (Stokols, 1972a, p. 276).

It is important to stress the impact that this clear distinction has had upon subsequent studies through the drawing of a sharp line between the sociological approach to high density problems and the issue of psychological crowding. This distinction is represented in Figure 2.

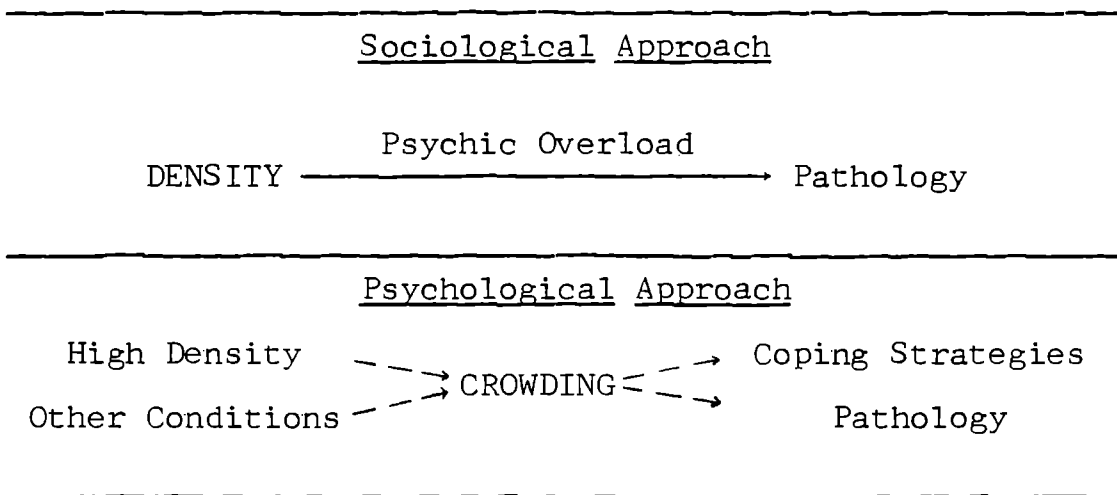


Figure 2. Two Approaches to Crowding.

There are at least three important differences between these two approaches.

(1) Sociological models emphasize the objective conditions of density while psychological models emphasize the subjective experience of crowding.

(2) Crowding is not only different from high density; it is also more than a simple and/or necessary consequence of high density. Nor can crowding be automatically identified with psychic overload; in fact, the experience of crowding in and of itself is not necessarily stressful.

(3) The connections between high density, crowding, and pathology are not necessary (as indicated in Fig. 2 by the broken arrows). The sociological approach assumes a relationship between high density and pathology mediated by the experience of psychic overload; therefore, it proposes one single connection. The psychological approach breaks the connection into two and makes the links conditional on other possible factors.

Subsequent to Stokols' article, many psychological theorists proposed two-part models of crowding (see, for example, Desor, 1972; Stockdale, 1978; Sundstrom, 1978; Worchel, 1978). Moreover, in a theoretical discussion of the concept of density, Rapoport (1975) maintained

that density is a perceived experience and should be seen as more than the number of people per unit area.

According to Rapoport (1975, p. 136), "density is the perception and estimate of the number of people present in a given area, the space available, and its organization, whereas crowding or isolation (which we could call affective density) is the evaluation or judgment of that perceived density against certain standards, norms, and desired levels of interaction and information." Rapoport advances the density model shown in Figure 3.

PHYSICAL SYSTEM	PERCEIVED SYSTEM	MATCHED	AFFECTIVE DENSITY
(density in people per unit area organized in certain ways)	→ (perceived density)	against norms, desired levels, etc.	→ isolation → O.K. → crowding

Figure 3. Rapoport's Density Model.

Consequently, for Rapoport (1975, p. 149) "it is perceived density which, judged by some criteria, results in affective density (the experience of being crowded or isolated as defined by the individual or group)."

Stokols himself defines crowding as a form of psychological stress which involves the perception of insufficient control over the environment and evokes the desire to augment physical or psychological space in order to gain sufficient control over the environment. Stokols (1978a, p. 232) adds a third assumption, that "feelings of crowding will be most intense, persistent, and difficult to resolve when the failure to augment space maximizes security threats."

The perception of insufficient control over the environment can be due to stimulus overload, behavioral constraints, or resource scarcity. Moreover, the experience of crowding varies according to two dimensions; the environment in which it takes place, and the nature of the perceived interference.

Stokols distinguishes two types of environment: primary and secondary. Primary environments are "those in which an individual spends much of his time, relates to others in a personal basis, and engages in a wide range of personally-important activities.... Secondary environments are those in which one's encounters with others are relatively transitory, anonymous, and inconsequential" (Stokols, 1976, p. 73). He also distinguishes two types of thwarting conditions: personal and neutral. These two dimensions--environment and

thwarting condition--allow him to devise a typology of crowding experiences, varying in psychological import and leading to different behavioral consequences.

According to Stokols (1978a, p. 249), the ultimate focus of his model "is not on how density affects human behavior but rather on how people symbolize and manipulate space as a means of regulating social interaction." Thus, the model is centered more on the notion of space than density. This emphasis on space seems adequate, as long as the model maintains the objective condition of high density as a necessary antecedent of crowding. Space is then a social resource (Castells, 1972; Baldassare, 1979) for which people have to compete in situations of high density. However, if high density is displaced as a central element in the analysis of crowding, Stokols' model would raise the same question as with Altman's model, namely whether the concept of crowding is still adequate.

One problem with Stokols' conceptualization is his assumption that crowding is always stressful. This assumption seems inevitable in equilibrium-based models of crowding. However, as Freedman (1975) has pointed out, it is precisely the stressful nature of crowding that is being questioned and which has to be empirically demonstrated. Situations in which crowding is not

undesirable, but rather desired and even looked for, cannot a priori be ruled out or taken as less "authentic" than undesirable experiences of crowding.

Stokols' model has the advantage of integrating the three types of hypotheses proposed to explain crowding: stimulus overload, behavioral constraint, and ecological or resource scarcity hypotheses (see Stokols, 1976). In this sense, it represents a valuable attempt at synthesis. His typology, however, is based on two dimensions of very different relevance. It seems that the distinction between primary and secondary environments is more important than the subjective attribution of the thwarting condition. The point is not to deny the influence of the attribution process, but to wonder whether a more significant typology could be obtained by employing a more significant variable or by dividing the variable he labels "the environment" into several variables: activity, interaction, and time (see also Stokols, Ohlig, & Resnick, 1978).

In summary, several models have recently been proposed by psychologists in order to account for crowding phenomena. Most of them are micro-models, since they do not integrate larger social variables or broader concerns, and since, on the other hand, they

presume a fundamental distinction between the objective condition of high density and the psychological, subjective, experience of crowding.

According to Altman (1978, p. 21), most psychological theorizing about crowding has the following features: "(1) Traditional homeostatic/equilibrium model; (2) stress as a correlate or resultant and a motivating force that arises from disequilibrium; and (3) goal-directed behaviors designed to restore equilibrium." These three features seem reducible to one: the homeostatic model, a long time favorite of American psychological theorizing.

Crowding is seen then as a psychological state of disequilibrium caused either by input overload or output constraint in a situation of perceived lack of space; its consequences will depend on several intermediate conditions as well as on the mechanisms used to cope with the stress.

3.2. Empirical Studies

The number of empirical studies on crowding during these last years is as large as the confusion about their meaning and real import. There is almost no finding concerning crowding which has not been matched by opposite and even contradictory results.

Since the conditions of these studies can hardly be generalized, it is extremely difficult to decide whether conflicting data are due to different assumptions, different variables, interaction effects, or methodological errors.

Given this multiplicity and the existence of several very recent reviews (Altman, 1975; Insel & Lindgren, 1978; Stockdale, 1978; Stokols, 1978a; Sundstrom, 1978; Hopstick, Aiello, & Baum, 1979; Schmidt & Keating, 1979), I will simply refer to a selected sample of these studies, without attempting to be exhaustive. For methodological and theoretical reasons, I will distinguish between laboratory and field studies. Methodologically, they use different assumptions and techniques in the collection and organization of data (Epstein & Baum, 1978). It appears that laboratory settings have not been able to reproduce adequately certain conditions which are essential for the experience of crowding; for instance, the temporal dimension. It is not clear at all whether crowding phenomena embedded in a social life context can be adequately studied under laboratory conditions; it seems almost impossible to reproduce in laboratory settings what Stokols calls "primary environments" (see Proshansky, 1976). This assertion does not deny the

role of laboratory research on issues of crowding, but does draw attention to its limits (Baldassare & Fischer, 1977).

3.2.1. Laboratory Studies

We can divide laboratory studies on crowding between those examining the antecedent conditions of crowding and those examining its effects. High spatial density, defined as a high number of people in a reduced space, has been the antecedent variable most often included in experimental designs analyzing experiences of crowding. In fact, most of the studies assume high spatial density as a basic condition, although they focus on other factors or intervening variables. An example of a typical study is the experiment by Stokols et al. (1973) in which the experimenters examined the task performance of groups of eight students of both sexes in either large or small rooms. The required tasks were either cooperative or competitive. They found that feelings of crowding were significantly greater in competitive tasks and in small rooms. In agreement with Stokols' earlier formulations, the results supported the hypothesis that high spatial density was a necessary antecedent condition of crowding.

However, several experiments conducted by

Freedman and his associates did not support this conclusion. For example, they placed mixed-sex groups of twelve working in mock jury deliberations in either large or small rooms and they found that spatial density had no significant effects on stressful feelings of crowding (Freedman et al., 1972). In another experiment, individuals in groups of four or five had to deliver a speech and receive criticisms in either a small or large room. They found that those given their speeches in the small room liked the group more and were less anxious during the speech (Freedman, 1975, pp. 152-153).

These results would seem to indicate that high spatial density does not antecede crowding. However, it is necessary to remember that Freedman (1975, p. 11) identifies density with crowding, and that he maintains that crowding is not always stressful. Following Stokols' (1972a; 1972b) logic, it could be argued that density is a necessary, but not sufficient, antecedent condition of crowding and that, in Freedman's experiments, the experience of crowding did not actually take place. It might also be argued, as Sundstrom (1978, p. 39) suggests, that density did not lead to discomfort (crowding) due to an interaction effect of high density with the mixed sex group condition.

Other studies have focused on spatial organization.

Desor (1972), for instance, used miniature rooms and asked people to place little figures in them until they felt the room was crowded. Desor found that the judgment of crowding by subjects was related to type of activity involved (social or non-social), and the organization of space; more figures were placed in the rooms whenever there were partitions or subdivisions. This room-model procedure has been used by other researchers (see Baum & Valins, 1978) and suggests that perception may be influenced by architectural features. However, these experiments do not examine an experience of crowding properly speaking, since the individuals are not personally subjected to such a situation. In an equivalent experiment, this time in the life situation of a waiting room, Stokols, Smith, and Prostor (1975) could not find any significant effects of room partitions on the feelings of crowding; moreover, the results showed a tendency toward greater feelings of crowding in partitioned (smaller!) rooms.

Several authors have distinguished between spatial and social density, the latter referring to the number of people or size of the group, independent (relatively, of course) from the amount of space. The hypothesis that social density can produce feelings of crowding is directly related to the "social facilitation"

effect (Zajonc, 1965; see Knowles, 1978, pp. 194 ff.). Griffit and Veitch (1971) assigned individual tasks to students of the same sex in groups of either 3-5 or 12-16, keeping constant the size of the room. They found that small groups had more positive mood and felt higher comfort than large groups. However, in a similar experiment, Bergman (1971) could not find any effects of social density on reports of crowding, although he found that groups at a close interpersonal distance reported higher feelings of discomfort.

This aspect of interpersonal distance is directly related to Hall's (1966) theory of space and to the studies on violation of personal space (Felipe & Sommer, 1966). After an almost exhaustive review of the existing empirical evidence on Hall's hypotheses, Altman and Vinsel (1977) concluded that the research supports the hypothesis that violation of intimate space is stressful. However, Schiffenbauer and Schiavo (1976), in line with Freedman's (1975) intensification hypothesis, found that invasion of intimate space has an intensification effect, rather than a consistently negative effect.

The hypothesis that interference of goal-oriented behavior produces feelings of crowding has been empirically tested in different ways. Desor's (1972)

finding that perception of crowding varied with type of activity has already been mentioned. Sundstrom (1975) found that, in conditions of high density, interruption or blocking of the ongoing activity (dyadic conversations) produced increasing feelings of discomfort and irritation. However, Sundstrom himself (1978, p. 44) reports an experiment by Joy and Lehmann in which the effects of interference are not as clear.

There are very few studies that have examined personality factors in crowding. Probably, the most consistent finding of these studies is the influence of sex in the experience of crowding stress (Freedman et al., 1972; Saegert, 1974; Baum & Koman, 1976). However, the direction of the results is not always the same (Sundstrom, 1978, pp. 48-49), and Dabbs (1977) maintains that experiments have not isolated effects attributable or due to subjects' sex or the sex of their partners. Related studies have shown that the measure of personal space can depend on personality differences (Patterson & Sechrest, 1970; Cozby, 1973), but evidence is still insufficient. Stockdale (1978) has hypothesized that locus of control (Rotter, 1966) will probably affect susceptibility to crowding, but again there is no empirical support for this suggestion.

Among laboratory studies on the effects of crowding, there have been several attempts to measure the physiological state of individuals under conditions of crowding in order to assess whether or not crowding is stressful. In general, the evidence supports the contention that crowding heightens psycho-physiological arousal (see Evans, 1978). Aiello, Epstein, and Karlin (1975), for instance, found a significant increase over time in arousal for subjects under crowded conditions. Other studies report higher levels of cortisol, high blood pressure, and other indices of arousal (Evans, 1975; 1978). However, arousal and stress are not identical, and it cannot be assumed that arousal is essentially unpleasant.

Laboratory results concerning the effects of crowding on task performance are even more confusing. In several experiments, Freedman, Klevansky, and Ehrlich (1971) could not observe any significant effects of spatial density (which they defined as crowding) on the performance of a word formation task. In another experiment, Freedman, Heshka, and Levy (Freedman, 1975, pp. 151-152) found that groups of high school students in small rooms liked each other more and did better on a hidden-word task than groups in large rooms. Sherrod (1974) could not find any effects of spatial density on

how groups of female students performed simple tasks. However, Heller, Bradford, and Solomon (1977, p. 184) discuss these results and maintain that "the factors that make crowded situations aversive are related to the need to interact physically in high-density situations." They placed groups of 6-8 male subjects to a task of collating booklets, and found that in conditions of high density and high physical interaction task performance was significantly affected.

Two recent doctoral dissertations examining the effects of crowding on task performance have yielded differing results. Flicker (1977) had subjects place chairs in a room until they felt it was "crowded." He found that ratings of crowding were not related to other task performance scores. Schkade (1978), on the other hand, had subjects solving figure tracing tasks under conditions of high or low density. She found that crowding resulted in poorer task performances only in those cases where individuals expected a punishing or aversive outcome.

One of the most controversial issues concerning crowding is whether or not it enhances aggression. Freedman et al. (1972), in a mock jury experiment, found that in high spatial density conditions, males were more competitive and gave tougher sentences than in low

spatial density conditions. A reverse effect was observed for females. Similar differential effects were reported by Stokols et al. (1973); however, Sundstrom (1975) could not find significant differences of liking for others in groups under high or low density conditions.

An excellent series of studies by Glass and Singer (1972) on the deleterious after-effects of noise has been very influential to the study of crowding. Glass and Singer found that unpredictable noises were the most stressful, especially insofar as they interfered with the information-processing demands of some ongoing activity. Even if people were able to adapt to most stressful (noisy) conditions, uncontrollable noise was likely to produce negative after-effects by inducing a sense of helplessness in the individual. In a recent report, Glass, Singer, and Pennebaker (1977) maintain the proposition that uncontrollable environmental events have profound after-effects on human behavior, and they extend their perspective to include undesirable styles of coping with uncontrollable events.

Although Glass and Singer's studies did not focus on crowding, their treatment of noise as a stressor could be translated to crowding. Thus, Sherrod (1974) attempted to produce similar after-effects by varying

predictability and controllability with respect to high density as stressor; the results obtained were mixed, and only offered a mild support for the hypothesis. Baum, Aiello, and Calesnick (1978) completed surveys and a Prisoner's Dilemma game with 60 students living in dormitories of different size, which allowed the students more or less control over interaction with neighbors and visitors. They found that loss of regulatory control in high-density residential setting produced delayed symptoms of withdrawal and helplessness.

In Table 3, a summary of the laboratory studies here reviewed is presented.

3.2.2. Field Studies

One of the first field studies on the effects of crowding was undertaken by Hutt and Vaizey (1966). They observed young children playing in groups of different size in a hospital playroom. They compared brain-damaged with autistic and normal children and found differential effects of social density (group size) on aggression and social interaction. Brain-damaged and normal children increased their aggressive behavior under high density, but not autistic children. In addition, normal children diminished their social interaction in larger groups,

TABLE 3

SUMMARY OF SAMPLE LABORATORY STUDIES OF CROWDING

Variables Examined	R E S U L T S		
	Supportive	Mixed	Unsupportive
ANTECEDENT CONDITIONS			
Spatial density	Stokols <u>et al.</u> , 1973		Freedman <u>et al.</u> , 1972 Freedman, 1975
Spatial organization	Desor, 1972 Baum & Valins, 1978		Stokols <u>et al.</u> , 1975
Social density	Griffith & Veitch, 1971		Bergman, 1971
Violation of personal space	Felipe & Sommer, 1966 Altman & Vinsel (Review), 1977		Schiffenbauer & Schiavo, 1976
Interference	Sundstrom, 1975		Joy & Lehman (quoted by Sundstrom, 1978)
Sex	Freedman <u>et al.</u> , 1972 Saegert, 1974 Baum & Koman, 1976		Sundstrom (Review), 1978 Dabbs (Methodological criticism), 1977
CONSEQUENCES			
Physiological	Aiello <u>et al.</u> , 1975 Evans, 1978		
Task performance	Heller <u>et al.</u> , 1977 Schkade, 1977	Freedman <u>et al.</u> , 1975	Freedman <u>et al.</u> , 1971 Sherrod, 1974 Flicker, 1977
Aggression		Freedman <u>et al.</u> , 1972 Stokols <u>et al.</u> , 1973	
After-effects	Baum <u>et al.</u> , 1978	Sherrod, 1974	

∞
0

while autistic children increasingly withdrew from social interaction under high density conditions.

Some years later, McGrew (1970) reported detailed observations about the effects of high density on nursery school children. After distinguishing spatial and social density, results showed that spatial density increased the frequency of close proximity encounters (within two feet), whereas social density did not have any significant effect on spatial behavior. However, solitary behavior increased in the large groups condition and decreased in the small room condition.

Loo (1972; 1978) observed preschool children (four to five years old) in mixed groups of different sizes, playing in either a large or small room. It was observed that, under high density conditions, boys showed a significant decrease in aggression, and the reverse was true for girls. Results also showed a significant drop in social interaction under high density conditions. In general, Loo (1978, p. 386) concludes that social density (group size) produces more effects on behavior and perception than spatial density (room size).

One of the best known field studies is that done by Ittelson, Proshansky, and Rivlin (1970; 1972) in the psychiatric wards of three metropolitan hospitals.

They made observations every 15 minutes in all areas of the wards throughout the active periods of the day. They found that isolated passive behavior increased with the number of beds per room. Their conclusion was that, whereas "the patient in the smaller room experiences the entire range of possible behaviors as open to him, he feels free to choose from the whole range of options..., the patient in the larger room is far more likely to be engaged in isolated passive behavior than in anything else and will spend anywhere from two-thirds to three-fourths of his time, while in his room, lying on his bed, either asleep or awake" (Ittelson, Proshansky, & Rivlin, 1972, p. 103).

Susan Saegert (1976; 1978) distinguished between stimulus, informational, and decisional overload, and hypothesized that control over information can ameliorate the aversive character of high density conditions. Saegert, MacKintosh, and West (1975) asked people to complete recall tasks in a shoe store or in a railroad station under conditions of high or low density. They observed that performance was significantly poorer under high density conditions, although they also observed a density-sex interaction effect. In another study, Langer and Saegert (1977) asked eighty women between the ages of 25 and 45 to complete a list of the best

prices for different products in several grocery stores, under high or low density conditions. Their conclusion was that crowding can interfere with cognitive efficiency and subjective feelings of ease, but that information from the experimenter about expected reactions may aid in coping with crowded conditions.

Most of the studies by Barker and his associates (see Barker et al., 1978; Wicker, 1973; 1976; Wicker & Kirmeyer, 1977) have taken place in field settings, such as churches, schools, or parks. However, it does not appear that these studies deal with problems of crowding (as discussed above in section 3.1.4).

McCain, Cox, and Paulus (1976) obtained detailed housing and medical records from 247 prison inmates, housed in cells or dormitories with different degrees of density. They found that inmates under conditions of high social density complained about illness more often than inmates under conditions of low social density.

Probably the most systematic series of field studies have been conducted with respect to student dormitories. Baron, Mandel, Adams, and Griffen (1976) examined the effects of tripling some male dormitory rooms designed for double occupancy. They found that "residents of triples expressed greater feelings of crowding, perceived less control over room activities,

expressed more negative interpersonal attitudes, and experienced a more negative room ambiance" (Baron et al., 1976, p. 434). However, no effect could be observed on their academic performance. Baron et al. (1976, p. 445) suggested that, in terms of Stokols' (1976) typology, "doubles represent a case of neutral thwarting in a primary environment whereas triples represent a situation involving personal thwarting in a primary environment."

In a similar study, Karlin, Epstein, and Aiello (1978) found some evidence of health impairment and increased stress among tripled students. However, in a follow-up study (Karlin, Rosen, & Epstein, 1979, p. 391) they found that "during their later college careers, all students, regardless of their freshman room assignment, were equally well adjusted to college, equally satisfied with college and performed equally well in their courses."

Choldin, Jacobsen, and Yahnke (1975) interviewed fourteen young families, in which at least one of the adults was a university student. All families had at least three children, and half of the families lived in "crowded conditions" (4-room apartments). They found that "several of the families were under considerable stress, and while the amount of space was not the primary stressor, it did exacerbate family problems" (Choldin,

Jacobsen, & Yahnke, 1975, p. 71). Interestingly enough, the same authors observed that, by world standards, these families had large amounts of indoor space. Thus, they concluded that problems of crowding depend on socio-cultural factors, such as the social expectations or the norms of the American middle class.

Eoyang (1974) conducted a field survey of 58 university students living in identical housing units at a trailer park. The students were asked about their living space and their satisfaction with it. Eoyang found that social density (number of people) had greater influence on satisfaction levels than social stimulation. He further contended that the data supported Stokols' distinction between objective conditions of density and the experience of crowding.

For several years, Baum and his associates have conducted studies of crowding in student dormitory settings. Baum and Valins (1977) compared the differential effects of social density on college students. "Crowding was assessed as a dependent variable, and represents no more than a label used by residents to characterize an environment in which they were overloaded with unwanted and unpredictable interaction" (Baum & Valins, 1977, p. viii). They compared several groups of students: some of them lived

in a type of dormitory, in which the bedrooms (doubles) were placed at both sides of a long corridor; other groups lived in a dormitory, organized in suites of three bedrooms (also doubles). Physically, each student had approximately the same amount of space in both the corridor and suite dormitories. However, the architectural arrangement influenced significantly the perception and behavior of the students. Corridor students were subjected to a good deal of unwanted social interaction in the corridor and tended to avoid those areas where social interaction was most likely (Baum & Valins, 1977, pp. 25 ff.). They were also more likely to perceive their dormitory as crowded than suite students, and were significantly less satisfied with the amount of privacy afforded them in the dormitories (pp. 30 ff.). Baum and Valins (1977, p. 100) concluded that corridor residents appeared "crowded by virtue of having to share common living areas with too many others. High social density is evidently associated with social experiences that can mediate the development of crowding stress."

McCarthy and Saegert (1978) studied the effects of residential density in tenants of a low-income public housing project in the Bronx (New York). They interviewed 60 tenants, half of them living in 14-story

apartment buildings, and half of them living in three-story walkups. The two groups had similar demographic characteristics, except that the mean family size in the three-story buildings was larger than the mean family size in the high-rise buildings (5.3 members and 3.6 members respectively). A comparison between the two groups revealed that "residents of the 14-story buildings were: (1) more likely to report experiences of social overload and crowding; (2) more likely to feel a weaker sense of control, privacy, and safety in various interior spaces of their building; (3) more likely to experience greater difficulty in their social relations; and (4) more alienated, less satisfied, less involved, and more detached from their own building and the project in general" (McCarthy and Saegert, 1978, p. 257).

McCarthy and Saegert conclude that these results support and extend the findings of Baum and Valins. They maintain that environmental rather than personal differences are the major determinants of perceived crowding and that the negative effects of high density are mediated by the individual perceptions of social overload. Moreover, "in contrast to theories suggesting that people adapt to or cope with stresses over time, our data indicate that perceptions of crowding may become stronger the longer one lives in a crowded environment

and that the social withdrawal engendered by social overload in the residential environment extends to other aspects of life" (McCarthy & Saegert, 1978, p. 269).

Schmidt, Goldman, and Feimer (1979) interviewed 697 residents of single-family dwellings in the San Bernardino and Riverside areas (California). Their sample included white, black, and Mexican-American individuals. They used a questionnaire which included questions about physical, demographic, and psychological factors, and distinguished three levels of analysis: the perception of crowding in the residence, the perception of crowding in the neighborhood, and the perception of crowding in the city. Their assumption was that these three levels would be independent, as against the contrary assumption about the generalizability of feelings of crowding advanced by other authors (McCarthy & Saegert, 1978; Stokols, Ohlig, & Resnick, 1978). The results only partially supported the assumption about the independence of the three levels since they found some correlation between neighborhood and city crowding.

Through stepwise multiple regression analyses, Schmidt, Goldman, and Feimer (1979) found that both physical and psychological factors influenced the perception of crowding, but that the impact of physical density on the individual was mediated mostly by the

perception of crowding. They conclude that their data support Stokols' distinction between primary and secondary environments. "Density is an important associate of crowding in a primary residential setting and less so in consecutive urban spheres where interactions are increasingly transitory. It is apparent that the direct effects of density virtually disappear once we move away from the residence" (Schmidt, Goldman, & Feimer, 1979, p. 125; see also Schmidt, 1979).

In a related analysis (Schmidt, Goldman, & Feimer, 1976) the authors found interesting ethnic or cultural differences. "Psychological factors indicative of the impact of physical conditions on the individual provided the best explanation for the perception of crowding for white subjects. Black and Chicano groups, however, tended to view crowding at each of the analysis levels in terms of the total urban 'gestalt', associating physical measures beyond their implicated impact" (p. 279). Schmidt, Goldman, and Feimer (1976, p. 288) conclude that "the three subcultural groups perceive and cognize the urban environment in markedly different ways."

The field studies about crowding reviewed here are summarized in Table 4. Contrary to laboratory research, all these studies report data supporting,

TABLE 4

SUMMARY OF SAMPLE FIELD STUDIES OF CROWDING

Type of Situation	Studies Reviewed
Hospitalized children	Hutt & Vaizey, 1966
Nursery school children	McGrew, 1970 Loo, 1972; 1978
Psychiatric wards	Ittelson <i>et al.</i> , 1970; 1972
Stores, railroad station	Saegert <i>et al.</i> , 1975 Langert & Saegert, 1977
Prison inmates	McCain <i>et al.</i> , 1976
Student dormitories	Baron <i>et al.</i> , 1976 Karlin <i>et al.</i> , 1978; 1979 Eoyang, 1974 Choldin <i>et al.</i> , 1975 Baum & Valins, 1977
Public housing residents	McCarthy & Saegert, 1978
Single-family dwelling residents	Schmidt <i>et al.</i> , 1976; 1979

in one way or another, the hypothesis that crowding has some deleterious effects on individuals.

3.3. Recent Reviews and Critiques

It seems odd to speak of recent reviews with respect to a field of study barely fifteen years old. All the studies on crowding are recent, and most of them very recent. However, two studies, one theoretical and the other empirical, will be examined here which present a global perspective of the psychological approach to crowding.

In a review of the existing theories of human crowding, Julian J. Edney (1977) distinguishes four orientations: the ethological perspective, theories of temporary street crowds, comprehensive equilibrium models of crowding, and limited conceptualizations. For the present purpose, the most relevant section is the review of comprehensive models in which Edney discusses the theories of Altman and Stokols.

Edney's principal criticism of Stokols' model is that "factors like time, culture, situation definition, socioeconomic status, age, previous experience, personal values, and expectations are missing, as is the factor of local norms, which could set the equilibrium level around which the model operates" (Edney, 1977, p. 1221). With respect to Altman's model, Edney thinks that it takes into account more of the evaluative assessment mechanisms and situational factors than does Stokols';

however, Altman's model does not consider high density as a necessary antecedent of crowding.

In a summary paragraph, Edney (1977, p. 1222) enumerates eight criticisms of these two comprehensive models, the first five of which could also be applied to simpler models:

1. they do not explain why a crowded situation occurs in the first place;
2. they do not discuss the situational goals and purposes of crowded people;
3. there is no prediction of when an individual will make adaptive or maladaptive responses;
4. they do not indicate the effects of learning during the crowding experience;
5. the effects of environmental resource distribution are only obliquely referred to, if at all;
6. they do not state which of the variables are most important as measures of crowding;
7. they do not specify when different coping mechanisms will be used;
8. they do not predict how long after sensing disequilibrium the organism will respond, or whether it can opt not to respond.

Unfortunately, all these criticisms are simply mentioned, without elaboration. Some of them, however, point to crucial aspects of crowding models. Thus, for example, criticisms number 1 and 8 can lead to questioning seriously whether the equilibrium models are adequate to describe (to explain?) most crowding experiences. This question can further lead to doubting the assumption that crowding is intrinsically stressful as well as to doubting the adequacy of current equilibrium models of stress.

Sundstrom (1978) presents a very comprehensive review of empirical studies completed before February, 1976. The review analyzes 83 studies, both sociological and psychological, organized to fit into a sequential model of crowding proposed by Sundstrom himself.

Crowding is defined (Sundstrom, 1978, p. 32) as "a state of psychological stress that sometimes accompanies high population density." Sundstrom, thus, assumes that: (1) density and crowding are different; (2) density is a necessary, but not sufficient, condition for crowding; (3) crowding is a psychological state; and (4) crowding is stressful. The implication of these assumptions is that, besides density, other factors, situational or personal, are considered to be essential for the elaboration and character of crowding experiences.

Sundstrom examines the existing empirical evidence with respect to three sequential aspects of the crowding process:

- (a) antecedent conditions: physical, social, personal, as well as modifying variables;
- (b) psychological response associated with crowding: perception of and feelings toward other people, and processes of adaptation;
- (c) consequences of crowding: behavioral reactions, immediate after-effects, and cumulative effects.

In an effort to evaluate the existing empirical evidence, Sundstrom (1978, p. 69) presents a table of those ten hypotheses most supported by research (as reproduced in Table 5). In this table, "supported" means that "the hypothesis was examined in at least five studies, of which at least one-half showed supportive findings" (Sundstrom, 1978, p. 69, footnote).

It seems that there are two areas which receive substantial support. First, there is support for the proposition that high density, both spatial (1) and social (2 and 3) can produce crowding or discomfort. Second, there is support for the proposition that high density is associated with pathology (8, 9, and 10). I have discussed in section 2.4 the difficulties involved

TABLE 5

HYPOTHESES SUPPORTED BY CURRENT RESEARCH EVIDENCE

HYPOTHESES	FINDINGS	
	Sup.	Tot.
1. Small room size (high spatial density) produces crowding, discomfort, or other negative moods/states.	18	29
2. In brief exposures to a constant sized area, increases in group size are associated with crowding or discomfort.	6	9
3. In prolonged exposures to a constant sized area, increases in group size are associated with crowding or discomfort.	7	9
4. Crowding is more likely when a group works together or interacts than when members work alone.	4	6
5. In brief exposures to high room density in same-sex groups, males react more negatively to others than in low room density, but females react more positively to others in high than low room density.	9	18
6. A person with a history of intense or frequent social stimulation shows greater toleration for high density than does a person with a history of relative isolation (adaptation-level effect).	4	5
7. Performance of complex tasks is poorer during brief exposures to high room density than to low room density.	3	6
8. Prolonged exposure to high household density is associated with poor health.	11	15
9. Prolonged exposure to high household density is associated with crime or aggression.	4	5
10. Prolonged exposure to high neighborhood density is associated with withdrawal from interaction among males.	4	5

Source: Sundstrom, 1978, p. 69.

in summing the results of very different studies. But even if we take the results of Sundstrom's table at their face value, we have to conclude that no single hypothesis has received unanimous support and that, the larger the number of studies, the more discrepancies appear.

3.4. Discussion

Any broad review of current psychological studies on crowding produces the impression of a confusing amount of divergent ideas and data. It seems important at this stage to avoid any blithe generalization about the nature and effects of crowding. The present state of the field does not warrant an open optimism concerning our knowledge of crowding: to believe otherwise is scientifically inaccurate and can lead to unjustified predictions or premature conclusions. This same state of disarray and confusion of the field makes more necessary a critical distance in order to assess the journey accomplished and the steps to take in the future.

I have already made many critical remarks about crowding studies, especially in the presentation of the theoretical models. In this section, I will attempt to analyze the field from a different critical perspective.

How did psychologists become interested in the issue of human crowding? In 1970, Bartz complained in

an article entitled "While Psychologists Doze On" that psychology was not responding to new ecological challenges, especially the oncoming debacle of the population explosion predicted by the neo-Malthusians. Sociopolitical pressures, plus the availability of generous grants for research on population issues, finally attracted the attention of psychologists (Fawcett, 1970; Wohlwill, 1970). Simultaneously, the astonishing results obtained by Calhoun (1962) with his colony of rats provided an apparently irrefutable testimony about the extreme seriousness of the issue and encouraged further research. Thus, it is common practice to justify studies on crowding by mentioning both the overpopulation threat and Calhoun's data (see, for instance, Insel & Lindgren, 1978).

The concern for overpopulation, in itself an important issue, has been too often used as a political tool against the raising demands of the poor for a more equitable part in the world's wealth. The mechanism of "blaming the victim" (Ryan, 1976) has found in the overpopulation issue excellent material for its discourse, thus ideologically inverting the relationship between production and distribution, and between socioeconomic status and rate of reproduction. These political roots have seriously influenced the direction undertaken by

crowding theory and research in at least three respects.

(a) From the beginning, crowding has been seen as a problem of space scarcity rather than a problem of space distribution; it has been analyzed under the quantitative perspective of high population density, and not under the qualitative perspective of unequal social relationships. This is not to deny that space scarcity or high density are important aspects of crowding; on the contrary, the point is to stress their meaning as concrete products of a social structure. If we take these two conditions as a priori givens or the starting point for the analysis of crowding, the broader social context is ignored and the question is never posed of why and how a crowded situation occurs in the first place (Edney, 1977, p. 1222). In this sense, the sociological approach has been more aware of the social roots of population density.

By taking the situation of density as a given, the psychological approach has systematically, even if not intentionally, ignored essential historical variables, like the socioeconomic context, cultural norms, the social meaning of the activities involved, and temporal conditions. Whoever reads the specialized literature cannot help observing the social irrelevance of most situations devised to study crowding. With few

exceptions, crowding studies have centered on transitory classrooms, unimportant tasks, or uncompromising circumstances. This lack of realism in crowding studies has to be overcome not only by analyzing crowding in specific settings (Karlin, Epstein, & Aiello, 1978), but also by understanding these concrete settings in terms of broader social and cultural structures.

(b) Crowding, as an element and a symptom of overpopulation, has been assumed to be intrinsically deleterious. Most psychologists have translated this assumption into the category of stress, and have analyzed crowding with the help of their favorite equilibrium model. Crowding is thus understood as a motivational state of stress or disequilibrium which calls for some coping mechanisms in order to re-establish the equilibrium or state of calm.

This assumption seems both theoretically and empirically questionable. Theoretically, the equilibrium model remains unavoidably tied to the ideal image of a closed system--a type of system which certainly cannot be applied to human beings. Growth, change, and progress cannot be properly integrated in an equilibrium model; moreover, equilibrium theories often consider descriptions as explanations. In the present case, the proposition that crowding is disequilibrating and,

therefore, a negative motivational state, assumes precisely what has to be proved.

Empirically, it is not obvious that crowding is always stressful. Some people have the experience of situations in which crowding is not only not avoided, but positively desired; for example, they can expect and even like crowding in a sports event, a political demonstration, or certain social gatherings. Mitchell (1975; 1976) has shown that, historically, humans have lived in conditions of high residential density without being subjected to special forms of demonstrable stress due to those conditions. It is therefore surprising to see Stokols' (1978a; 1978b) response to Griffitt's (1974) criticism that crowding is not always accompanied by stress. According to Stokols (1978b, p. 118), "the frequent lack of association between subjective reports of crowding and overt manifestations of stress reflect the lack of refinement in current measures of crowding rather than the inadequacy of the crowding construct." This is certainly a possibility, but the reverse is also possible. And, given the empirical results acknowledged by Stokols himself, what is the basis for this assertion? Why does he assume that the stressful experiences of crowding are "authentic" and the unstressful or pleasant ones "inauthentic"? It is clear that Stokols' intention

is to justify the construct of crowding as a real psychological experience. But in order to justify it, crowding does not have to be thought in terms of stress.

(c) Psychologists have increasingly understood crowding in subjective terms. The distinction between high density and crowding, first formally advanced by Stokols (1972a), and since then assumed by most psychologists, constituted a theoretical improvement that attempted to account for the diversity of crowding experiences. However, when later formulations assume that crowding experiences can happen without any relationship to high density (Altman, 1975), it seems that the phenomenon of crowding has been psychologized and basically deprived of its social roots and relevance.

Both Altman (1975) and Stokols (1976), in attempting to understand the problem of crowding, have been led to link crowding with the organization of space. However, Altman--and perhaps the later writing of Stokols as well--sees space more as a personal dimension than as a social product. The important question then becomes, not how a given social formation organizes and distributes space among its members and how this distribution affects their lives, but how individuals cope with personal perceptions of space or, in Hall's (1963, p. 1003) terms, "how man unconsciously structures

microspace." In this way, the reference to society practically disappears and the ideological discourse completes its circle.

In order to avoid reductionism in the study of crowding, it seems necessary: (a) to maintain the distinction between the objective condition of density and the subjective experience of crowding; (b) to maintain the relationship between density and crowding in the sense that high density is a necessary, even if not always sufficient, antecedent of crowding; and (c) to place density within the socio-cultural structures which produce it and give it a meaning.

The control model of crowding, especially as it has been recently proposed by Baron and Rodin (1978) or by Schmidt and Keating (1979) might satisfy these three conditions. This would require disentangling that model from the equilibrium-motivational assumption and integrating it within a broader conceptualization of social dynamics.

We can summarize the most relevant aspects of the psychological approach to crowding in five points:

- (1) Crowding is the individual elaboration of a condition of population density and, therefore, it is a psychosocial process which implies both social and personal factors;

(2) It has not been proven empirically that the experience of crowding is always stressful; on the contrary, there is historical, ethnographic, and laboratory evidence that crowding can be non-stressful. Crowding seems to become stressful whenever high density threatens or actually interferes with individual control over goal-oriented activities and their outcomes;

(3) Social density, intimate distance violation, and interaction are some of the variables most likely to influence feelings of crowding (Sundstrom, 1978). However, several other variables which are theoretically relevant to the actual experience of crowding have not been sufficiently studied. Most of these variables have to be defined in historical and cultural terms: socioeconomic status, distribution of space among social classes and groups, character of the environment (primary or secondary), social norms and expectations, and type of activities involved;

(4) The effects of crowding will depend on these concrete variables as well as on the mechanisms used by each individual to cope with the situation. The empirical research has offered

only moderate support for the hypothesis about the pathological effects or after-effects of crowding experiences. The observed effects tend to corroborate the conclusions reached by the sociological approach;

(5) In order to obtain a better understanding of crowding it is necessary to integrate the psychological elaboration of high density conditions into a historical context and to specify the social forces and practices which shape and define that context.

CHAPTER 2

A PSYCHOSOCIAL APPROACH TO HUMAN CROWDING

1. The Nature of Crowding

The detailed bibliographical review presented in Chapter 1 indicates that sociologists have emphasized the objective condition of high density whereas psychologists have emphasized the subjective process of feeling crowded. A comparison of the conclusions drawn from both approaches suggests that these two perspectives are not incompatible and that they can be integrated into a psychosocial approach. This integrated approach will have to deal with the following points:

- (a) the socio-historical structures which determine the distribution of space in a given society and within each social group;
- (b) the cultural norms which regulate daily activities, set their essential requirements, and orient individual expectations toward certain goals;
- (c) the distinction and relationship between the objective condition of high density and the individual experience of crowding;

- (d) the motivational character of crowding and its conditions; and
- (e) the effects and after-effects of crowding in the individual.

In an attempt to integrate these points, I will define crowding as experiencing space scarcity due to the number of people present in a given situation. This definition contains three essential elements: experience, space scarcity, and number of people.

The first element of the definition is that crowding is a psychological experience. Stokols' (1972a) basic distinction between high density and crowding is accepted. Yi-Fu Tuan (1977, p. 8) defines experience as "the various modes through which a person knows and constructs reality." In this sense, crowding is both individual and social: individual, because any experience is a subjective process; social, because the specific modes through which persons construct a reality are not purely personal, but essentially social elaborations (Berger & Luckmann, 1966).

The second element of the definition is the experience of spatial scarcity. Every experience is an experience of something. The object of the experience of crowding is the lack of space (Stokols, 1976) within a concrete situation, having historical and cultural

determinants. It is important to emphasize the situational concreteness of a lack of space for two reasons. First, because a purely subjective experience of space scarcity cannot properly be called crowding. As Schachter and Singer (1962) have stated, one essential element of an emotion is its cognitive content (for an interesting update on this issue, see Maslach, 1979; Marshall & Zimbardo, 1979; Schachter & Singer, 1979). A feeling of "being crowded" when space is abundant is not crowding. Although such a feeling may formally resemble one of crowding, it may actually reflect a sense of a lack of privacy (Altman, 1975) or other related experience. The second reason for emphasizing the situational concreteness of space scarcity points to the fact that most experiences of crowding take place in "micro-situations" of high density (e.g., at home, in the office, etc.) which occur even when the density of the "macro-situation" (e.g., the city, zone, or neighborhood) is very low. In such cases, space scarcity may be due more to an unequal distribution of social resources than to an absolute lack of space.

The number of people constitutes the third element of the present definition of crowding. Crowding is not just any experience of lack of space, but only those experiences in which scarcity is due to the

presence of people. Crowding is an interpersonal experience. A prisoner in solitary confinement may experience a scarcity of space; however, this experience is not one of crowding, because the scarcity is not due to sharing the cell with other people.

The interpersonal character of crowding has often been disregarded. When "the other" is simply conceptualized as a set of stimuli, an interference, a non-space or, at best, as an encroacher, the person is reified. It is true that, at least in some instances of crowding, "the other" is perceived in reified terms. But even in these instances, the character of crowding will depend on who the "other" persons are. It is obviously not the same to feel crowded among one's own family or friends than among unknown people or hostile individuals. Moreover, if it is maintained that crowding can take place even in situations of low density or without other people being present, then crowding is no longer seen as a social phenomenon; rather it becomes a purely subjective relation of the individual with an abstract "environment." The door is then opened to an ideologized psychologism in which "the victim" is blamed (Ryan, 1976) for the crowding experience. Neither society, nor high density, nor "the other" are essential for crowding, but rather the individual's own standards (Martín-Baró, 1979).

The present definition of crowding differs in several ways from other current definitions. It concurs with Freedman's (1975) definition in that crowding is not always or necessarily stressful. However, unlike Freedman's definition, it does not identify crowding with high density.

My major disagreement is with Altman's (1975) definition. For Altman, crowding is not necessarily tied to a situation of high density, but to a situation in which the level of desired privacy cannot be reached. Consequently, the individual's level or threshold for crowding is not fixed but fluctuates. I agree with Altman that the threshold for crowding oscillates; however, while he relates the fluctuation to individual factors, I relate it to both individual and socio-cultural factors. It is the character of each situation, as socially structured, that will determine adequate levels of density for any given goal-oriented activity. Therefore, high density is not solely determined by subjective variables, but primarily by the norms defining the situation and by the objective requirements of the activities involved. In other words, high density affects individuals, whether they notice it or not (Baldassare, 1979, pp. 34-35).

I agree with Stokols that crowding is the

experience of spatial scarcity. I disagree with him and with others who maintain that crowding is always motivational and stressful (i.e., negatively stressful). The definition of crowding presented here does not assume an equilibrium model. My only disagreement with Rapoport's model (1975) is more terminological than substantive. I consider "crowding" to be part of what he calls the "perceived system" (see Rapoport's model on page 65) rather than part of the "affective density." Crowding from my perspective, in Rapoport's terms, would be "perceived high density," which can be either stressful or non stressful ("affective density") depending on its appraisal against social norms and individual's expectations.

2. A Psychosocial Model of Crowding

The model presented in Figure 4 attempts to express the psychosocial process of crowding within a concrete historical and cultural context. The following points explain the characteristics of this psychosocial model of crowding.

(1) The most basic, fundamental level corresponds to the historical social system in which the experience of crowding to be analyzed takes place. This system is characterized in terms of its present social formation.

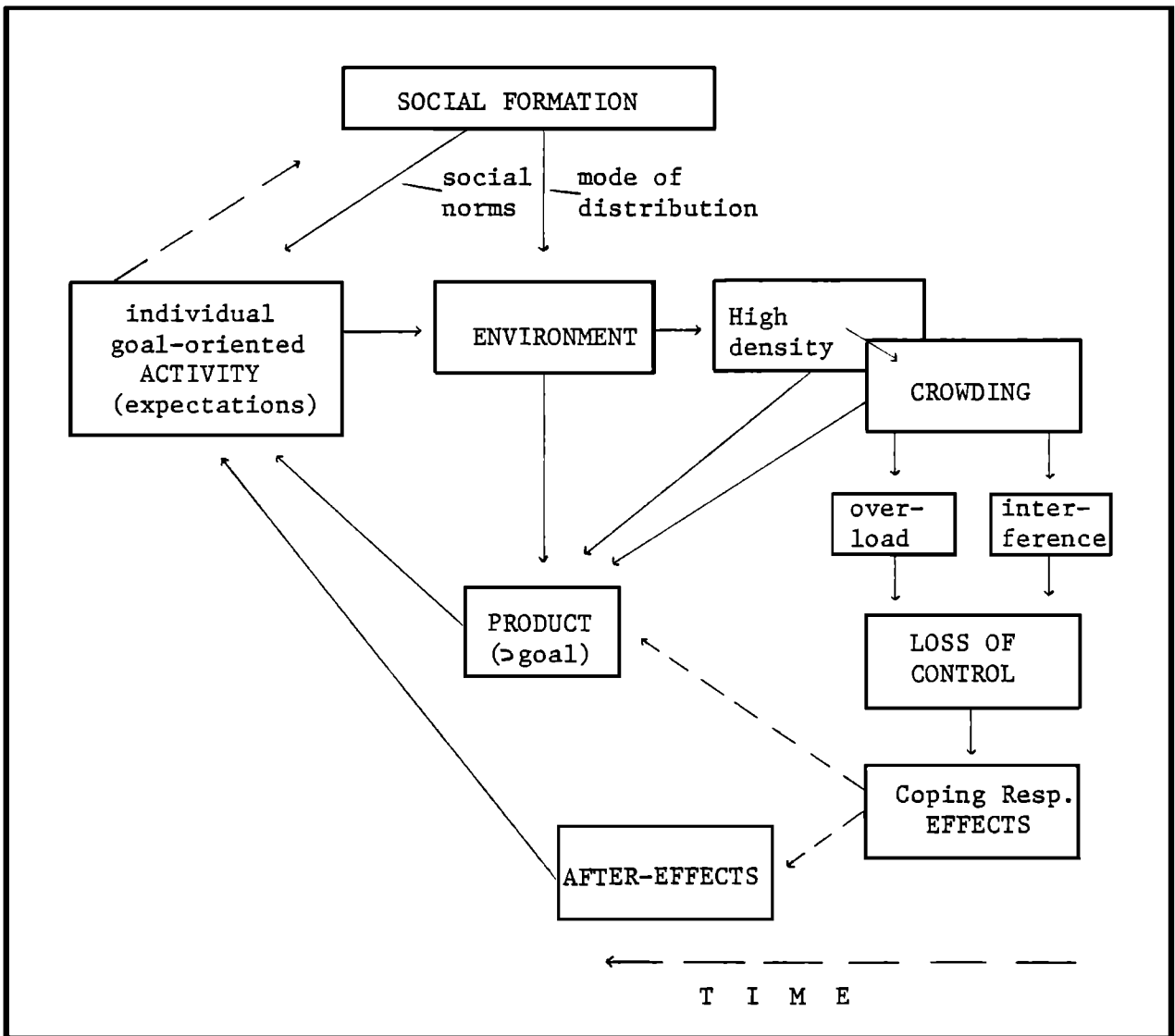


Figure 4. A Psychosocial Model of Crowding.

A social formation includes the dominant mode of production (and, perhaps, a particular combination of different modes of production), the political and ideological super-structures, and consequent social practices which determine,

in any given circumstance, the group or groups involved in high density situations (see Althusser & Balibar, 1970). A primary assumption is that it is not the same to experience high density conditions in a slum of Chicago, a public-housing dwelling in New York, a multi-family building in Hong Kong, or a mesón (tenement house) in San Salvador, although these situations are all characterized by high levels of residential density.

(2) On the one hand, the social formation conditions individual activity by means of the social norms applying to each activity in a given situation; on the other hand, it determines, by means of the mode of wealth distribution, the character of the environment in which high density occurs.

As it has been already indicated, crowding is necessarily related to space and, therefore, the nature and conditions of that space are important variables in determining crowding experiences. Space is not a natural or blank given; space is a social construction, which is characterized not only by physical features, but also by a socially determined resources (or lack of resources) ownership and by the symbolic organization of space (Rapoport, 1977). "Home" can have different meanings in different cultures or for different social groups. Particular environments result from a historical process

of social organization and of wealth distribution and are socially defined and regulated by cultural norms. This character of environment is especially stressed in the present study since, unlike housing conditions examined in most studies, housing for lower-class Salvadorans is, in general, extremely scarce and physically inadequate.

The present model does not use a sociological determinist approach since it includes the possibility that individual activity influences and alters social norms (see in Figure 4 the arrow going from "individual goal-oriented activity" to "social formation"). However, it is here assumed that individual psychological processes cannot adequately explain processes of social change, i.e., changes in the social formation.

(3) The model is centered on the individual's goal-oriented activity, which necessarily takes place in an environment. It is almost redundant to say that individuals are always involved in activities, even if that activity is "to do nothing." From a historical perspective, as Sève (1974) has rightly pointed out, human action explains the emergence and the form of needs, rather than needs explaining human action. The process is more adequately understood under the scheme of activity-need-activity, than under the homeostatic model of need-activity-need, which seems to assume that

activity has no other function than simply to reproduce needs. "The least historical reflection on human needs shows that their development and thus their differentiation... requires a conception of expanded reproduction of activity" (Sève, 1974, p. 35).

The "need for space" is not an absolute or previously determined given which each individual has to fulfill. The "need for space" is a function of human activity and the experience of crowding is necessarily tied to concrete activities. Proshansky, Ittelson, and Rivlin (1976) have stressed the goal-directed character of human nature and how this goal direction poses some demands on environmental conditions such as the demand for an adequate space. Other researchers have also indicated that both the subjective amount of required space and the threshold level of crowding vary according to the activities involved (Desor, 1972; Loo, 1977). The present model stresses the socially defined character of goal-directed activities. Each society or group has a set of cultural norms which determine the ways and conditions in which given activities may be acceptably performed. These norms also define individual expectations concerning those activities. Thus, for example, different groups have different norms concerning the adequacy of working conditions (according to the

division of labor), feeding, resting, sexual intercourse, child rearing, etc. and, in that way, provide standards for individual requirements and expectations with respect to the resources and conditions deemed necessary for the performance of each of these activities.

According to the present model, individuals can achieve the product of their activity under both low and high density conditions without experiencing crowding (see in Figure 4 the direct arrows going from "environment" and "high density" to "product"). The activity's outcome is named "product" in order to emphasize both the creative, historical nature of human activity and the influence of other social (i.e., non-individual) factors on that outcome. Individual goals are included as a partial subset of the product because the individual can achieve them totally, partially, or even not at all.

(4) Contrary to many current theories, the present model proposes that crowding, that is, a personal experience of being in a highly dense situation, is not always stressful. It is also maintained that crowding often has no pathological effects on individuals. Even if the experience of crowding was always stressful, it could not be assumed to be necessarily pathogenic. Some forms of stress, under certain conditions, can be healthy (Selye, 1975; Kobasa, 1979). The model attempts to

account for this fact by pointing out that the product of individual activities can be achieved at different moments of the process.

When will crowding be stressful? When or under what circumstances will it be pathogenic? The model assumes that, the more important the activity or activities involved, the more relevant the environment for the individual, and the longer the situation endures, the more significant the effects of high density. The crucial point lies with the connection between activity and density. Whenever the activity demands the presence of people (for example, a political demonstration) or assumes the adequacy of that presence (for example, a sports event) or can be performed equally as well in situations of either high or low density (for example, public transportation), the experience of crowding will most likely be non-stressful and, certainly, non-pathogenic. Individuals involved in such situations will probably experience the feeling of being crowded, but that feeling is not likely to be negatively stressful and, in some circumstances, will be pleasant. It is, then, the degree of the conformity of the density situation with the requirements of the activity which will determine the character of crowding (see Rapoport's model in Figure 3, p. 65; see also Bettelheim, 1971).

Baron and Rodin (1978) have stated that crowding will be stressful whenever high density interferes with the control individuals have over the environment and over the attainment of their goals within that environment. According to these authors, the actual or threatened loss of personal control makes the experience of crowding stressful and possibly pathogenic. Whenever crowding does not imply a loss of control, it will not be stressful. In this respect, Baron and Rodin's model seems adequate, and it is incorporated into the present model as the psychological part of the total crowding process.

There is also an essential relationship between the temporal dimension and the nature and effects of crowding experiences. Transitory conditions of high density, as on a street or a train, have a very different psychological impact than more prolonged conditions of high density. This distinction seems apparent within the sociological approach; research focused on residential crowding which, at least in principle, affects people in a periodic and prolonged way (Baldassare, 1979). The psychological approach has theoretically acknowledged temporal effects, but the empirical research often fails to incorporate them (see Sundstrom, 1978). Most experiments run for short periods of time and, while

some attempt to create the feeling of temporal consequences (Sherrod, 1974), they fail to eliminate the optional and transitory character of experimental crowding. Perhaps this is one of the reasons why field studies have obtained results more supportive of the high density hypothesis than have laboratory studies.

The relevance of the temporal variable is strongly emphasized. Crowding may have both a density threshold and a temporal one (i.e., a minimum of time before the crowding experience becomes stressful) (see Edney, 1977; Lewis, 1961; Herrera & Martín-Baró, 1978; McCarthy & Saegert, 1978). It is already known that in the long run certain stressors such as noise can produce negative effects (Glass & Singer, 1972), even though time may not be the most important determinant of stress (Singer, Lundberg, & Frankenhaeuser, 1978).

Stokols (1976) has formulated a distinction between primary and secondary environments which, according to him, constitutes the basic parameter for a typology of crowding experiences. Following this distinction, the present model assumes that crowding will be most stressful and may have its most negative effects on individuals whenever it is experienced in a primary environment.

There are two general situations in daily life

which, in principle, are the most important in terms of activity, environment, and time; namely work and home. This is not surprising, since they correspond to the two basic social processes: production and reproduction (reproduction is taken in the broad sense of "reproduction of labor power;" see Marx, 1867; Castells, 1972). The experience of crowding will have to be related to these two paradigmatic situations as they are concretely manifested by different groups and individuals in each society.

If we compare a situation of crowding at home with that of crowding on a commuter train, we observe how the three variables (i.e., activity, environment, and time) establish fundamental differences which shape the concrete experience of crowding. In the train (see Milgram & Sabini, 1978; Singer, Lundberg, & Frankenhaeuser, 1978), activity is purely instrumental and its goal (transportation from one place to another) is achieved whatever the density conditions; the physical features of the train are not essential, although they may have some influence on the passengers (Singer, Lundberg, & Frankenhaeuser, 1978). Finally, the time spent in the train is relatively short and the situation is generally seen as transitory. On the contrary, residential activities are often goals in themselves and their

attainment can be seriously interfered with by high density conditions: the resources, space organization, and physical features of the home can also influence the activities and the range of possible behaviors. Finally, the residence is a place in which people usually have to spend long periods of time on a day by day basis. If crowding is experienced in any of these two situations (i.e., commuter train or place of residence) its nature and its effects on individuals can be expected to be both qualitatively and quantitatively different.

(5) Both the quality of the product achieved and the possible effects of crowding on individual personality influence future activities not only as informational feedback (i.e., confirming or changing individual expectations) but also in terms of the objective changes resulting from the present activity. In the present model, this is signified by the arrows linking "product" and "after-effects" with "individual goal-oriented activity."

3. Residential Crowding

Residential high density and its effects have been a central concern of the sociological approach, as well as an important focus of the psychological approach. Few experimental studies have attempted to reproduce the

core conditions of household crowding; it may well be impossible (Proshansky, 1976). Recently, social psychologists have conducted very good studies of residential density (McCarthy & Saegert, 1978; Schmidt, Goldman, & Feimer, 1979). The present study intends to analyze issues of high residential density and crowding in lower-class Salvadorans. Three sets of questions will be examined here.

(1) How do lower-class Salvadorans living under conditions of high residential density experience their situation? Do they experience residential crowding? Under what conditions does high residential density lead to the experience of crowding?

(2) Assuming that lower-class Salvadorans experience residential crowding, is their experience stressful? If residential crowding is not a stressful experience, it is important to ask why or under what conditions this occurs. Could it be due to cultural factors, as Hall's (1966) proxemics would imply? Could it be due to individuals growing accustomed at a very early age to living in such situations? (Wohlwill, 1974; Eoyang, 1974). Or could it be due, as most researchers would assume, to some adaptational strategies that individuals develop under conditions of high density?

If lower-class Salvadorans experience

residential crowding as stressful, in order to understand the specific noxious character of crowding, it is also important to ask why or under what conditions this is the case. Is crowding noxious because it overflows the individuals' capacity to process information (Milgram, 1970), or because it constrains their goal-directed activities (Proshansky, Ittelson, & Rivlin, 1976), or because it represents an invasion of the individuals' desired level of privacy (Altman, 1975) or, again, because of some particular combination of these or other concomitants of crowding? Moreover, if lower-class Salvadorans do experience crowding as stressful, it is important to ask how they cope with this experience.

(3) The final series of questions concern the effects and after-effects of crowding. It has been a basic assumption of most social scientists that the experience of residential crowding leads to personal and social pathology. Even if individuals achieve a successful adaptation to conditions of high residential density, this adaptation seems to have the price of long-term noxious effects (Glass & Singer, 1972; Sherrod, 1974; Rodin & Baum, 1978; McCarthy & Saegert, 1978). What are the effects and after-effects, if any, of high residential density and crowding in the lower-class

Salvadoran population? How serious are these expected effects both in personal and in social terms?

Within the framework of the model of crowding advanced here, these three sets of questions imply an analysis of the connections between density and crowding, between crowding and stress, and between stressful crowding and its consequences. These hypothetical connections are indicated in Figure 5.

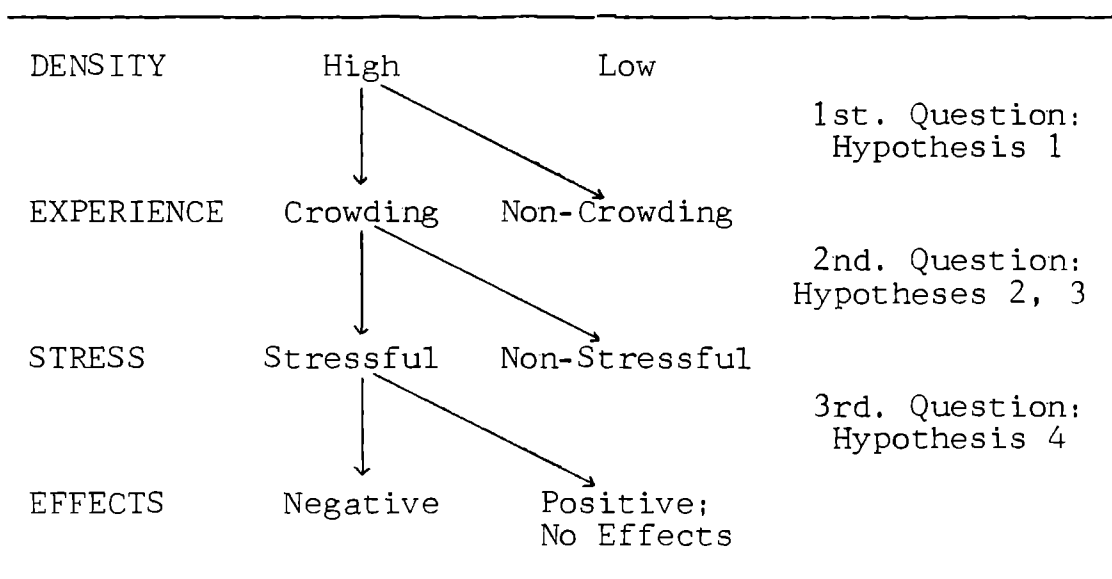


Figure 5. Questions and Hypotheses.

First Hypothesis:

The experience of crowding depends upon a level of household density relatively high with respect to one's own social group.

The first hypothesis deals with the issue of thresholds of household density for the experience of crowding. It is predicted that the standards by which lower-class Salvadorans measure the conditions of density within their own homes are influenced by the standards of the social group to which they belong (i.e., their reference group). This group is primarily the neighborhood, but, more generally, those individuals who live under similar conditions of housing or belong to the same social stratum.

Second Hypothesis:

Dissatisfaction with one's residence increases with high levels of household density and with feelings of crowding.

The second hypothesis assumes that relatively high levels of household density are associated with residential dissatisfaction, which is taken as an indication of stress at home. It predicts that the experience of crowding increases the degree of individual residential dissatisfaction. Therefore,

the second hypothesis predicts that an individual's residential satisfaction will be best predicted when both the objective conditions (i.e., household density) and the subjective experience (i.e., crowding) are taken into account.

Third Hypothesis:

Household crowding is more likely to be stressful when it interferes with important home activities.

The third hypothesis deals with the issue of the character of crowding. The model advanced here implies that residential crowding is a serious experience of crowding since it takes place in a primary environment, is prolonged in time, and involves basic human activities. The third hypothesis predicts that individual feelings of crowding will be strongest when important home activities are interfered with by conditions of high home density.

Fourth Hypothesis:

Stressful crowding will lead to increased specialized social withdrawal.

The fourth hypothesis takes Baldassare's (1979) position that high residential density and crowding do not usually have serious pathological consequences for

the individual, but rather that they lead to a specialized social withdrawal. To what extent does the experience of stressful crowding decrease individual social involvement? The hypothesis predicts that this influence will be minor, and that individuals will not withdraw from those groups which they deem important in their lives, but only from those which they consider unimportant. In other words, the fourth hypothesis deals with the social consequences of crowding.

CHAPTER 3

METHOD

1. Introduction

The basic approach used in this study is the analysis of survey data (see Sonquist & Dunkelberg, 1977). One of the advantages of survey techniques over experimental ones is that they allow the researcher to collect data which is directly from real life, that is from individuals in their own social and personal contexts. This approach better suits the theoretical model adopted in the present study which claims that density and crowding are most relevant when individuals undergo them in important life situations through prolonged periods of time (see also Aiello & Baum, 1979, p. 2).

A disadvantage of survey techniques is the inability to manipulate variables. However, it would probably be premature to attempt to manipulate variables in a population as little studied as lower-class Salvadorans. To our knowledge, the present study is the first attempt, beyond a purely descriptive level,

to analyze conditions of residential density and their effect on lower-class Salvadorans.

Two sources of data have been used in this study: (1) a survey conducted by a team of social scientists associated with the "Universidad Centro Americana José Simeón Cañas" in San Salvador (UCA, 1975; 1976); and (2) a survey questionnaire specifically devised and administered for this study within the metropolitan area of San Salvador. The former will be called The UCA Survey and the latter, The San Salvador Study.

The UCA Survey was much broader in scope than the San Salvador Study and attempted to cover lower-class urban residents within the entire country. Since it only indirectly dealt with the problem of housing density and crowding, it was taken as the starting point for the San Salvador Study. Its data are presented here to provide background information for comparison with the San Salvador Study data. The present work will center primarily on the data from the San Salvador Study.

2. The UCA Survey

The UCA Survey was conducted in 1974 as the first part of a quasi-experimental design attempting to measure the changes produced by new housing projects in lower-class Salvadoran communities and individuals (UCA, 1975).

The study was sponsored by the Salvadoran Foundation for Development and Minimal Housing (FUNDASAL), a private institution which attempts to foster community development through the construction of housing projects (Fernández Ibáñez, 1978; Harth, 1974; 1976). FUNDASAL was interested in two questions. First it wanted to determine whether its projects were causing significant changes in the target communities. And second, if such changes were occurring, were they due to the residents' obtaining new homes and/or to specific FUNDASAL policies.

The survey consisted of a long questionnaire of 90 items, with some items being composed of several questions. Fifteen hundred and seventy five heads of households were interviewed in their own homes by trained social workers. The rejection rate was 1.6 %. Fifty four questionnaires were discarded, leaving a final sample of 1,521 subjects (for an elaborate examination of this and other aspects of the UCA Survey, see UCA, 1975; 1976).

Samples were obtained in the following way: urban lower-class households in El Salvador were classified in ecological terms by type of housing; then, a proportional random sample was selected from each housing group (also see Murillo, 1974). Nine housing groups were defined.

1) FUNDASAL: Communities living in completed FUNDASAL housing projects. Sample N: 56.

2) IVU: Communities living in public housing projects developed by the Institute of Urban Housing (Instituto de la Vivienda Urbana: IVU), a state institution. These housing projects include both single-family units and four-flat multi-family dwellings. Sample N: 63.

3) Communities in the process of developing housing projects with FUNDASAL. Sample N: 204.

4) Communities in the process of developing housing projects with IVU. Sample N: 110.

5) Individuals selected by FUNDASAL and IVU for future housing projects. Sample N: 204.

6) SHANTY: Residents of shanty towns. Sample N: 394.

7) CAMPS: Residents of refugee camps. They live in "provisional" settlements arranged after losing their previous housing in some catastrophe (especially the earthquake of 1965 and the war with Honduras in 1969). Most of the houses are shacks and their provisionality has become permanent. Sample N: 96.

8) TENEMENT: Residents of mesones (tenement houses). The usual arrangement consists of several families (from five to as many as forty or fifty

families) occupying an old house, usually in downtown areas. Each family rents one room (sometimes two), and all families share bathroom facilities. Sample N: 103.

9) ILLEGAL: Communities living in housing developments originated without any legal authorization. Their living conditions are usually better than in shanty towns, although they also lack basic urban infrastructures. Some of the houses in the illegal subdivisions are of relatively good quality. Sample N: 291.

The entire UCA sample will be used for descriptive statistics. However, groups 3, 4, and 5 will be left out of the more specific analyses since they lack the homogeneity of housing types, which is the primary criterion for the selection of groups. The six remaining groups will be identified by the symbols in capital letters (or a shortened form) preceding their respective description above.

Tables 6 through 10 present frequency distributions of some basic characteristics of the UCA sample. Subject ages (Table 6) range from 15 to 90, although 65 % of the sample are between 26 and 50 years of age. Sixty two percent of the subjects were male and 38 % female. The difference between the number of males and females is due to the fact that researchers

TABLE 6
 FREQUENCY DISTRIBUTION BY AGE
 (UCA Survey)

Years	N	%	Cum %
25 or less	178	11.7	11.7
26 - 30	182	12.0	23.7
31 - 35	190	12.5	36.2
36 - 40	226	14.9	51.1
41 - 45	211	13.9	65.0
46 - 50	183	12.1	77.1
51 - 55	130	8.6	85.7
56 - 60	84	5.5	91.2
61 or more	133	8.8	100.0
TOTAL	1517	100.0	100.0
Missing	4		

TABLE 7
 FREQUENCY DISTRIBUTION BY YEARS OF SCHOOL
 (UCA Survey)

School Years	N	%	Cum %
0	377	24.8	24.8
1 - 3	422	27.7	52.5
4 - 6	547	36.0	88.5
7 - 9	113	7.5	95.9
10 or more	62	4.1	100.0
TOTAL	1521	100.0	100.0

interviewed the "head of the household," who usually was the father. The mean number of school years completed (Table 7) is 3.6, which means that the average person has not completed even half of the primary school. Twenty three percent of the sample are completely illiterate (i.e., they cannot read or write) and an additional three percent can read, but not write. The average family income (Table 8) is about 80 dollars per month. The average number of rooms per family dwelling (Table 9) is 1.8, although the mode is one room (49.2 % of the entire sample), and the average number of residents is 5.5 persons per home (Table 10).

TABLE 8
FREQUENCY DISTRIBUTION BY FAMILY INCOME
(UCA Survey)

U.S. \$/Month	N	%	Cum %
0 - 40	232	15.7	15.7
41 - 80	439	29.7	45.4
81 - 160	384	26.0	71.4
161 - 240	234	15.8	87.2
241 - 320	133	9.0	96.2
321 - 400	35	2.4	98.6
401 or more	21	1.4	100.0
TOTAL	1478	100.0	100.0
Missing	43		

TABLE 9

FREQUENCY DISTRIBUTION BY NUMBER OF ROOMS
(UCA Survey)

Number of Rooms	N	%	Cum %
1	746	49.2	49.2
2	487	32.1	81.3
3	173	11.4	92.7
4	73	4.8	97.5
5 - 7	38	2.5	100.0
TOTAL	1517	100.0	100.0
Missing	4		

TABLE 10

FREQUENCY DISTRIBUTION
BY NUMBER OF RESIDENTS PER HOUSEHOLD
(UCA Survey)

Number of Residents	N	%	Cum %
1 - 2	143	9.4	9.4
3 - 4	406	26.7	36.1
5 - 6	453	29.8	65.9
7 - 8	316	20.8	86.7
9 - 10	127	8.4	95.1
11 or more	74	4.9	100.0
TOTAL	1519	100.0	100.0
Missing	2		

3. The San Salvador Study

The basic reason for conducting a new questionnaire was that the UCA Survey lacked measures of feelings of crowding, a very important aspect of the present study. Two questionnaires were devised: one for adults and another for children (see Appendices 1 and 2). The questionnaire for adults had 99 items, some of them composed of two or three questions. The questionnaire for children had only 24 items and took between five and ten minutes to answer. Questions in both forms were borrowed partly from the UCA questionnaire and partly from the form used by Booth (1976) in his Toronto studies. A few new questions were formulated and the whole questionnaire was checked for face validity with several persons from lower-class strata who were not included in the study.

The sample was chosen by identifying neighborhoods characterized by particular housing types. Five lower-class neighborhoods were selected, all of them in the San Salvador metropolitan area. Each of these neighborhoods was divided, using detailed maps, into zones with similar population density. Housing blocks were randomly selected within those zones and the social workers interviewed a predetermined number of families in each housing block.

The questionnaires were administered by trained social workers in July, 1979. They were instructed to interview families with children (when possible) within given housing blocks. One adult (not necessarily the head of the family) and two children, between eight and fifteen years of age, were to be interviewed in each family. Children were included in the study to observe possible differential effects of high home density within members of the same family. In all, 100 adults and 171 children were interviewed. In ten of the families interviewed, there were no children within the required age bracket; in nine families, only one child could be interviewed. The overall rejection rate was 6.0 %.

The five neighborhoods selected were:

1) FUNDASAL: a community living in a recently completed FUNDASAL project, similar to those examined by the UCA Survey (Figure 6). Sample N: 20 adults and 35 children.

2) CREDISA: a community living in a recently completed housing project similar to the FUNDASAL projects. The housing in this community was developed by private institutions with state support. However, the cost per housing unit is much higher than the FUNDASAL housing (Figure 7). Sample N: 20 adults and 32 children.

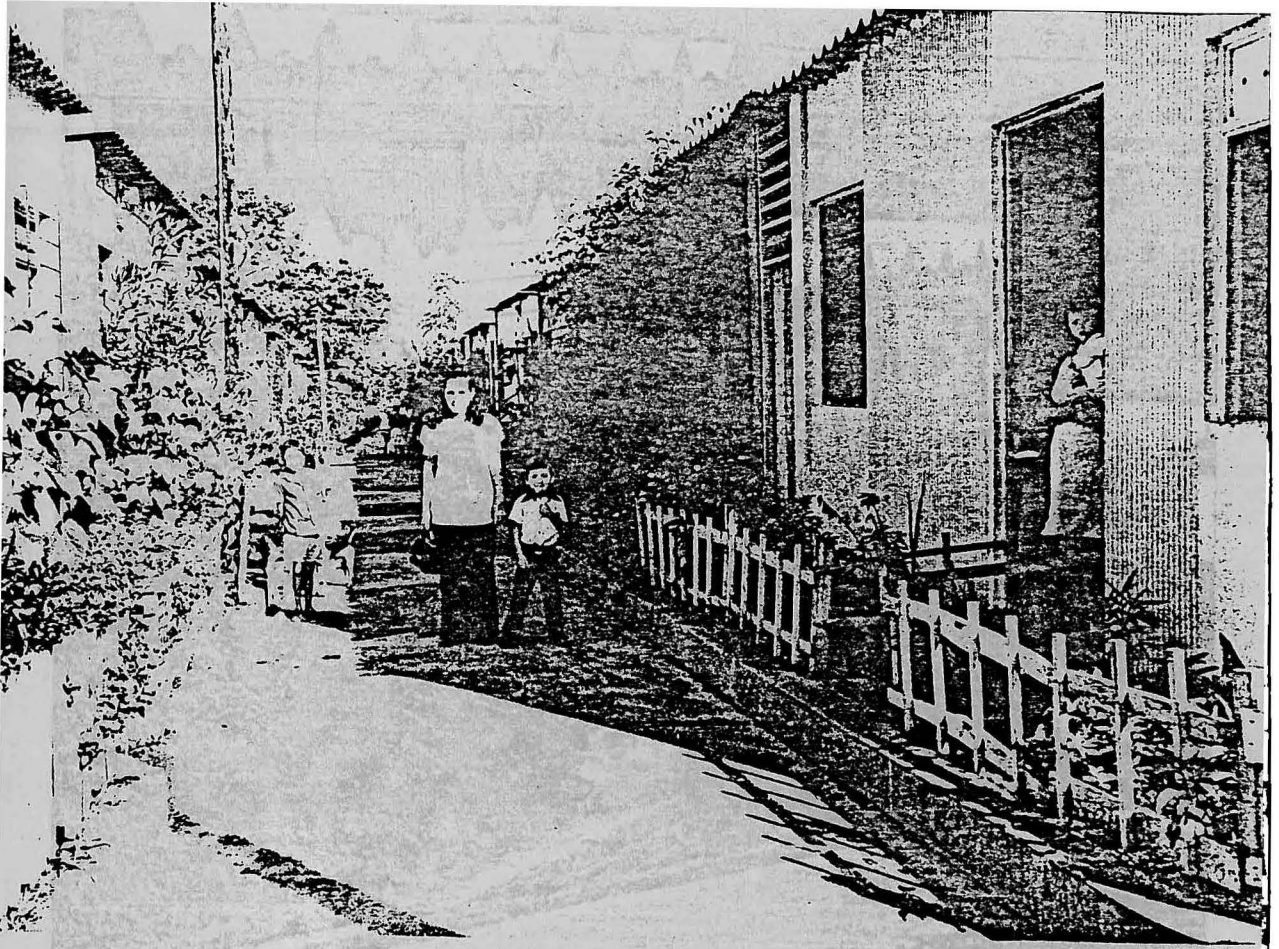


Figure 6. A Typical FUNDASAL Neighborhood.

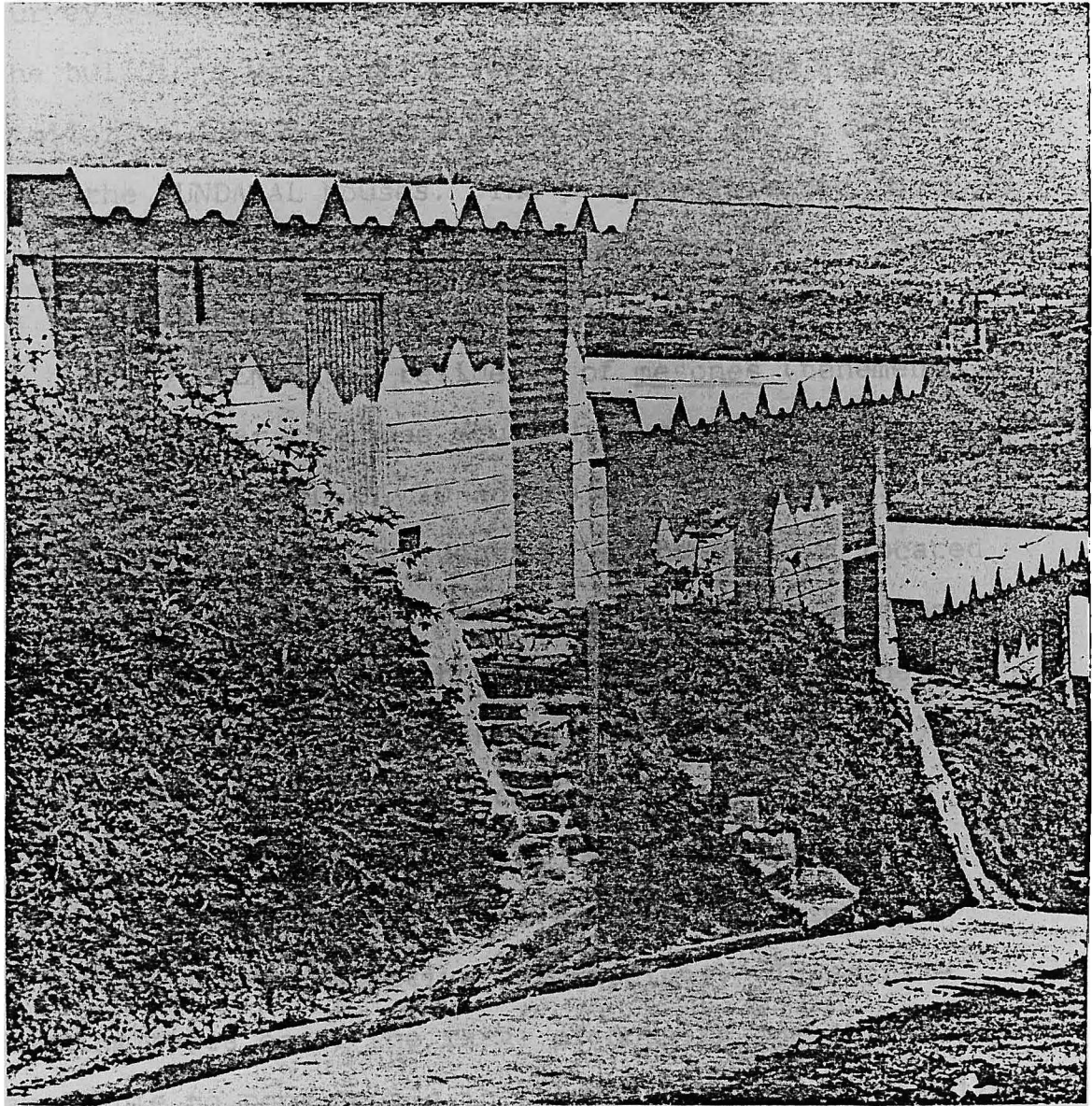


Figure 7. A Typical CREDISA Neighborhood.

3) IVU: a community living in multi-family public housing, similar to those studied in the UCA Survey. Only families living on the top two floors of the buildings were interviewed. IVU apartments are similar to CREDISA houses and also much more expensive than the FUNDASAL houses. The project selected for this study was built in the late sixties (Figure 8). Sample N: 20 adults and 38 children.

4) TENEMENT: residents of mesones (tenement houses) similar to those studied in the UCA Survey (Figure 9). Sample N: 20 adults and 30 children.

5) SHANTY: residents of a shanty town located in a ravine which cuts across the wealthiest section of San Salvador. This neighborhood is similar to the shanty towns examined by the UCA Survey (Figure 10). Sample N: 20 adults and 36 children.

The neighborhoods will be identified with the symbol in capital letters (or a shortened form) preceding their respective descriptions. These five housing types cover the range of housing possibilities available to poor people in the San Salvador metropolitan area. Tables 11 through 15 present frequency distributions of some general characteristics of the San Salvador sample.

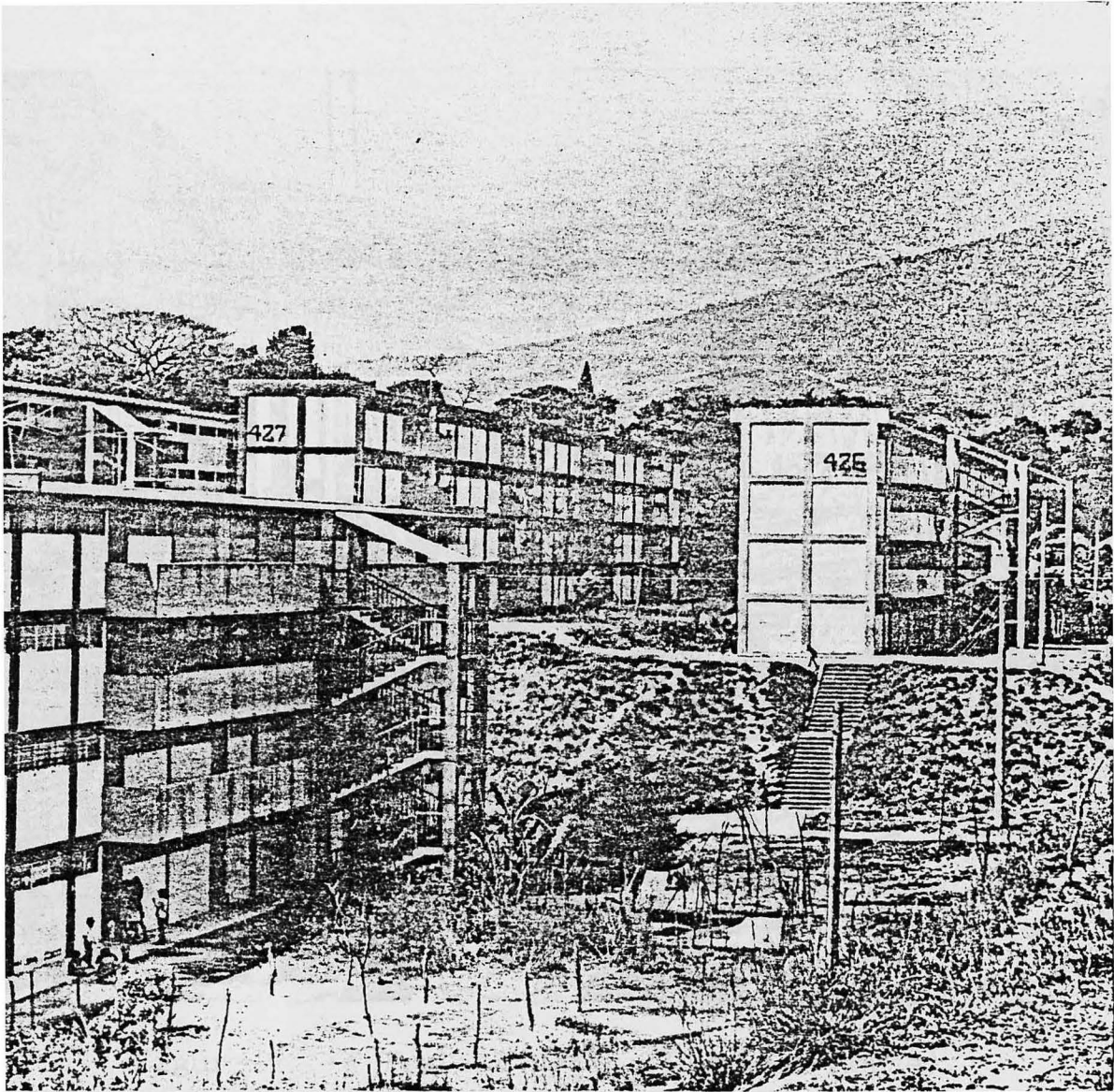


Figure 8. IVU: Multifamily Buildings.



Figure 9. A Typical Mesón (Tenement House).



Figure 10. Typical Shacks in a Shanty Town.

The sample of adults is composed of 24 males and 76 females. The reason for this difference is that the interviews had to take place in the daytime, when most men were out working. The state of siege made it dangerous to attempt interviews in the evening. Forty five percent of the children were male and fifty five percent were female. The age of the adults (Table 11) ranged from 19 years to 72, with 75 % of them between 26 and 45 years of age.

TABLE 11
FREQUENCY DISTRIBUTION BY AGE
(San Salvador Study - Adults)

Years	N	%	Cum %
25 or less	11	11	11
26 - 30	17	17	28
31 - 35	19	19	47
36 - 40	27	27	74
41 - 45	12	12	86
46 - 50	4	4	90
51 or more	10	10	100
TOTAL	100	100	100

Thirty seven percent of the adult sample had completed less than four years of schooling, although the average had completed 5.7 years (Table 12). In general, the schooling level in the San Salvador sample is higher than the level in the UCA sample. Probably this is because the latter covered the entire country, whereas the former was limited to the metropolitan area of San Salvador where opportunities for schooling are better.

TABLE 12
 FREQUENCY DISTRIBUTION BY YEARS OF SCHOOL
 (San Salvador Study - Adults)

School Years	N	%	Cum %
0	9	9	9
1 - 3	18	18	27
4 - 6	43	43	70
7 - 9	17	17	87
10 or more	13	13	100
TOTAL	100	100	100

The average family income of the San Salvador sample is about 200 dollars per month (Table 13). Certainly, this income is significantly higher than the income of the families in the UCA sample. However, the San Salvador sample lives in the capital city, where living expenses are higher. Moreover there has been a steady inflationary process during the last five years. According to a recent study (Argueta, 1978, p. 933) consumer prices in El Salvador have increased from a base line of 100.0 in 1972 to 209.9 in June of 1978, and prices of basic products like housing and clothing

TABLE 13
FREQUENCY DISTRIBUTION BY FAMILY INCOME
(San Salvador Study - Adults)

U.S. \$/Month	N	%	Cum %
80 or less	11	11	11
81 - 160	29	29	40
161 - 240	18	18	58
241 - 320	12	12	70
321 - 400	15	15	85
401 - 480	5	5	90
481 - 560	6	6	96
561 or more	4	4	100
TOTAL	100	100	100

have risen even more. Since the "poverty line" (which in El Salvador should be called the "misery line") has been estimated to be a monthly income of 140 U.S. dollars for an average family (see Ibisate, 1978, p. 44), it follows that almost 40 % of this sample of San Salvador families can barely provide for their most basic needs.

The average number of rooms per home is 2.7 (Table 14), but the average number of residents per home is 6.6 (Table 15). Both means are higher than the corresponding means in the UCA sample. These differences are probably due to the fact that the San Salvador Study included relatively more neighborhoods with decent housing and that it focused on families with children.

TABLE 14
FREQUENCY DISTRIBUTION BY NUMBER OF ROOMS
(San Salvador Study - Adults)

Number of Rooms	N	%	Cum %
1	19	19	19
2	25	25	44
3	34	34	78
4	16	16	94
5 - 6	6	6	100
TOTAL	100	100	100

TABLE 15

FREQUENCY DISTRIBUTION
BY NUMBER OF RESIDENTS PER HOUSEHOLD
(San Salvador Study - Adults)

Number of Residents	N	%	Cum %
2	1	1	1
3 - 4	13	13	14
5 - 6	40	40	54
7 - 8	29	29	83
9 - 10	12	12	95
11 or more	5	5	100
TOTAL	100	100	100

In general, the families sampled in the San Salvador Study appear to enjoy slightly better living conditions than those in the UCA Survey. However, the overall picture of the two samples is very similar.

4. Indices

Several indices were constructed from questionnaire items according to definitions outlined in the theoretical model, and were subsequently checked with a "varimax" factor analysis. By and large, the factor analysis confirmed that each index was heavily loaded by a single

factor. Three of the items included in the indices of social involvement were not heavily loaded by any of the factors obtained by the rotation, but they were kept in the indices. This decision may have weakened the power of the indices of social involvement. However, in this way the similarity of the modes of operationalization of the indices from both studies was maintained.

4.1. Indices of Density

In the San Salvador Study, four indices were devised to measure the housing density of the sample. Some authors have noted (see for instance, Fischer, 1976) that most studies dealing with the issue of housing density only take into consideration the number of people sleeping at home, and that such indices do not provide an adequate estimation of the real density experienced by individuals during the day. In order to overcome this shortcoming, two modified indices of density (FP/R and FM²/P) were devised. The four indices are the following:

P/R: the number of persons per room within each family's home. This is the index most frequently used in studies of housing density.

FP/R: a modification of P/R, this index was calculated by adding the number of persons regularly

present at home in the morning, afternoon, and evening and dividing the total by three times the number of persons.

M^2/P : the number of square meters of roofed housing space per resident. A resident is understood here to be any person who sleeps in the home regularly. The estimation of this index included bathroom space when there was any.

FM^2/P : this index is a modification of M^2/P . Three times the total roofed housing space is divided by the sum of people regularly present at home in the morning, afternoon, and evening.

The modified density indices yielded a more "reasonable" picture of the sample's density conditions at home. However, they did not alter the density rank order among neighborhoods and, with very few exceptions, proved to be worse indices for the analyses than the unmodified ones. Therefore, in this study, the modified indices (FP/R and FM^2/P) were discarded. Both the P/R and M^2/P indices were used in the San Salvador Study, while only the P/R index was used in the UCA Survey.

4.2. Index of Crowding

The UCA Survey did not include any item on individual feelings of crowding. As it will be seen in the next chapter, an indirect indicator was employed.

A general index of crowding was devised for the adult sample of the San Salvador Study. The index (which will be called CROWDING) includes 7 items dealing with three subjective processes: (1) how individuals perceive the size of their homes; (2) whether individuals consider their homes large enough for the needs of their families; and (3) how individuals feel doing various activities at home when their family or other people are present. The index of crowding is scaled from 1 to 13 with the lower values expressing more intense feelings of crowding.

Children were asked only one question relating to feelings of crowding ("How do you feel about the size of your home?") with five possible responses (1-5). Since only one child gave the answer coded as 5 (least crowded), that response was coded as 4 for the analyses.

4.3. Indices of Residential Satisfaction

Two general indices were devised to measure the individuals' satisfaction with their residences. I will refer to both indices with the general label of "residential satisfaction." The indices are:

satisfaction with one's home (which will be referred as "home satisfaction" or SATHOME), and satisfaction with one's neighborhood (which will be referred as "neighborhood satisfaction" or SATNEI).

In principle, it can be assumed that these two indices are intimately related, as is often the case. However, given the particular characteristics of some of the housing groups studied here, this assumption becomes less tenable. Neighborhood and housing quality can be in some cases quite different. A clear example is provided by tenement houses (mesones): they are old houses, usually located downtown, with some of the best available city services at their disposition. On the other hand, some of the relatively highest quality housing projects existed in neighborhoods where city services (water supply, transportation, etc.) were poorly provided, partially due to the newness of the projects and partially to their distance from downtown.

SATHOME: index of satisfaction with one's home or "home satisfaction." In the UCA Survey, this index is composed of 7 items. Unfortunately, these items asked comparative questions, i.e., whether the individual was more or less satisfied with present compared to previous housing conditions. The index includes an item measuring the individual's desire to move.

The resulting scale has a minimum of 7 points and a maximum of 35.

In the San Salvador Study, SATHOME is composed of 3 items: a direct question about individuals' overall satisfaction with their homes; a question about the desire to move; and a question about how comfortable individuals feel at home. The resulting scale has a minimum of 0 points and a maximum of 8. The SATHOME index for children is composed of 4 items and the scale has a maximum of 5 points and a minimum of 0.

SATNEI: index of satisfaction with one's neighborhood or "neighborhood satisfaction." In the UCA Survey, SATNEI is composed of 4 items, worded comparatively, as were those in SATHOME. Individuals rated neighborhood conditions in terms of health services, availability of schools, job opportunities, and other social conditions. The resulting scale has a minimum of 4 points and a maximum of 20.

In the San Salvador Study, SATNEI is composed of 11 items, all of them asking individual evaluations of services available in their neighborhoods: medical services, schools, water supply, public transportation, etc. The scale has a minimum of 0 points and a maximum of 33. There is no SATNEI index for children.

4.4. Indices of Social Involvement

SOCPAR: index of the individual's participation in social organizations (cultural, religious, political, communal, etc.), i.e., "social participation." In the UCA Survey, SOCPAR includes 9 items and it is scaled from 0 to 54 points. In the San Salvador Study, SOCPAR is composed of 6 items, and the scale goes from 0 to 12 points. The higher values indicate a higher level of social participation.

CLASCO: index of individual class consciousness. Class consciousness is understood to be expressed awareness of personal and social problems, their social roots, the forces impinging upon their solution, as well as one's active involvement in solving those problems.

In the UCA Survey, the CLASCO index included 10 items. In most of the items, a problematic situation was described, and the individual chose from different possible responses, each of which indicated a different level of class consciousness. CLASCO is scaled from 0 to 55 points, with higher scores reflecting a greater class consciousness. In the San Salvador Study, CLASCO is composed of 11 items, similar to those utilized in the UCA Survey. This scale has a minimum of 1 point and a maximum of 31.

SATFAM: index of the individual satisfaction with family and family life. It will also be referred to as "family satisfaction." SATFAM for adults is composed of 4 items examining individual evaluation of the relationships between spouses (or partners) and between parents and children. It also includes an item on the respondent's general evaluation of family life. SATFAM is scaled from 0 to 12 points, in order of increasing satisfaction with one's family life. A similar SATFAM index for children includes 3 items and is scaled from 0 to 7 points. The index of SATFAM is used only in the San Salvador Study since a similar index could not be built with the UCA questionnaire.

Tables 16 and 17 summarize the indices used in this work, their symbols and meanings, the number of items included in each index, and the range of the respective scales. It also presents the Spearman-Brown split half reliability coefficient for each index.

In general, the reliability coefficients are satisfactory. SOCPAR in the San Salvador Study is the least reliable index in terms of the Spearman-Brown formula. As we will see in Chapter 7, this comes as no surprise since the items included in this index did not produce a significant distribution of the subjects. Most individuals in the San Salvador sample indicated

TABLE 16
INDICES IN THE UCA SURVEY

Index	Description	N. of items	Scale	Relia. coeff.
P/R	Number of persons per room	-	-	-
SATHOME	Individual's satisfaction with his/her home	7	7-35	.60
SATNEI	Individual's satisfaction with his/her neighborhood	4	4-20	.69
SOCPAR	Individual's participation in social organizations	9	0-54	.41
CLASCO	Individual's class consciousness	10	0-55	.45

TABLE 17
INDICES IN THE SAN SALVADOR STUDY

Index	Description	N. of items	Scale	Relia. coeff.
P/R	Number of persons per room	-	-	-
M ² /P	Number of square meters of roofed space per person at home	-	-	-
CROWDING	Individual's feelings of being crowded at home	7	1-13	.63
SATHOME	Individual's satisfaction with his/her home	3	0-8	.67
SATNEI	Individual's satisfaction with his/her neighborhood	11	0-33	.64
SOCPAR	Individual's participation in social organizations	6	0-12	.25
CLASCO	Individual's class consciousness	11	1-31	.52
SATFAM	Individual's satisfaction with his/her family life	4	0-12	.54

that they did not participate in any social organization at all. As a result, there was not enough variance in the responses to allow a meaningful analysis. Despite its poor quality, SOCPAR was included in this study because it highlights one of the more serious social problems affecting lower-class Salvadorans: their marginality or social absenteeism.

All calculations in this study were performed using the Statistical Package for the Social Sciences (Nie et al., 1975; Hull & Nie, 1979). In several analyses (for instance, the multiple regression analyses), some of the factors were included as "dummy" variables (see Neter & Wasserman, 1974).

CHAPTER 4

FROM OBJECTIVE DENSITY TO SUBJECTIVE CROWDING

First Hypothesis:

The experience of crowding depends upon a level of household density relatively high with respect to one's own social group.

1. Residential Density in Salvadoran Lower-Classes

In the Introduction, I presented general socio-economic data and, more specifically, data on housing in El Salvador. The first hypothesis deals with the issue of residential density as an objective condition (that is, the amount of space per resident within each house) and its immediate effects on the individual's feelings. What is the housing situation, in terms of density, of the two samples analyzed here? Can they be considered "representative" of Salvadoran lower classes? Are there significant differences in density among the neighborhoods surveyed?

1.1. The UCA Survey

Only one index of density was used for the analysis of the UCA data: the number of persons per room (P/R). The frequency distribution (Table 18) shows that only 8 % of the UCA sample live under conditions of low household density according to American standards (one person or less per room) and that 50 % live in a situation of more than three persons per room. The mean of the UCA sample is 3.9 P/R, with a standard deviation of 2.4 and a range of 19.8. One percent of the sample live under the almost unbelievable conditions of ten or more persons per room.

TABLE 18
PERSONS PER ROOM (P/R)
(UCA Survey)

P/R	N	%	Cum %
1.0 or less	124	8.2	8.2
1.1 - 2.0	297	19.6	27.8
2.1 - 3.0	333	22.0	49.8
3.1 - 4.0	254	16.7	66.5
4.1 - 5.0	175	11.5	78.0
5.1 - 6.0	127	8.4	86.4
6.1 - 7.0	84	5.5	91.9
7.1 - 8.0	65	4.3	96.2
8.1 or more	58	3.8	100.0
TOTAL	1517	100.0	100.0

A comparison of the means of the six groups relevant to our analysis (Table 19) indicates that the Refugee camps are the most densely populated neighborhoods (in terms of P/R, $\bar{X} = 4.3$), while the Illegal subdivisions are the least populated ($X = 3.1$ P/R).

TABLE 19
MEAN PERSONS PER ROOM BY GROUP
(UCA Survey)

P/R	FUN	IVU	SHA	CAM	TEN	ILL	TOT
\bar{X}	3.3	3.9	4.0	4.3	3.3	3.1	3.7
N	56	63	394	96	103	288	1000

The mean for all six groups is slightly smaller ($\bar{X} = 3.7$ P/R) than for the total sample: this is easily understood since the groups dropped from the analysis were among those with the worst objective housing conditions. In any case, an average of almost four persons per room indicates a very high residential density by any standards (Mitchell, 1976).

The U. S. Census Bureau (1976) considers that a home with more than 1.01 persons per room (excluding the

bathroom) is overcrowded, and the same criterion is adopted by Booth (1976) in his Toronto studies. In 1970, only one in twelve U. S. homes was overcrowded according to this criterion (Baldassare, 1979, p. 69). In Paris, Chombart de Lauwe (1964) found a very high rate of neurosis among individuals living in homes with 2.5 persons or more per room and he considered this rate to be the ultimate limit of "acceptable" household density. Studies in certain areas of Hong Kong present housing densities similar to those of El Salvador, but they are taken as examples of very high household density (see Schmitt, 1963; 1966; Mitchell, 1971).

1.2. The San Salvador Study

Frequency distributions and group means for both the original and the modified indices of density (Tables 20 and 21) show that the housing conditions in the San Salvador sample are less dense than those in the UCA sample. However, this is not necessarily the case when equivalent neighborhoods are compared. Although the San Salvador sample has an average density ($\bar{X} = 3.1$ P/R) smaller than the UCA sample, three neighborhoods (the Shanty town, the Tenement houses, and FUNDASAL) have a higher mean number of persons per room. This can be explained by the fact that the San Salvador Study sought

TABLE 20
 FREQUENCY DISTRIBUTION AND MEAN PERSONS PER ROOM (P/R AND FP/R)
 (San Salvador Study)

Persons per Room	FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY		TOTAL	
	P/R	FP/R	P/R	FP/R	P/R	FP/R	P/R	FP/R	P/R	FP/R	P/R	FP/R
1.0 or less	0	1	3	9	1	8	0	2	0	1	4	21
1.1 - 2.0	5	9	12	10	14	11	4	6	2	5	37	41
2.1 - 3.0	5	5	4	1	5	1	4	6	4	5	22	18
3.1 - 4.0	5	3	1	0	0	0	7	3	5	4	18	10
4.1 - 5.0	3	1	0	0	0	0	2	2	4	4	9	7
5.1 or more	2	1	0	0	0	0	3	1	5	1	10	3
TOTAL	20	20	20	20	20	20	20	20	20	20	100	100
Group Mean	3.4	2.5	1.8	1.2	1.8	1.2	3.8	2.7	4.6	3.3	3.1	2.2

TABLE 21

FREQUENCY DISTRIBUTION AND MEAN SQUARE METERS PER PERSON (M²/P AND FM²/P)
(San Salvador Study)

Square Meters per Person	FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY		TOTAL	
	M ² /P	FM ² /P	M ² /P	FM ² /P	M ² /P	FM ² /P	M ² /P	FM ² /P	M ² /P	FM ² /P	M ² /P	FM ² /P
Less than 4.0	0	0	0	0	0	0	7	3	4	0	11	3
4.0 - 5.9	5	1	0	0	1	0	5	3	9	6	20	10
6.0 - 7.9	6	4	2	0	9	1	5	7	4	6	26	18
8.0 - 9.9	6	4	0	1	7	3	0	1	1	4	14	13
10.0 - 11.9	1	3	8	0	1	5	0	3	1	1	11	12
12.0 or more	2	8	10	19	2	11	3	3	1	3	18	44
TOTAL	20	20	20	20	20	20	20	20	20	20	100	100
Group Mean	7.5	10.9	13.6	20.4	8.5	12.8	6.0	9.2	5.8	8.5	8.3	12.4

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to interview families with children. In this sense, the sample does not pretend to represent the general population. However, this fact makes even more difficult the explanation for why IVU families in the San Salvador sample have a smaller P/R mean ($\bar{X} = 1.8$) than IVU families in the UCA sample ($\bar{X} = 3.9$). One possible explanation is that the San Salvador sample was limited to families living on the top two floors of multi-family buildings, and did not include those living in single units.

All four indices of density display the same rank ordering of the groups. In order of increasing density, the rankings are as follows: CREDISA, IVU, FUNDASAL, the Tenement houses, and the Shanty town. The only significant change concerns the first two neighborhoods: whereas CREDISA and IVU have the same P/R index, M^2/P conditions in CREDISA are notably better. And, except for IVU, the density rank order within the two samples is identical.

The range of persons per room in the San Salvador sample is 12.2, but only four families live under conditions of low household density by American standards and 37 % of the families have more than three persons per room. It is important to emphasize these figures; they show a situation radically different from that of the United States and from what American scholars take

as "normal" household density (see Baldassare, 1979). Therefore, it appears that criteria used by the Salvadoran lower-classes for measuring density or feeling crowded will probably differ substantially from criteria used by lower-class U. S. citizens.

2. Feelings of Crowding

It is clear that lower-class Salvadorans, as represented by the two samples analyzed here, live under conditions of very high residential density. But do they feel crowded? Do they experience residential crowding, i.e., an experience of space scarcity due to the presence of other people in the same home?

2.1. The UCA Survey

The UCA Survey did not contain any question about possible feelings of crowding. The only question which provided an indirect index of perceived lack of space was the following: "What do you think is the most urgent improvement which your home needs?" To this question, 11.4 % of the respondents from the six neighborhoods analyzed (and 10.9 % of the whole sample) answered: "To make it bigger." This answer will be considered as an index of awareness of lack of sufficient space, and

will be differentiated from other answers. It will be called the "enlargement" answer.

The fact that many people (88.6 % in the six groups analyzed) did not consider enlargement of their homes as the most urgently needed improvement does not necessarily mean that they did not feel crowded. However, it may be assumed, at least provisionally, that those who considered size to be the most important deficiency of their homes felt more severely the lack of available space at home. Table 22 shows the absolute number and the percentage of individuals within each group who considered home enlargement to be the most urgent improvement needed.

TABLE 22
FREQUENCIES OF "CROWDING" BY GROUP
(UCA Survey)

"Crowding"	FUN	IVU	SHA	CAM	TEN	ILL	TOT
"Enlargement" answer	21	13	33	7	3	31	108
%	38.2	22.4	8.7	7.7	3.4	11.4	11.4

It comes as no surprise that the two neighborhoods with the highest percentage of "enlargement" answers (FUNDASAL and IVU) are those with objectively better housing and where individuals own their homes (and, in the case of single units, the land too). The "enlargement" answer may be interpreted in two ways: (a) only those individuals who own their own home and know that the improvements they make will benefit them think of enlarging their homes; (b) the concern about the size of the home begins to be pressing only when other more fundamental housing needs (the conditions of the walls, roof, or doors, for instance) are already satisfied. It is unclear which of these two meanings is nearer to the truth; however, they appear to be interrelated.

2.2. The San Salvador Study

Tables 23 and 24 present the frequency distributions and the crowding means of the five neighborhoods in the San Salvador Study. The rank order among neighborhoods of mean feelings of crowding is the same for both adults and children. The rank order in terms of increasing feelings of crowding is: CREDISA, IVU, FUNDASAL, the Shanty town, and Tenement houses. Except for the last two groups, this rank order is the same as the density rank order. That the Shanty town and the Tenement houses

TABLE 23

FREQUENCIES AND MEAN CROWDING BY GROUP
(San Salvador Study - Adults)

Crowding	FUN	CRE	IVU	TEN	SHA	TOT
(High Crowding)						
3 - 4	1	1	0	1	0	3
5 - 6	7	4	6	11	11	39
7 - 8	5	6	4	3	5	23
9 - 10	3	3	4	3	3	16
11 - 12	4	6	4	1	0	15
(Low Crowding)						
TOTAL	20	20	18	19	19	96
Missing	0	0	2	1	1	4
GROUP MEAN	7.8	8.4	8.2	6.8	7.0	7.7

TABLE 24

FREQUENCIES AND MEAN CROWDING BY GROUP
(San Salvador Study - Children)

Subjective Home Size	FUN	CRE	IVU	TEN	SHA	TOT
Very Small	8	3	7	16	10	44
Small	4	12	9	7	8	40
Sufficient	16	11	15	5	13	60
Large/V. Large	7	6	7	2	5	27
TOTAL	35	32	38	30	36	171
GROUP MEAN	2.6	2.7	2.6	1.8	2.4	2.4

have switched their places in the rank order is not surprising since in the latter individual families usually occupy a single room in a house. Shanty residents do not have this type of spatial constraint and they often can expand the size of their shacks. Unfortunately, a comparison of these results with those of the UCA Survey is not possible, given the nature of the index used in the UCA Survey (the "enlargement" answer).

There are clear differences in reported crowding among the residents of different neighborhoods. Two subgroupings, in terms of both density and crowding, can be observed in the San Salvador sample: on the one hand, IVU, FUNDASAL, and CREDISA; on the other, the Tenement houses and the Shanty town. This subgrouping clearly corresponds to the character and quality of housing of those five different neighborhoods.

3. The Relationship Between Density and Crowding

The preliminary finding of a relationship between density and crowding has already been indicated: the rank orders of neighborhoods are almost identical for the mean level of density and the mean level of crowding. The first hypothesis predicts that housing density levels directly influence the levels of crowding experienced

by individuals. One way of examining this hypothesis consists of comparing crowding averages by density levels.

3.1. The UCA Survey

Given the precariousness of the crowding index used in the UCA Survey, the only way to analyze the relationship between crowding and density is to compare the percentage of individuals giving the "enlargement" answer at low and high levels of density (median split) in each group (Table 25).

TABLE 25
 PERCENTAGE OF INDIVIDUALS "FEELING CROWDED"
 BY GROUP AND DENSITY (P/R)
 (UCA Survey)

Density		FUN	IVU	SHA	CAM	TEN	ILL	TOT
Low	%	17.1	9.7	8.0	5.6	1.7	10.7	8.7
	N	(6)	(3)	(14)	(2)	(1)	(18)	(44)
High	%	75.0	33.3	9.3	9.1	6.7	12.6	12.7
	N	(15)	(9)	(19)	(5)	(2)	(13)	(63)

Results support the hypothesis that more individuals give the "enlargement" answer (i.e., express feelings of crowding) at high levels of home density. This results occurs in all groups, although the differences between percentages in the best housing groups (FUNDASAL and IVU) are significantly larger than in the other groups. Therefore, results support the prediction that home density influences feelings of crowding, assuming that the "enlargement" answer really indicates the experience of crowding.

3.2. The San Salvador Study

In the San Salvador Study, both indices of density (P/R and M^2/P) were correlated significantly with feelings of crowding. Both correlation coefficients are .34 ($p < .001$) although they have different signs due to differences in the direction of scaling. These correlations indicate that the greater the household density, the greater the feelings of crowding individuals tend to report.

Splitting each neighborhood by its density median, two subsamples are differentiated, one of them having relatively high density (HD) and the other relatively low density (LD). If the first hypothesis is correct, these two subsamples should have significantly

different crowding averages: the HD group should report higher levels of crowding than the LD group (as indicated by lower scores on the crowding scale). This prediction was examined for both the total sample and for each neighborhood using the P/R density (Table 26) and the M²/P density (Table 27) indices.

TABLE 26
MEAN CROWDING BY GROUP AND DENSITY (P/R)
(San Salvador Study - Adults)

Density (P/R)		FUN	CRE	IVU	TEN	SHA	TOT
Low	\bar{X}	8.4	9.4	8.6	7.1	7.6	8.4
	N	(10)	(10)	(9)	(8)	(10)	(48)
High	\bar{X}	7.2	7.4	7.9	6.6	6.3	7.0
	N	(10)	(10)	(9)	(11)	(9)	(48)

TABLE 27
MEAN CROWDING BY GROUP AND DENSITY (M²/P)
(San Salvador Study - Adults)

Density (M ² /P)		FUN	CRE	IVU	TEN	SHA	TOT
Low	\bar{X}	8.3	9.5	8.7	6.3	7.9	8.4
	N	(10)	(10)	(9)	(9)	(8)	(46)
High	\bar{X}	7.3	7.3	7.8	7.3	6.4	7.0
	N	(10)	(10)	(9)	(10)	(11)	(50)

Results indicate several interesting facts. First, both indices of density produce almost identical results, although the M^2/P measure results in slightly greater differences in feelings of crowding within individual neighborhoods. Secondly, all of the differences in feelings of crowding are in the expected direction, except for the Tenement houses with M^2/P . In this neighborhood, those with more square meters per person reported more crowding on the average than those with less square meters per person. However, in the same neighborhood (Tenement houses) those with more persons per room reported more crowding than those with fewer persons per room. Since most families living in Tenement houses have only one room, it seems reasonable that the number of people influences them more than the sheer size of the room (which usually is not very large).

A test for significance of mean feelings of crowding by levels of density yields statistical significance for the entire sample, but only in two particular neighborhoods, CREDISA and the Shanty town.

In addition to the differences within the total San Salvador sample and within each group in feelings of crowding by density level, a careful examination of Table 26 seems to suggest another important distinction occurring among the neighborhoods: it appears that there

are two subgroupings of housing types by levels of crowding. One consists of FUNDASAL, CREDISA, and IVU, while the other consists of the Tenement houses and the Shanty town. The level of crowding reported at low density levels within the Tenement houses and the Shanty town seems roughly equivalent to the level of crowding reported at high density levels in FUNDASAL, CREDISA, and IVU. This subgrouping of neighborhoods mirrors the objective quality of their respective homes, as well as other housing conditions, such as ownership. Of those individuals in the San Salvador sample living under conditions of 2.6 or more persons per room, 5 out of 15 in Tenement houses and 6 out of 18 in the Shanty town do not report high crowding at home (i.e., they do not reach the lowest half of the scale). And of those individuals living under conditions of 2.5 or less persons per room, 4 out of 9 in FUNDASAL, 7 out of 18 in CREDISA, and 7 out of 16 in IVU report high crowding at home (i.e., they reach the lowest half of the scale). This seems to imply that the "reference groups" are different for individuals from these two neighborhood subgroupings. The difference in crowding levels points in the direction of the second part of the first hypothesis: namely that density levels and, therefore, feelings of crowding are influenced by one's own

reference group. However, results also indicate that reference groups are broader social units than one's own neighborhood.

An equivalent analysis, also dividing the sample into high and low density conditions (P/R median split) was done with children's scores. Results (Table 28) show a significant difference in mean levels of reported crowding for the whole sample. However, only children in three neighborhoods followed the expected pattern, and only in two of them (the Tenement houses and the Shanty town) the difference was statistically significant.

TABLE 28
MEAN CROWDING BY GROUP AND DENSITY (P/R)
(San Salvador Study - Children)

Density (P/R)		FUN	CRE	IVU	TEN	SHA	TOT
Low	\bar{X}	2.6	2.8	2.5	2.2	2.7	2.6
	N	(18)	(17)	(20)	(13)	(20)	(87)
High	\bar{X}	2.7	2.5	2.7	1.4	1.9	2.2
	N	(17)	(15)	(18)	(17)	(16)	(84)

These results may reflect the fact that the children's crowding index has a cruder measure than adults' index, or that children react to density differently from adults, or both of these factors. In any case, the overall results tend to support the hypothesis that density influences feelings of crowding.

In order to verify the direction of the influence, several analyses of variance were made on crowding, treating density levels as the independent variable. Both P/R and M^2/P indices, differentiated into two levels of density, were related to feelings of crowding. In a subsequent analysis, the "group" variable was also included in order to see whether crowding differences were directly affected by the character of the neighborhoods (i.e., whether the effect on reported crowding was partially accounted for by the "group" variable) and whether there was any interaction effect between neighborhoods and levels of density.

When an analysis of variance was done including only the density variable, both P/R and M^2/P yielded an F with a very low probability of occurring by chance. However, when the "group" variable was included in the analysis, the total main effect of both "group" and density upon crowding yielded a significant F, but neither the effect of each independent variable nor their interaction were statistically significant (Table 29).

TABLE 29

ANALYSIS OF VARIANCE:
CROWDING BY DENSITY (P/R) AND GROUP
(San Salvador Study - Adults)

Source of Variation	SQ	df	MS	F	p
Main Effects:	52.824	5	10.565	2.46	.039
"Group"	6.064	4	1.516	0.35	.084
P/R	14.805	1	14.805	3.44	.067
Interaction:					
Group x P/R	13.103	4	3.276	0.76	.553
Accounted for:	65.927	9	7.325	1.70	.100
Residual:	369.724	86	4.299		
TOTAL:	435.651	95	4.586		
$R^2 = .121$					
$N = 96$					

These results lend moderate support to the first hypothesis. On the one hand, it appears that home density influences reported feelings of crowding. However, it is the simultaneous effect of home density and neighborhood which best accounts for an individual's feelings of crowding. This result does not mean that home density is experienced differently in each neighborhood (there is no significant interaction effect between home density and neighborhood), but that both

the effects of neighborhood and home density have to be taken into consideration in order to account for reported crowding. Present data do not support the idea that individuals in each neighborhood have different standards for experiencing home density. However, present data do support the idea that the effects of home density cannot be appreciated "in the abstract," but referred to the specific housing context in which individuals experience the density situation.

4. Summary

The first hypothesis claims two things: (a) that density levels directly influence levels of reported crowding; and (b) that density levels are experienced according to the standards of one's own group.

The housing groups, or neighborhoods, of the two samples examined here differed both in the mean number of persons per room and in the mean number of square meters per person. There are also significant differences in the levels of crowding reported by individuals from different neighborhoods. The analyses suggest, as hypothesized, that home density influences the individual's experience of crowding: the higher the levels of home density, both in terms of persons per

room and square meters per person, the greater the incidence of reported experiences of crowding.

Although the influence of home density on crowding is only partially independent from the neighborhood effect, there are some signs which seem to indicate that criteria for density levels are different for neighborhoods of different objective quality: CREDISA, IVU, and FUNDASAL, on the one hand, the Tenement houses and the Shanty town, on the other. An analysis of variance failed to show a significant interaction effect between neighborhood and levels of home density with respect to crowding. However, individuals' feelings of crowding are best accounted for when both the independent effects of home density and neighborhood are taken into consideration. Crowding is experienced in concrete situations of high home density, and this context is an important part of an individual's crowding experience.

It should also be emphasized that the levels of home density found in this population are much higher than those normally found in the United States (see Galle, Gove, & McPherson, 1972; McCarthy & Saegert, 1978; Schmidt, Goldman, & Feimer, 1979) and that lower-class Salvadorans, at least in terms of the present data, begin to feel crowded at levels of home density higher than Americans (see also Freedman *et al.*, 1971;

Flicker, 1977; Baldassare, 1979). In other words, the San Salvador Study suggests that some Salvadorans do not experience crowding living under conditions which would be considered to be of high household density in the United States. In this sense, the second part of the first hypothesis receives further support. But the reference group whose standards may mediate the relationship between household density and crowding become, by implication, much broader (perhaps national or cultural) than those of a particular neighborhood.

CHAPTER 5

DENSITY, CROWDING, AND RESIDENTIAL SATISFACTION

Second Hypothesis:

Dissatisfaction with one's residence increases with high levels of household density and with feelings of crowding.

1. Residential Satisfaction

Assessing individual "residential satisfaction" is very complex, especially when new communities are involved (see Fried & Gleicher, 1961; Zehner, 1977; Rent & Rent, 1978; Scharf, 1978). The goal here is not primarily to look at how satisfied or dissatisfied lower-class Salvadorans are with their residences. Rather, the indices of residential satisfaction are used in order to estimate the impact of density and crowding on individual lives. In this sense, it is assumed that the expression of dissatisfaction with one's residence denotes a stressful life condition. The point, then, is to find out to what extent high home density and crowding tend to make individuals unhappy about their residence

(their homes and their neighborhoods). If, other things being equal, high home density and crowding increase an individual's residential dissatisfaction, it can be reasonably concluded that high home density and crowding are noxious stressors. If, however, high home density and crowding produce negative effects only under certain conditions, then a justifiable conclusion is that high home density and crowding are not always or necessarily noxious. If this is the case, it is important to discover what conditions determine the negative quality of high home density and crowding.

The second hypothesis states two things:

(a) objective household density and subjective household crowding are two different phenomena, even if they are intimately related (as seen in the last chapter); and
(b) both density and crowding tend to increase dissatisfaction with one's residence.

1.1. The UCA Survey

Tables 30 and 31 present the frequency distributions of home satisfaction (SATHOME) and neighborhood satisfaction (SATNEI) for the whole UCA sample and the mean scores of the six groups retained for analysis.

TABLE 30

FREQUENCY DISTRIBUTIONS OF RESIDENTIAL SATISFACTION
(UCA Survey)

SATHOME	N	%	SATNEI	N	%
(Low)			(Low)		
7 - 14	74	8.6	4 - 8	172	11.8
15 - 21	190	22.1	9 - 12	406	28.0
22 - 28	307	35.8	13 - 16	490	33.8
29 - 35	288	33.5	17 - 20	384	26.4
(High)			(High)		
TOTAL	859		TOTAL	1452	
Missing	662		Missing	69	

TABLE 31

MEAN RESIDENTIAL SATISFACTION BY GROUP
(UCA Survey)

Residential Satisfaction		FUN	IVU	SHA	CAM	TEN	ILL	TOT
SATHOME	\bar{X}	29.5	30.1	23.1	20.7	21.9	26.1	24.9
	N	(50)	(62)	(97)	(83)	(93)	(195)	(580)
SATNEI	\bar{X}	15.2	16.2	13.9	12.1	15.0	14.7	14.3
	N	(55)	(62)	(369)	(94)	(88)	(286)	(954)

Both the SATHOME and SATNEI distributions are negatively skewed: in terms of the present scales, people tend to express more residential satisfaction than dissatisfaction. Certainly this comes as a surprise and will have to be taken into account. The Pearson correlation coefficient between the two indices or residential satisfaction is .38.

IVU and FUNDASAL, in that order, seem to be the groups in which individuals are relatively more satisfied with both their homes and the conditions of their neighborhoods. And on both measures Camps is the least satisfied group. If we compare the rank order of residential satisfaction among the neighborhoods with the rank order of density, an interesting change between IVU and Illegal subdivisions can be observed: IVU has a higher mean density, but also higher levels of residential satisfaction, while Illegal subdivisions follow the opposite pattern. This suggests that density may not be a crucial factor with respect to residential satisfaction; but it also may indicate the influence of other factors or even the interaction of home density with other conditions.

The most interesting discrepancy in the rank order of groups for the two indices appears in the case of the Tenement houses: they rank lower in SATHOME than

in SATNEI. The Tenement houses are an excellent example of a very poor type of housing placed in neighborhoods with favorable conditions and services. A comparison of group mean scores of both SATHOME and SATNEI in standardized scores shows very clearly that while individuals from FUNDASAL, IVU, the Shanty towns, Camps, and the Illegal subdivisions evaluate their homes and neighborhood conditions either positively or negatively, residents of the Tenement houses evaluate neighborhood conditions positively and housing conditions negatively (Table 32).

TABLE 32
STANDARDIZED MEAN SCORES
OF RESIDENTIAL SATISFACTION BY GROUP
(UCA Survey)

Residential Satisfaction	FUN	IVU	SHA	CAM	TEN	ILL
SATHOME	0.7	0.8	-0.3	-0.6	-0.5	0.2
SATNEI	0.2	0.5	-0.1	-0.6	0.2	0.1

1.2. The San Salvador Study

The frequency distributions and mean SATHOME and SATNEI scores for each neighborhood of the San Salvador sample (Tables 33, 34, and 35) show interesting differences among individuals from different neighborhoods.

TABLE 33
FREQUENCY DISTRIBUTIONS OF RESIDENTIAL SATISFACTION
(San Salvador Study - Adults)

SATHOME	N	%	SATNEI	N	%
(Low)			(Low)		
0 - 2	6	6	0 - 11	10	10
3 - 4	28	28	12 - 18	28	28
5 - 6	35	35	19 - 25	42	42
7 - 8	31	31	26 - 33	20	20
(High)			(High)		
TOTAL	100	100	TOTAL	100	100

The first observation is that both distributions of SATHOME and SATNEI are slightly negatively skewed: individuals tend to obtain high scores, i.e., they tend to express satisfaction with their homes and the conditions of their neighborhoods. The mean satisfaction with home

TABLE 34

MEAN RESIDENTIAL SATISFACTION BY GROUP
(San Salvador Study - Adults)

Residential Satisfaction		FUN	CRE	IVU	TEN	SHA	TOT
SATHOME	\bar{X}	6.3	6.5	5.4	4.3	4.5	5.4
	N	(20)	(20)	(20)	(20)	(20)	(100)
SATNEI	\bar{X}	16.1	16.8	22.5	23.5	21.9	20.1
	N	(20)	(20)	(20)	(20)	(20)	(100)

TABLE 35

MEAN RESIDENTIAL SATISFACTION BY GROUP
(San Salvador Study - Children)

Residential Satisfaction		FUN	CRE	IVU	TEN	SHA	TOT
SATHOME	\bar{X}	4.4	4.6	4.5	3.7	3.9	4.2
	N	(35)	(32)	(38)	(30)	(35)	(170)

and neighborhood conditions differ significantly among the five groups (SATHOME differences: $F = 7.2$; $p [df = 4, 95] < .0001$. SATNEI differences: $F = 8.9$; $p [df = 4, 95] < .0001$). However, the rank order of neighborhoods is almost the opposite for SATHOME and

SATNEI: residents of CREDISA and FUNDASAL are the most satisfied with their homes while they are the least satisfied with neighborhood conditions. Residents of the Tenement houses, to the contrary, while being the least satisfied with their homes are the most satisfied with their neighborhood. This inversion can be better appreciated by standardizing the mean scores and comparing the scores for both SATHOME and SATNEI (Table 36).

TABLE 36
STANDARDIZED MEAN SCORES
OF RESIDENTIAL SATISFACTION BY GROUP
(San Salvador Study - Adults)

Residential Satisfaction	FUN	CRE	IVU	TEN	SHA
SATHOME	0.5	0.6	0.0	-0.6	-0.5
SATNEI	-0.7	-0.6	0.4	0.6	0.3

A comparison of standardized scores of SATHOME and SATNEI for the four equivalent neighborhoods in the two samples (FUNDASAL, IVU, the Tenement houses, and the Shanty towns) shows that they follow a similar pattern,

although the differences between SATHOME and SATNEI within each neighborhood are greater in the San Salvador sample than in the UCA sample.

Why are home satisfaction and neighborhood satisfaction dissimilar? There are at least two possible explanations, one of them already advanced.

(a) FUNDASAL and CREDISA are good minimal housing projects, but quite recently completed. This means that even though housing conditions are satisfactory, neighborhood services are still very deficient. On the other hand, even though the Tenement houses and the Shanty town may be the worst types of housing included in the San Salvador sample, they nevertheless are older, better located, and generally have better developed community services. This explanation appears to be supported by the fact that residents of IVU, a relatively established housing project, feel positively towards both homes and neighborhood, and by the fact that differences between mean SATHOME and SATNEI scores within UCA groups (which are mainly older housing projects) are smaller than those within the San Salvador groups.

(b) Another possible explanation is that individuals with better housing conditions become more aware of neighborhood deficiencies and more demanding

about the quality of community services. Neighborhood conditions which seem relatively acceptable to individuals living in poor housing may seem much less acceptable to individuals living in better or improved housing.

2. Density and Residential Satisfaction

2.1. The UCA Survey

Pearson correlation coefficients between density and both of the residential satisfaction indices (SATHOME and SATNEI) are negative and rather low in the UCA Survey. Cross-tabulations of SATHOME and SATNEI mean scores by levels of density (median split) show only minor differences between the resulting subgroups, and these differences neither follow the same pattern across the six groups examined nor yield statistical significance. In fact, several analyses of variance indicate that unspecified neighborhood characteristics account for much more of the variance of both SATHOME and SATNEI than do density levels. They also show that there is no significant interaction between groups (neighborhoods) and levels of density with respect to the total variance of residential satisfaction.

2.2. The San Salvador Study

SATHOME correlated significantly with both persons per room ($r = -.38$; $p < .001$) and square meters per person ($r = .44$; $p < .001$). SATNEI has a significant, but smaller correlation with square meters per person ($r = .26$; $p < .005$).

Each neighborhood was divided by its density median in order to analyze differences between mean scores of residential satisfaction in the resulting high and low density subgroups (Tables 37 and 38).

TABLE 37
MEAN HOME SATISFACTION BY GROUP AND DENSITY (P/R)
(San Salvador Study - Adults)

Density (P/R)		FUN	CRE	IVU	TEN	SHA	TOT
Low	\bar{X}	6.4	7.0	5.5	4.8	5.2	5.8
	N	(10)	(10)	(11)	(9)	(11)	(51)
High	\bar{X}	6.1	5.9	5.2	3.9	3.6	4.9
	N	(10)	(10)	(9)	(11)	(9)	(49)

TABLE 38

MEAN NEIGHBORHOOD SATISFACTION BY GROUP AND DENSITY (P/R)
(San Salvador Study - Adults)

Density (P/R)		FUN	CPE	IVU	TEN	SHA	TOT
Low	\bar{X}	15.0	17.6	19.8	25.9	22.8	20.2
	N	(10)	(10)	(11)	(9)	(11)	(51)
High	\bar{X}	17.1	16.0	25.7	21.5	20.8	20.1
	N	(10)	(10)	(9)	(11)	(9)	(49)

Results indicate that P/R density is related to SATHOME in the expected direction: the fewer persons per room, the higher the mean score of home satisfaction across all neighborhoods. It can also be observed that the SATHOME levels for low-density subgroups in the Tenement houses and the Shanty town are smaller than those of high-density subgroups in FUNDASAL, CREDISA, and IVU. Again, it appears that the criteria used for evaluating density levels in the former are different than those used in the latter. Results obtained with M^2/P are similar to those obtained with P/R.

The relation of density to SATNEI across neighborhoods is less clear. In FUNDASAL and IVU, the direction of the relationship is different from that in CREDISA, the Tenement houses, and the Shanty town.

These last neighborhoods conform to the expectation that the lower the density (in both P/R and M^2/P), the higher the mean score of neighborhood satisfaction.

The fact that density appears to influence SATHOME positively and SATNEI positively or negatively (depending on the neighborhood) may clarify the differing rank orders of neighborhoods in these two indices. Larger families may, under certain circumstances, be better able to take advantage of their neighborhood, or at least large family size may offset some of the neighborhood's disadvantages. In other words, even though having many members may be a real nuisance for the family at home, it can also aid in establishing ties with the neighbors. Furthermore, through divisions of labor, families are sometimes better able to overcome some of the disadvantages of the neighborhood (e.g., one child could get the water, another could run errands, etc.).

3. Crowding and Residential Satisfaction

3.1. The UCA Survey

Does crowding in itself affect residential satisfaction? In the UCA Survey, the only way of examining this question was to compare the mean

residential satisfaction levels of individuals giving the "enlargement" answer with those who did not. Results were inconsistent across groups and statistically non significant, thus confirming the doubtful validity of the "enlargement" answer as an indicator of crowding.

3.2. The San Salvador Study

The correlation of crowding with SATHOME was very high: Pearson $r = .58$ ($p < .001$). As expected, the stronger the reported feelings of crowding, the lower the individual home satisfaction (the correlation coefficient is positive because the lower values of crowding express stronger feelings of crowding). The correlation coefficient of crowding with SATNEI was very low and non significant.

These different relationships are further clarified when neighborhoods are split by their crowding median: an examination of the mean scores of residential satisfaction for the resulting subgroups shows the differing "effects" of low and high crowding. As expected, in each of the neighborhoods individuals who reported greater feelings of crowding also reported less satisfaction with their homes and neighborhoods (Tables 39 and 40). A t-test indicates that the SATHOME differences are significant for all neighborhoods.

TABLE 39

MEAN HOME SATISFACTION BY GROUP AND CROWDING
(San Salvador Study - Adults)

Crowding		FUN	CRE	IVU	TEN	SHA	TOT
Low	\bar{X}	7.6	7.4	6.2	4.7	5.4	6.3
	N	(8)	(9)	(9)	(7)	(8)	(41)
High	\bar{X}	5.3	5.7	4.4	3.8	3.6	4.6
	N	(12)	(11)	(9)	(12)	(11)	(55)

TABLE 40

MEAN NEIGHBORHOOD SATISFACTION BY GROUP AND CROWDING
(San Salvador Study - Adults)

Crowding		FUN	CRE	IVU	TEN	SHA	TOT
Low	\bar{X}	16.6	17.9	22.5	24.7	22.4	20.7
	N	(8)	(9)	(9)	(7)	(8)	(41)
High	\bar{X}	15.7	15.9	21.6	22.6	21.6	19.4
	N	(12)	(11)	(9)	(12)	(11)	(55)

A similar analysis of the children's responses also produces the expected results: the greater the reported feelings of crowding, the lower the reported home satisfaction.

In summary, results from the San Salvador Study indicate that neither home density nor crowding have a

significant or consistent "effect" on reported neighborhood satisfaction (SATNEI). On the other hand, both home density and crowding have a significant negative "effect" on reported home satisfaction (SATHOME), although the "effect" of crowding is stronger. As we saw in Chapter 4, crowding is influenced by density, and it seems reasonable to assume that crowding can channel and amplify the effect of density on SATHOME. Therefore, it is expected that density and crowding will interact significantly with respect to SATHOME, but not with respect to SATNEI.

4. Density, Crowding, and Residential Satisfaction

4.1. The UCA Survey

SATHOME and SATNEI mean scores were obtained for high and low density levels (median split) and for the "enlargement" and other answers. The resulting tables failed to indicate an interaction effect.

Stepwise multiple regressions performed on the residential variables produced only weak results. The three best predictors of satisfaction with one's home (SATHOME) were the number of school years completed, home ownership, and unspecified group characteristics. The "enlargement" answer and density (P/R) variables entered the equation as the fifth and sixth predictors

respectively, and their contribution to the accounted variance was very small. The total amount of variance predicted by the equation was 12 % ($R^2 = .119$), which is a rather poor result.

The capacity to predict neighborhood satisfaction (SATNEI) turned out to be even poorer. Only 7 % of SATNEI variance could be predicted with the factors included in the equation ($R^2 = .074$). The three best predictors were age, the number of school years completed, and family income. Density and the "enlargement" answer entered the equation as the fourth and fifth predictors respectively, but again their contribution was very small.

In summary, home density and "crowding," as measured in the UCA Survey, do not seem to have significant effects on reported residential satisfaction. The information from these two variables does not significantly increase the capacity to predict whether individuals will report satisfaction or dissatisfaction with their homes and neighborhoods.

4.2. The San Salvador Study

Mean levels of residential satisfaction were calculated in the San Salvador Study by splitting each

TABLE 41

MEAN HOME SATISFACTION BY GROUP, DENSITY, AND CROWDING
(San Salvador Study - Adults)

		FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY	
CROWDING		Low	High	Low	High	Low	High	Low	High	Low	High
Density (P/R)	Low	7.6 (5)	5.2 (5)	7.9 (7)	5.0 (3)	6.3 (4)	4.3 (4)	4.3 (3)	4.6 (5)	5.6 (7)	4.0 (3)
	High	7.7 (3)	5.4 (7)	5.5 (2)	6.0 (8)	6.2 (5)	4.4 (5)	5.0 (4)	3.3 (7)	4.0 (1)	3.5 (8)

TABLE 42

MEAN NEIGHBORHOOD SATISFACTION BY GROUP, DENSITY, AND CROWDING
(San Salvador Study - Adults)

		FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY	
CROWDING		Low	High	Low	High	Low	High	Low	High	Low	High
Density (P/R)	Low	16.2 (5)	13.8 (5)	18.1 (7)	16.3 (3)	19.3 (4)	16.5 (4)	26.0 (3)	26.0 (5)	22.3 (7)	25.7 (3)
	High	17.3 (3)	17.0 (7)	17.0 (2)	15.8 (8)	25.0 (5)	25.6 (5)	23.8 (4)	20.1 (7)	23.0 (1)	20.5 (8)

neighborhood into its density (P/R) and crowding medians (Tables 41 and 42).

As expected, the results indicate that density and crowding affect the reported SATHOME. In general, higher home density and greater crowding result in lower home satisfaction. This is clearly the case in the Tenement houses and the Shanty town. However, in FUNDASAL, CREDISA, and IVU the lowest SATHOME mean scores correspond to individuals reporting high crowding but having low levels of home density. In other words, the "effect" of crowding appears to be stronger than the "effect" of home density. Once again we find that density levels affect individuals according to the objective quality of their housing (i.e., FUNDASAL, CREDISA, and IVU, on the one hand, the Tenement houses and the Shanty town, on the other).

The "effects" of home density and crowding on SATNEI are similar to those for reported SATHOME. In the Tenement houses and the Shanty town, those individuals with high crowding and high home density report the lowest neighborhood satisfaction. On the other hand, in FUNDASAL and IVU, those individuals with high crowding but low home density have the lowest SATNEI mean scores. Individuals from CREDISA follow the pattern of the

poorer types of housing (the Tenement houses and the Shanty town) on the SATNEI variable.

These results indicate that only individuals from the Tenement houses and the Shanty town report the effects predicted in the second hypothesis on both indices of residential satisfaction. The results obtained for children's scores are similar to those for the adults. To verify these results more directly, several analyses of variance were performed in which some interesting results emerged.

First of all, both home density (P/R and M^2/P) and crowding failed to show significant main and interaction effects on SATNEI. It seems clear from these results that, at least for this sample of lower-class Salvadorans, conditions of home density and the related phenomenon of crowding do not have significant effects on individual evaluations of neighborhood conditions. The discrepancy often observed between Salvadoran neighborhood services and the quality of the houses is mirrored by the discrepancy occurring between the subjective evaluations of neighborhood and housing conditions. This may be an important finding, especially when housing renewal in older downtown neighborhoods is being considered.

TABLE 43

ANALYSIS OF VARIANCE:
HOME SATISFACTION BY GROUP, DENSITY (P/R), AND CROWDING
(San Salvador Study - Adults)

Source of Variation	SQ	df	MS	F	p
Main Effects:	153.654	6	25.609	12.17	.000
P/R	2.162	1	2.162	1.03	.314
Crowding	59.678	1	59.678	28.36	.000
"Group"	46.718	4	11.680	5.55	.001
2-way Interactions:	9.700	9	1.078	0.51	.862
P/R x Crowding	1.335	1	1.335	0.64	.428
P/R x "Group"	4.265	4	1.066	0.51	.731
Crowd. x "G."	4.190	4	1.048	0.50	.737
3-way Interactions:	3.480	2	1.740	0.83	.441
Accounted for:	166.834	17	9.814	4.66	.000
Residual:	164.152	78	2.105		
TOTAL:	330.987	95	3.484		
$R^2 = .464$					
$N = 96$					

Secondly, the analysis of variance indicates that crowding has an important effect on reported home satisfaction independent of both home density and neighborhood (Table 43). This effect is even stronger than the combined effects of home density and neighborhood characteristics ("group"). These results strongly support

the psychologists' idea that subjective feelings are important in accounting for individual home satisfaction.

A third point emerging from separate analyses of variance is that M^2/P influences SATHOME independently of crowding whereas P/R does not, and that the effect of density is related to neighborhood characteristics. This may also be an important finding.

The data from this sample of lower-class Salvadorans seem to indicate that the impact of home density on individual home satisfaction follows a double path. On the one hand, high density (in terms of a low amount of space per person) has a direct effect on SATHOME independent of the subjective experience of the individual, but this effect cannot be considered apart from the neighborhood in which the individual lives. On the other hand, high density (especially a high number of persons per room) tends to trigger the subjective experience of crowding, which in turn strongly affects individual home satisfaction. This finding--if supported by future research--may help in reconciling differing interpretations given by sociological and psychological studies. It indicates that in order to understand the effects of residential density on people both objective and subjective aspects of the phenomenon have to be taken into account (as the second hypothesis claims).

In order to determine the best predictors of residential satisfaction in the San Salvador Study, several stepwise regression analyses were performed (Tables 44, 45, and 46).

TABLE 44
STEPWISE MULTIPLE REGRESSION
PREDICTING HOME SATISFACTION
(San Salvador Study - Adults)

Step	Predictor	Simple r	Multiple R	Square R	Stand. reg. co.	F(in)
1	Crowding	.58	.58	.338	.47	34.42
2	"Group"	-.46	.69	.461	-.27	10.47
3	M ² /P (density)	.44	.70	.485	.20	4.98
4	Job	-.11	.71	.502	-.10	1.79
5	Age	.06	.71	.508	.10	1.64
6	School	.26	.71	.511	.09	1.10
7	Income	.11	.72	.517	-.09	1.07
R ² adjusted for df = .478						
N = 96						

TABLE 45

STEPWISE MULTIPLE REGRESSION
 PREDICTING NEIGHBORHOOD SATISFACTION
 (San Salvador Study - Adults)

Step	Predictor	Simple r	Multiple R	Square R	Stand. reg. co.	F(in)
1	"Group"	.45	.45	.207	.42	19.30
2	Job	.23	.50	.247	.20	5.13
3	Crowding	.08	.52	.271	.21	4.92
4	M ² /P (density)	-.29	.55	.306	-.19	3.60
5	Age	.12	.57	.319	.12	1.78

R² adjusted for df = .281
 N = 96

TABLE 46

STEPWISE MULTIPLE REGRESSION
 PREDICTING HOME SATISFACTION
 (San Salvador Study - Children)

Step	Predictor	Simple r	Multiple R	Square R	Stand. reg. co.	F(in)
1	Crowding	.31	.31	.094	.25	11.58
2	"Group"	-.26	.37	.139	-.20	6.50
3	Age	-.07	.38	.144	-.08	1.20
4	P/R (density)	-.19	.39	.150	-.08	1.07

R² adjusted for df = .129
 N = 169

A first interesting results, as could be expected from previous analyses, is that M^2/P has more predictive power than P/R , both for SATHOME and SATNEI. Surprisingly enough, this is not the case for children, although the predictive capacity of the factors included in the children's regression analysis is very weak since the equation only accounts for 15 % of the total variance ($R^2 = .15$).

A second important results is that crowding appears to be the best predictor of individual home satisfaction. This supports the previous conclusion that SATHOME is influenced directly by subjective feelings of crowding, as well as by the objective amount of space per person in the home. On the other hand, the best predictor of individual neighborhood satisfaction is the "group" variable (i.e., unspecified neighborhood characteristics).

A third important result is that the regression accounts for 52 % of the total variance of SATHOME. Moreover, the analysis shows that the first two variables (crowding and "group") account for 46 % of the total SATHOME variance. Density as an independent factor (either M^2/P or P/R) only comes as the third predictor of SATHOME and as the fourth for SATNEI. However, we should recall that P/R directly affects crowding.

The total amount of SATNEI variance accounted for by these predictors is much smaller, though significant: $R^2 = .33$. The first three variables entering the regression ("group," M^2/P , and crowding) predict 29 % of SATNEI variance. Neither the total predicted variance of SATHOME nor that of SATNEI was significantly increased when both measures of density (persons per room and square meters per person) were simultaneously included in the regression analysis.

A path analysis graphically synthesizes most of the analyses presented in this chapter (Figures 11 and 12).

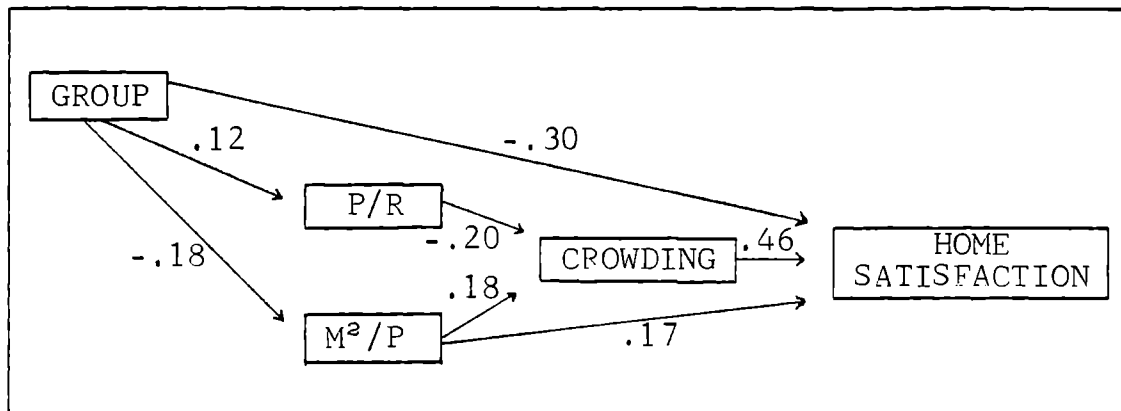


Figure 11. Path Analysis on Home Satisfaction.

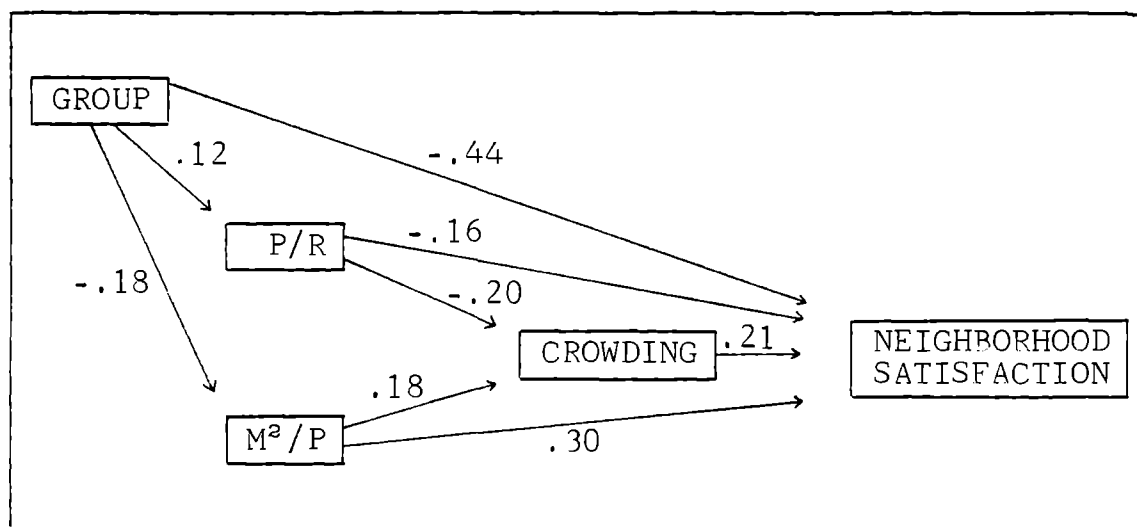


Figure 12. Path Analysis on Neighborhood Satisfaction.

Neighborhood characteristics (i.e., the "group" variable) have an effect on both P/R and M²/P measures of density, but they also have a direct impact on individual residential satisfaction, although more on SATHOME than on SATNEI. Both aspects of density influence reported feelings of crowding, but M²/P has a larger effect on individual neighborhood satisfaction than on home satisfaction. P/R has an insignificant effect on SATNEI and only a small direct effect on SATHOME. Finally, individual feelings of crowding strongly influence SATHOME and, to a much lesser extent, SATNEI. Of course, all these relationships must be interpreted in the light of the total amount of variance

accounted for by the factors included in the path analysis. This amount of accounted variance is much larger in the case of home satisfaction ($R^2 = .48$) than in the case of neighborhood satisfaction ($R^2 = .29$). As a result, the path analysis describing the factors accounting for SATHOME is more adequate than that for SATNEI.

5. Summary

(1) In the UCA Survey, home density does not have a significant effect on residential satisfaction. Nothing can be said about possible effects of crowding since the indicator used for crowding did not prove to be a valid one.

(2) In the San Salvador Study, home density, in terms of both persons per room and square meters per person, has clear negative effect on individual home satisfaction and no significant effect on neighborhood satisfaction. The two measures of home density seem to constitute two different, but related, aspects of the same concrete situation. In general, square meters per person seems to be a slightly more significant index; however, the number of persons per room has a stronger effect on individual feelings of crowding.

(3) Crowding constitutes the best predictor of individual home satisfaction. The index of persons per room does not affect home satisfaction directly, while the number of square meters per person does. However, since crowding is affected by the number of persons per room, it follows that both density and crowding affect home satisfaction. In fact, the capacity to predict individual home satisfaction increases when both objective conditions of home density and individual feelings of crowding are taken into account. Moreover, the variance in home satisfaction predicted by these two factors plus the "group" variable amount to almost fifty percent of the total variance, which is undoubtedly an excellent result. These data strongly support the second hypothesis.

(4) Unspecified neighborhood characteristics (i.e., the "group" variable) are better predictors of neighborhood satisfaction than density or crowding. "Job," a variable indicating the present employment status of the interviewee, is the second best predictor. Crowding seems to have a relatively small effect on individual neighborhood satisfaction, although it appears before home density in the regression analysis. The total amount of variance accounted for by "group," crowding, and density, is about twenty nine percent.

(5) The clearest conclusion is that home density and crowding have a strong impact on individual home satisfaction, but are almost irrelevant to individual neighborhood satisfaction. The importance of specific neighborhood characteristics supports the theoretical claim that the effects of crowding have to be analyzed and understood within a concrete social context.

CHAPTER 6
THE CHARACTER OF CROWDING

Third Hypothesis:

Household crowding is more likely to be stressful when it interferes with important home activities.

1. Interference and Crowding

Crowding insofar as it has a strong negative effect on home satisfaction constitutes a stressful condition. Our question here is whether this is always the case. Does crowding necessarily lead to less home satisfaction, or does this negative effect depend on specific conditions of crowding? The third hypothesis predicts that feelings of crowding will be more negatively stressful, that is, significantly decrease home satisfaction in those situations where home density interferes with important goal-oriented activities. If the third hypothesis proves tenable, the capacity to predict home satisfaction from reported feelings of crowding will be greater.

Nothing can be said about crowding conditions from the UCA Survey due to the doubtful validity of the crowding index used. Moreover, tentative analyses with the "enlargement" answer variable produced only very inconsistent results, thus further confirming the inadequacy of the measure. Therefore, only data from the San Salvador Study will be used in this chapter.

The amount of time (besides bedtime) an individual usually spends at home may be an important antecedent variable affecting feelings of home crowding. The average individual in the San Salvador sample spends almost ten hours at home during the day, although individuals from the Shanty town spend significantly less time (Tables 47 and 48). The amount of time spent

TABLE 47
 FREQUENCY DISTRIBUTION
 BY DAY TIME SPENT AT HOME
 (San Salvador Study - Adults)

Number of Hours	N
0	6
1 - 3	6
4 - 6	18
7 - 9	12
10 - 12	7
13 or more	51

TABLE 48

MEAN HOURS/DAY SPENT AT HOME BY GROUP
(San Salvador Study - Adults)

		FUN	CRE	IVU	TEN	SHA	TOT
Hours/Day	\bar{X} N	9.2 (20)	10.8 (20)	11.1 (20)	10.5 (20)	7.4 (20)	9.8 (100)

at home is correlated significantly with both measures of density (with P/R, $r = -.22$; with M^2/P , $r = .23$), but is not significantly correlated with feelings of crowding. Moreover, the amount of time spent at home is not significantly correlated with either home satisfaction or neighborhood satisfaction.

There were three items which addressed the issue of possible interference with home activities caused by the presence of other people. The first of these items asked who, if anyone, felt most bothered at home by the lack of space. There were four possible types of answer: no one, adults, children, and everyone. The frequency distribution (Table 49) indicates that more than one third of the sample stated that no one was really bothered by the lack of space at home. This answer was the mode for FUNDASAL and CREDISA, but not

TABLE 49

FREQUENCY DISTRIBUTION OF "WHO IS MOST BOTHERED" BY GROUP
(San Salvador Study)

	FUN		CRE		IVU		TEN		SHA		TOT	
	Ad	Ch	Ad	Ch	Ad	Ch	Ad	Ch	Ad	Ch	Ad	Ch
No one	12	25	9	25	6	33	4	18	4	25	35	126
Adult(s)	4	2	4	2	5	3	3	7	7	4	23	18
Child(ren)	4	8	3	2	6	0	10	4	4	6	27	20
Everyone	0	0	4	3	3	2	3	1	5	1	15	7

Ad = Adults

Ch = Children

for the remaining three neighborhoods. The second most frequent answer was "children," and this was the modal answer for the Tenement houses. However, we should recall that this evaluation was given by the person interviewed, in this case, an adult. When children were asked the same question, 74 % (126 children) of them answered that "no one" was bothered, and only 11.7 % of them (20 children) answered that children were the most bothered.

The second item was an open-ended follow-up of the previous question: Why do you think "x" is most bothered by the lack of space at home? Obviously, this question only applied to those who had previously

answered that someone was bothered. Following the most accepted theoretical models (see Chapter 1), the answers were coded in terms of a lack of privacy or of interference with home activities. The frequency distribution shows that only four answers involved a lack of privacy, while the large majority dealt with the interference of some kind of activity (Table 50).

TABLE 50
 FREQUENCY DISTRIBUTION
 OF "REASONS SOMEONE IS BOTHERED" BY GROUP
 (San Salvador Study - Adults)

	FUN	CRE	IVU	TEN	SHA	TOT
Unbothered	12	9	6	5	4	36
Lack of Privacy	0	1	3	0	0	4
Interference	7	10	11	15	16	59

Whenever children were mentioned as being those most bothered by the lack of space, the reason most often given was that "they lack space to play." But whenever adults were mentioned, the reasons involved interference with a given activity (e.g., household duties) or the difficulty of relaxing, resting, or moving around at home.

A third item asked whether individuals used the bedroom for activities other than sleeping. More than half of the sample (Table 51) answered that the bedroom was not used for other activities. In CREDISA, only two families out of twenty reported using the bedroom for additional purposes, while in the Tenement houses and the Shanty town, almost fifty percent of the answers stated that the bedroom was used "for all purposes." This answer was given only once in FUNDASAL, and not at all in CREDISA and IVU.

TABLE 51
 FREQUENCY DISTRIBUTION
 OF "OTHER USES OF BEDROOM" BY GROUP
 (San Salvador Study - Adults)

	FUN	CRE	IVU	TEN	SHA	TOT
None	10	18	15	6	8	57
For meals	1	0	0	1	2	4
For work	1	1	2	0	1	5
As living room	7	1	3	4	0	15
All uses	1	0	0	9	9	19

Aside from the "who is most bothered" question, children were asked two additional questions: whether they wished to move to another home and why they answered as they did. The distribution of the answers (Table 52) indicates that children in the poorest types of housing desire to move more often than children in the best types of housing and that 54.4 % of those who wanted to move justified their wish by mentioning the small size of the home. Of those not wanting to move, 60.2 % indicated that they were pleased with the quality of their homes.

TABLE 52
 "DESIRE TO MOVE" BY "REASONS FOR IT" BY GROUP
 (San Salvador Study - Children)

MOVING	FUN		CRE		IVU		TEN		SHA		TOT	
	Y	No	Y	No	Y	No	Y	No	Y	No	Y	No
Home Size	4	1	6	0	8	0	14	0	12	0	44	1
Home quality	2	14	1	18	4	14	4	4	3	3	14	53
Neighbors/ Friends/Family	4	4	3	1	1	2	2	0	7	0	17	7
Other reasons	2	4	0	3	2	7	1	6	2	8	7	28
TOTAL	12	23	10	22	15	23	21	10	24	11	82	89

The main point of concern here is the relationship of the conditions reflected by these three items with crowding and with home satisfaction. With respect to the first item, the obvious expectation is that whenever someone is bothered by the lack of home space, the experience of crowding will be higher than in those cases where no one is bothered. However, note that the person supposedly bothered is not necessarily the interviewee, whereas only the interviewee is asked to report personal feelings of crowding. Despite this difficulty, the results support the first obvious expectation (Table 53).

TABLE 53
MEAN CROWDING BY GROUP AND "WHO IS MOST BOTHERED"
(San Salvador Study - Adults)

"Who is most bothered"		FUN	CRE	IVU	TEN	SHA	TOT
No one	\bar{X} N	8.7 (12)	10.2 (9)	9.2 (6)	9.7 (3)	9.3 (3)	9.3 (33)
Adults	\bar{X} N	6.5 (4)	7.3 (4)	9.6 (5)	6.7 (3)	7.1 (7)	7.5 (23)
Children	\bar{X} N	6.5 (4)	6.0 (3)	6.4 (5)	6.3 (10)	6.3 (4)	6.3 (26)
Everyone	\bar{X} N	- (0)	7.3 (4)	6.5 (2)	6.0 (3)	6.0 (5)	6.4 (14)

As expected, the most significant difference in crowding mean scores occurs between those who indicate that no one is bothered by the lack of space and those who identify somebody as being bothered (either an adult, a child, or everyone). The same difference occurs in all neighborhoods, with the minor exception of the "adults" category in IVU.

Unfortunately, due to the small number of "lack of privacy" answers, the data from the "reasons someone is bothered" question do not allow a conclusive test of whether there are differences between individuals who answered "lack of privacy" and those who answered "interference." However, this low response is an interesting fact in and of itself. Does this mean that privacy is not an important value for lower-class Salvadorans? Or, rather, does it mean that lower-class Salvadorans are not aware of the value of privacy? None of the four individuals answering that "lack of privacy" was the reason for someone being most bothered lived in neighborhoods having the worst objective type of housing. Either individuals have grown accustomed to cramped home situations and have developed ways of coping, or high home density has consequences which they consider worse than the sheer lack of privacy.

Some light can be shed on this issue by a question directly related to privacy: "Does the presence of your children bother you whenever you want to talk over personal matters with your spouse?" Thirty one percent answered "no," and 69 % "yes," which suggests that most of the subjects were aware of their need for privacy. The proportion of individuals giving an affirmative answer is much greater in the Tenement houses and the Shanty town than in the other three neighborhoods (Table 54). These are the two neighborhoods where families usually occupy only one room and, therefore, have fewer possibilities of obtaining any type of privacy. Thus, it seems that the absence of "lack of privacy" answers is related more to the existence of alternative ways of fulfilling the need for privacy and the learning of coping responses than to an actual lack of privacy needs.

TABLE 54
 "NEED FOR PRIVACY" BY GROUP
 (San Salvador Study - Adults)

Children's presence and personal matters	FUN	CRE	IVU	TEN	SHA	TOT
It does not bother	8	7	6	2	2	25
It bothers	10	12	8	10	15	55

The relationship between individual feelings of crowding and "additional uses of bedroom" supports this conclusion about the need for privacy (Table 55). Those who have to use the bedroom for additional home activities feel more crowded than those who use it only as a bedroom. This pattern occurs in all neighborhoods, with the exception of CREDISA (in which only two families reported using the bedroom for additional purposes).

TABLE 55

MEAN CROWDING BY GROUP AND "OTHER USES OF BEDROOM"
(San Salvador Study - Adults)

Additional Uses of Bedroom		FUN	CRE	IVU	TEN	SHA	TOT
None	\bar{X}	8.1	8.1	8.4	8.2	7.9	8.2
	N	(10)	(18)	(14)	(6)	(7)	(55)
Some uses	\bar{X}	7.6	11.0	7.5	5.8	7.7	7.5
	N	(9)	(2)	(4)	(5)	(3)	(25)
All uses	\bar{X}	7.0	-	-	6.5	6.1	6.3
	N	(1)	(0)	(0)	(8)	(9)	(18)

2. Crowding, Interference, and Residential Satisfaction

As reported above, "home interference" answers are significantly related to individual levels of crowding. The question now becomes: do these answers increase our capacity to predict residential satisfaction? Does interference with home activities condition the effects of crowding on home satisfaction?

Since all the measures of interference are significantly related to crowding, it can be expected that they will also show a significant relationship with home satisfaction. Results confirmed the expectation: the three items were significantly related to SATHOME. But the important point lies in whether or not these measures really mediate or condition the effects of crowding on home satisfaction. The third hypothesis claims that they do and, therefore, that our ability to predict SATHOME will be increased by adding these factors to the equation.

Since previous analyses have indicated that basic differences occur between those individuals who said that someone was bothered at home by the lack of space and those who said that no one was bothered, the three answers of "someone bothered" (i.e., adults, children, and everyone) were collapsed into one. The mean SATHOME scores of the resulting subgroups were then examined at

both levels of high and low crowding (Table 56). All differences are in the expected direction across neighborhoods, except for those with low crowding in CREDISA. In all neighborhoods, without exception, those respondents with high feelings of crowding who report that someone is bothered at home by a lack of space are those who report less home satisfaction. The fact that individuals from three neighborhoods always answer that someone is bothered under high crowding is a significant datum in itself.

TABLE 56
MEAN HOME SATISFACTION
BY GROUP, CROWDING, AND "WHO IS MOST BOTHERED"
(San Salvador Study - Adults)

	FUN		CRE		IVU		TEN		SHA	
CROWDING	Low	High	Low	High	Low	High	Low	High	Low	High
"Who"										
No one	7.9 (7)	5.6 (5)	7.0 (9)	- (0)	7.3 (4)	5.5 (2)	5.7 (3)	- (0)	5.7 (3)	- (0)
Someone	6.0 (1)	5.2 (7)	7.3 (3)	5.5 (8)	5.4 (5)	4.0 (7)	4.3 (3)	3.8 (13)	5.0 (4)	3.8 (12)

It could be argued that because these results are similar to those obtained by comparing SATHOME mean scores at both levels of crowding, the information provided by the "who is most bothered" item is simply redundant. This is not the case. In fact, the "who is most bothered" item further discriminates SATHOME mean scores at significant levels. Moreover, individuals in the extreme conditions (i.e., high crowding and someone bothered, on the one hand; low crowding and no one bothered, on the other) also have on the average the most extreme SATHOME scores.

However, a careful examination of Table 56 suggests that there is no significant interaction between crowding and "who is most bothered," although both factors have independent effects. In this sense, it seems that the "who is most bothered" question simply represents additional information about crowding rather than representing a condition which mediates the character of individual feelings of crowding. An analysis of variance (Table 57) confirms this conclusion. With "group" and "who is most bothered" as independent variables, and controlling for crowding levels, 53 % of the total amount of SATHOME variance is accounted for in the analysis, and the main effects of both "group" and "who is most bothered" as well as their interaction effect are statistically significant.

TABLE 57

ANALYSIS OF VARIANCE:
HOME SATISFACTION BY GROUP AND "WHO IS MOST BOTHERED"
WITH CROWDING AS COVARIATE
(San Salvador Study - Adults)

Source of Variation	SQ	df	MS	F	p
Cov.: Crowding	111.761	1	111.761	73.16	.000
Main Effects:	65.067	7	9.295	6.09	.000
"Group"	38.168	4	9.542	6.25	.000
"Who is M. B."	16.902	3	5.634	3.69	.015
Interaction:					
"Group" x WMB	38.063	11	3.460	2.27	.019
Accounted for:	214.891	19	11.310	7.40	.000
Residual:	116.096	76	1.528		
TOTAL:	330.987	95	3.484		
$R^2 = .534$					
$N = 96$					

A series of analyses relating crowding, "the reasons someone is bothered," and "group" with respect to home satisfaction yields similar results. The reasons given for why individuals are bothered by the lack of space at home do not add important information since only four individuals gave the "lack of privacy" answer. Furthermore, when levels of crowding and

"other uses of bedroom" are cross-tabulated, the mean scores of home satisfaction are not significantly different. An analysis of variance shows that "other uses of bedroom" does not have a significant effect on SATHOME, nor does it interact with crowding.

When the "moving" and "reasons for moving" items are cross-tabulated, an examination of children's mean scores of home satisfaction supports the conclusion that the "reasons" for feeling crowding do not mediate between reported feelings of crowding and home satisfaction (Table 58).

What follows from this detailed analysis is that when individuals report strong feelings of crowding and indicate that someone is bothered by a lack of space, their home satisfaction decreases, no matter what types of goal-directed activities are obstructed by the presence of others at home. It appears, therefore, that the third hypothesis has not been supported. Possible reasons for this failure include: (1) home crowding is always negatively stressful, independent of the activities involved; (2) the present data do not adequately measure different types of home activity and interference; and (3) individuals have developed coping mechanisms which allow them to adapt in a similar way

TABLE 58
 MEAN HOME SATISFACTION
 BY GROUP, DESIRE TO MOVE, AND REASONS FOR MOVING
 (San Salvador Study - Children)

	FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Desire to Move										
Reasons for Moving:										
Home Size	3.8 (4)	3.0 (1)	4.0 (6)	- (0)	4.0 (8)	- (0)	2.9 (14)	- (0)	3.4 (12)	- (0)
Home Quality	4.0 (2)	4.7 (14)	2.0 (1)	4.9 (18)	4.0 (4)	4.9 (14)	3.5 (4)	4.8 (4)	3.0 (3)	5.0 (3)
Neighbors/ Friends/Family	3.3 (4)	5.0 (4)	4.0 (3)	5.0 (1)	4.0 (1)	5.0 (2)	4.0 (2)	- (0)	3.7 (7)	- (0)
Other Reasons	4.0 (2)	5.0 (4)	.- (0)	5.0 (3)	3.5 (2)	4.9 (7)	4.0 (1)	4.2 (6)	3.0 (2)	4.9 (8)

to all types of home interference, whatever the nature of the activities involved.

The first explanation implies that either all home activities are important, or that home density interferes with any type of home activity. The first and third explanations might also support an interesting application of the control model (see Chapter 1): in the household crowding process, the loss of personal control over the environment is the condition mediating the negative effects of high density. And, since one's home is a very important environment, any loss of control over it results in negative feelings.

In summary, even though these items on home interference add interesting information about individual feelings of crowding, they do not significantly increase the capacity to predict home satisfaction: the additional amount of SATHOME variance accounted for by the "interference items" is about one percent.

3. Coping with Crowding

The questionnaire included two open-ended items about how individuals responded to situations of home interference under high density conditions. The first of these items asked: "What do you do when you want to rest and too many people are at home?" The second item

asked: "What do you do when some relative bothers you at home?" Tables 59 and 60 show the distribution of the answers to these two items as well as the SATHOME mean scores. Unfortunately, most individuals reacted with surprise to the wording of the second question and gave a negative answer to it. In El Salvador, the verb "to bother" (estorbar) applied to family members has a pejorative connotation which had not been noticed in the pretesting.

The most common response among individuals from this sample to interference under conditions of high crowding seems to be one of inhibition: individuals endure the trouble and "do nothing" about it. This response cuts across neighborhoods. If their home has more than one room, individuals also can isolate themselves in one of the rooms in order to rest or to avoid interference. When this is not possible, they resort to other responses, such as ejecting the "trouble makers" from the home or leaving the home themselves.

In summary, individual responses to interference produced by conditions of high home density range from total passivity or inhibition (i.e., to do nothing or to endure the annoying situation) to active violence (for example, to expel the "trouble maker"). When these types of responses are divided by levels of

TABLE 59

MEAN HOME SATISFACTION BY GROUP
AND "RESPONSE TO REST INTERFERENCE"

(San Salvador Study - Adults)

Response	FUN	CRE	IVU	TEN	SHA	TOT
Nothing	5.8 (4)	7.5 (4)	6.5 (2)	6.5 (2)	4.0 (2)	6.2 (14)
To endure	5.6 (9)	6.2 (9)	6.1 (7)	3.9 (11)	4.3 (9)	5.1 (45)
To silence the other	7.3 (4)	- (0)	4.0 (3)	3.0 (1)	5.0 (1)	5.5 (9)
To expel from home	7.0 (1)	4.0 (1)	4.5 (2)	4.3 (3)	4.0 (3)	4.5 (10)
To leave	8.0 (1)	7.0 (4)	6.0 (1)	- (0)	4.7 (3)	6.2 (9)
To isolate oneself	8.0 (1)	5.5 (2)	5.0 (5)	4.7 (3)	5.5 (2)	5.3 (13)

TABLE 60

MEAN HOME SATISFACTION BY GROUP
AND "RESPONSE TO INTERFERING RELATIVE"

(San Salvador Study - Adults)

Response	FUN	CRE	IVU	TEN	SHA	TOT
No one interferes	6.5 (16)	6.9 (13)	5.7 (13)	4.4 (14)	4.5 (10)	5.7 (66)
To endure	5.0 (1)	- (0)	6.0 (4)	3.7 (3)	4.0 (4)	4.7 (12)
To expel from home	3.0 (1)	6.5 (2)	2.0 (1)	4.3 (3)	5.0 (2)	4.5 (9)
To leave	- (0)	4.5 (2)	4.0 (2)	- (0)	4.5 (2)	4.3 (6)
To impose other authority	- (0)	6.0 (1)	- (0)	- (0)	4.5 (2)	5.0 (3)
"Transaction"	6.5 (2)	5.5 (2)	- (0)	- (0)	- (0)	6.0 (4)

crowding, the small number of cases in each of the categories do not allow any clear conclusions about which types of response to crowding interference are related to higher home satisfaction. Probably the most important finding is that most individuals in this sample report remaining passive when confronted with home interference.

4. Summary

(1) Home interference produced by conditions of high density seems to be an aspect or element, rather than an intervening variable, of the process of crowding. In general, individual feelings of crowding depend to some extent on who is bothered or whose activities are interfered with by the conditions of high density at home. The reported effect (in terms of home satisfaction) is most negative whenever children are considered the most affected by the lack of space at home.

(2) The questionnaire did not produce sufficient response variation in the reasons why someone was bothered by a lack of space at home. Only four answers could be coded as expressing individual loss of privacy and none of them came from individuals living in the worst types of housing. However, this does not necessarily mean that lower-class Salvadorans do not

feel the need for privacy. Rather it indicates that individuals have grown accustomed to living under conditions of high home density and have learned ways of coping with those conditions.

(3) Knowing who is most bothered by the lack of space at home and why he or she is bothered increases the capacity to discriminate levels of individual home satisfaction. However, it does not significantly increase the capacity to predict individual home satisfaction. It is possible that the failure to improve the predictive equation is due to the open-ended structure of the questionnaire items rather than to the insignificance of the phenomenon of home interference itself. It may also be that, by relating interference directly to home satisfaction, only the final outcome of high density and crowding rather than the process of crowding itself, has been taken into account. In that case, individuals may have already coped with the situation. Whatever the reason, present results do not support the third hypothesis. Once individuals report strong feelings of crowding at home and indicate that someone is bothered by a lack of housing space, their home satisfaction decreases independently of the activities or goals most obstructed by the conditions

of density. An explanation of these results in terms of the control model seems very reasonable.

(4) In general, passivity or lack of response to interference under conditions of high household crowding appears to be the most common "response" of lower-class Salvadorans to this type of situation.

CHAPTER 7
CROWDING AND SOCIAL INVOLVEMENT

Fourth Hypothesis:

Stressful crowding will lead to increased specialized social withdrawal.

1. Social Involvement of Lower-Class Salvadorans

One of the most common ideas expressed in the crowding literature is that under high density conditions individuals tend, in one way or another, to avoid social contacts and, therefore, become less socially involved. As seen in Chapter 1, contemporary sociologists contend that as a general proposition, the relationship of high density with social withdrawal has never been satisfactorily verified. Baldassare (1978), among others, has suggested instead that what really takes place is a "specialized social withdrawal": individuals withdraw from those social groups and activities which they consider of secondary importance, but maintain those contacts and social interaction which they deem important in their lives.

The fourth hypothesis attempts to examine this issue and takes Baldassare's position as a starting point. The issue is of particular importance since lower-class Salvadorans constitute a population which is on the one hand, excluded from most sectors of the dominant structure--economic, cultural, political--but seems, on the other hand, to build its own social structure based on kinship relations and solidarity (Montes, 1979; Tallián, 1976).

This duality makes it difficult to evaluate the extent to which this population is "socially" involved: many of the situations or activities commonly used for measuring social participation simply do not apply here. I believe that new parameters of social involvement need to be designed for use with this population, and that this can be achieved only through prolonged participant observation. However, in order to make the data more comparable with those of other studies, commonly used indicators have been employed here (see Chapter 3, pp. 153-156). The present analysis includes both behavioral and attitudinal elements. The behavioral elements are incorporated into the scale of social participation (SOCPAR), and the attitudinal elements are merged into the scale of class consciousness (CLASCO).

The analysis will follow three steps: (1) a description of social involvement in the two samples; (2) an examination of the relationships between residential satisfaction and social involvement; and (3) an analysis of the impact of high home density and crowding on individual social involvement.

1.1. The UCA Survey

The frequency distribution of individual social participation (Table 61) shows that zero was the mode for this sample. Only 1.3 % of the sample reached the upper half of the scale. This seems to support my contention regarding the need for new parameters of social involvement. It appears that this population, at least in terms of the present index, has a minimum of social participation.

Low social participation is a common characteristic of all the groups in the sample (Table 62). However, a clear difference on SOCPAR mean scores appears among the six groups, especially between FUNDASAL and the remaining five groups. The fact that individuals in FUNDASAL have higher SOCPAR mean scores can be explained by the policy of the housing agency (The Salvadoran Foundation for Development and Minimal Housing) which intentionally uses housing as a means

TABLE 61
 FREQUENCY DISTRIBUTION OF SOCIAL PARTICIPATION
 (UCA Survey)

SOCPAR	N	%	Cum %
0	415	27.4	27.4
1 - 9	627	41.5	68.9
10 - 18	352	23.3	92.2
19 - 27	98	6.5	98.7
28 - 36	17	1.2	99.9
37 - 45	2	0.1	100.0
46 - 54	0	0.0	100.0
TOTAL	1511	100.0	100.0
Missing	10		

TABLE 62
 MEAN SOCIAL PARTICIPATION BY GROUP
 (UCA Survey)

	FUN	IVU	SHA	CAM	TEN	ILL	TOT
SOCPAR \bar{X}	13.7	7.9	7.1	7.1	6.4	8.6	7.9
N	(53)	(61)	(393)	(96)	(102)	(290)	(995)

for developing new communities and promoting new organizations and social activities among lower-class Salvadorans (Harth, 1974; Fernández Ibáñez, 1978).

The frequency distribution of class consciousness (Table 63) indicates that individuals also concentrated on the lower side of this scale. Only 2 % of the scorers (27 subjects) reached the upper third of the scale (i.e., 36 points or more). Therefore, the class consciousness of this sample, at least with this particular index, is rather low.

TABLE 63
FREQUENCY DISTRIBUTION OF CLASS CONSCIOUSNESS
(UCA Survey)

CLASCO	N	%	Cum %
0 - 6	12	0.9	0.9
7 - 13	100	7.3	8.2
14 - 20	392	28.6	36.8
21 - 27	562	41.0	77.8
28 - 34	257	18.7	96.5
35 - 41	45	3.3	99.8
42 - 48	4	0.2	100.0
49 - 55	0	0.0	100.0
TOTAL	1372	100.0	100.0
Missing	149		

TABLE 64
 MEAN CLASS CONSCIOUSNESS BY GROUP
 (UCA Survey)

		FUN	IVU	SHA	CAM	TEN	ILL	TOT
CLASCO	\bar{X}	22.3	22.5	21.6	22.8	24.4	23.2	22.2
	N	(46)	(52)	(360)	(91)	(95)	(273)	(917)

Group mean scores of CLASCO (Table 64) are very similar across all groups. However, it should be noted that although the residents of the Tenement houses have the lowest mean score of social participation among all groups, they also have the highest mean score of class consciousness. On the other hand, individuals in FUNDASAL, although having the highest mean score of social participation, have the second worst class consciousness mean score. It is risky to draw any conclusion from these shifts in the rank order due to the small differences on mean scores. The Pearson correlation coefficient between these two indices is .19 ($p < .001$); however, the differences in rank order raise questions about the relationship between social participation and class consciousness.

The overall picture of the sample provided by these indices is extremely painful: this is a socially inactive human group, with a low level of class consciousness. This is an accurate, although incomplete, expression of what social scientists have called the marginal or dominated sector of a dual society.

1.2. The San Salvador Study

Three indices of social involvement were used with this sample. Two of them, SOCPAR and CLASCO, are equivalent to the indices used with the UCA Survey. However, due to the importance of kinship relations for lower-class Salvadorans, and to this study's focus on home conditions, an index of satisfaction with one's family was included, for which no equivalent index exists in the UCA Survey.

The frequency distribution and group mean scores of social participation (Tables 65 and 66) indicate that no one in the San Salvador sample reached the upper half of the scale (i.e., more than 6 points): most subjects indicated that they did not actively participate in any organized social group (0 = no membership; 1 = non-active membership; 2 = active membership).

The situation reflected in these tables is striking and supports the picture provided by the UCA

TABLE 65

FREQUENCY DISTRIBUTION OF SOCIAL PARTICIPATION
(San Salvador Study - Adults)

SOCPAR	N	%	Cum %
0	38	38.0	38.0
1 - 2	48	48.0	86.0
3 - 4	11	11.0	97.0
5 - 6	3	3.0	100.0
7 - 8	0	0.0	100.0
9 - 10	0	0.0	100.0
11 - 12	0	0.0	100.0
TOTAL	100	100.0	100.0

TABLE 66

MEAN SOCIAL PARTICIPATION BY GROUP
(San Salvador Study - Adults)

		FUN	CRE	IVU	TEN	SHA	TOT
SOCPAR	\bar{X}	2.4	1.3	1.2	1.0	1.3	1.4
	N	(20)	(20)	(20)	(20)	(20)	(100)

Survey. Statistically speaking, the scores on social participation of this sample do not allow much further analysis. However, this same statistical lack of significance is socially very meaningful insofar as it gives an accurate description of a group excluded from most types of social organization. FUNDASAL is the group in which individuals have the greatest level of social participation and the mean score indicates that the average individual is active in only one social organization.

The frequency distribution and group mean scores of class consciousness (Tables 67 and 68) show a wider distribution of scores than in the case of social participation. The mean of the total sample ($\bar{X} = 15.0$) is also the mode and the median, and this value also represents the midpoint of the scale. Although differences among neighborhoods were not very large, there seem to be two clusters of neighborhoods: on the one hand, FUNDASAL, IVU, and CREDISA; on the other, the Tenement houses and the Shanty town. This cluster of neighborhoods (which we already found with respect to home density and crowding) reflects their objective quality. In general, CLASCO values are concentrated at the middle of the scale, and only one subject reached the upper third (i.e., more than 22 points). These

TABLE 67

FREQUENCY DISTRIBUTION OF CLASS CONSCIOUSNESS
(San Salvador Study - Adults)

CLASCO	N	%	Cum %
1 - 5	0	0.0	0.0
6 - 10	13	13.0	13.0
11 - 15	46	46.0	59.0
16 - 20	32	32.0	91.0
21 - 25	9	9.0	100.0
26 - 31	0	0.0	100.0
TOTAL	100	100.0	100.0

TABLE 68

MEAN CLASS CONSCIOUSNESS BY GROUP
(San Salvador Study - Adults)

		FUN	CRE	IVU	TEN	SHA	TOT
CLASCO	\bar{X}	16.7	15.6	16.3	13.7	13.3	15.0
	N	(20)	(20)	(20)	(20)	(20)	(100)

results suggest that the present sample has a slightly higher class consciousness than the UCA sample. However, the level is generally low.

It is important to elaborate upon the lack of social involvement in this sample. The first interesting observation is that individuals reported being most involved with religious organizations and less involved with political organizations. Actually, only two subjects indicated participation in political groups. That individuals are active in religious groups seems normal; however, the almost total lack of political participation is striking.

When subjects were asked which social organization they considered to be the most effective and which the least effective, 61 % (55 individuals) answered that the least effective organizations were political parties. The most common reason they offered for their answer was that "parties promise, but don't deliver." When subjects were asked about their own political involvement, 35 % mentioned that it was too dangerous; "you get into trouble."

These two last answers summarize the political experience of lower-class Salvadorans. They are approached and asked for their votes during political campaigns. However, as soon as the elections are over,

the only effective policy directed towards them is continued repression. Actually, 62 % of the sample think that the government does not attempt to resolve their problems because "they only pay attention to their own interests." But even though 93 % (i.e., almost the entire sample) say that their family budget has steadily worsened during the last two years, only 28 % think that, in order to transform the country and improve their own situation, political changes are necessary.

The frequency distribution and group mean scores of satisfaction with one's family (Tables 69 and 70) show that individuals tend to be satisfied with their family life: 24 % of the subjects reached the upper three points of the scale.

TABLE 69
FREQUENCY DISTRIBUTION OF FAMILY SATISFACTION
(San Salvador Study - Adults)

SATFAM	N	%	Cum %
0 - 1	0	0.0	0.0
2 - 3	0	0.0	0.0
4 - 5	4	5.4	5.4
6 - 7	17	23.0	28.4
8 - 9	35	47.3	75.7
10 - 12	18	24.3	100.0
TOTAL	74	100.0	100.0
Missing	26		

TABLE 70
 MEAN FAMILY SATISFACTION BY GROUP
 (San Salvador Study - Adults)

		FUN	CRE	IVU	TEN	SHA	TOT
SATFAM	\bar{X}	8.3	8.5	8.8	7.7	8.1	8.3
	N	(16)	(17)	(14)	(11)	(16)	(74)

Unfortunately, the family satisfaction index could not be constructed for a fourth of the adult sample because at the time of the interview they did not have a spouse (or partner) and half of the family satisfaction items concerned spouse relations. The interesting thing to note about these "missing cases" is that most of them were separated from their former spouses or partners. A large proportion of lower-class Salvadorans never formally marry allowing them a relatively easy and culturally accepted separation in case their life together becomes no longer satisfying. The family satisfaction mean scores may be inflated since the "missing cases" would probably have contributed lower scorers, yet were not included.

It is important to emphasize that the same sample which rated so low in social participation rates very

high on family satisfaction. Since the family is the individual's most immediate and important social group, these scores may be a first indication that the hypothesis about a specialized social withdrawal is correct.

The children's frequency distribution on the SATFAM index is very similar to that of the adults. However, when SATFAM standardized scores of adults and children are compared (Table 71) important differences emerge. The differences between adults and children within CREDISA and the Tenement houses are especially great, although the differences are in opposite direction.

TABLE 71
STANDARDIZED FAMILY SATISFACTION MEAN SCORES
OF ADULTS AND CHILDREN BY GROUP
(San Salvador Study)

		FUN	CRE	IVU	TEN	SHA
SATFAM	Adults	-0.01	0.10	0.27	-0.31	-0.13
	Children	0.22	-0.24	0.14	0.09	-0.16

In summary, a descriptive view of the three indices of social involvement used with the San Salvador Study matches the picture offered by the UCA Survey: this is a population socially excluded from most organizations and with a low level of class consciousness; at the same time, individuals seem to maintain a satisfactory social involvement with their own families.

2. Residential Satisfaction and Social Involvement

Throughout this work, residential satisfaction has been used to evaluate the effects of housing conditions on individuals. Since the present objective is to relate housing conditions and crowding to social involvement, an intermediate step consists of examining the relationship between individual residential satisfaction and social involvement.

2.1. The UCA Survey

There is no significant correlation between the indices of residential satisfaction and the indices of social involvement in the UCA Survey. This lack of significant correlations is confirmed by a cross-tabulation of mean SOCPAR and CLASCO scores for each group at low and high levels of home satisfaction (Tables 72 and 73).

TABLE 72

MEAN SOCIAL PARTICIPATION BY GROUP AND HOME SATISFACTION
(UCA Survey)

		FUN	IVU	SHA	CAM	TEN	ILL	TOT
SATHOME	Low	13.2 (21)	9.7 (28)	4.8 (48)	7.0 (44)	6.9 (42)	8.7 (119)	8.0 (302)
	High	13.9 (27)	5.9 (32)	6.8 (49)	7.4 (39)	5.8 (51)	7.1 (75)	7.4 (273)

TABLE 73

MEAN CLASS CONSCIOUSNESS BY GROUP AND HOME SATISFACTION
(UCA Survey)

		FUN	IVU	SHA	CAM	TEN	ILL	TOT
SATHOME	Low	20.4 (19)	22.9 (22)	21.3 (42)	23.0 (43)	25.7 (38)	24.0 (111)	23.3 (275)
	High	23.3 (22)	21.8 (29)	22.4 (44)	22.5 (35)	24.0 (48)	21.5 (70)	22.5 (248)

Even though some significant differences emerge within groups, the direction of the differences is not the same for all groups. What may be interesting is that in three groups (IVU, the Tenement houses, and the Illegal subdivisions), lower home satisfaction appears

to result in more social involvement in terms of both social participation and class consciousness. In any case, the results do not support the hypothesis that home dissatisfaction has a consistent negative effect on social involvement.

2.2. The San Salvador Study

Individual residential satisfaction (both home and neighborhood) is not significantly related to social participation in the San Salvador Study: Pearson correlation coefficients are very low. However, correlations with class consciousness and satisfaction with one's family are higher and statistically significant. There is a .25 correlation coefficient of SATHOME with CLASCO ($p < .006$); a -.21 correlation coefficient of SATNEI with CLASCO ($p < .03$); and a .27 correlation coefficient of SATHOME with SATFAM ($p < .01$).

If we divide individuals into two subgroups, those with high mean scores of home satisfaction and those with low mean scores (median split), and examine their CLASCO mean scores, we can observe more clearly the direction of the relationship: as expected, in all neighborhoods the greater the home satisfaction, the greater the class consciousness (Table 74).

TABLE 74

MEAN CLASS CONSCIOUSNESS BY GROUP AND HOME SATISFACTION
(San Salvador Study - Adults)

		FUN	CRE	IVU	TEN	SHA	TOT
SATHOME	Low	16.5 (10)	14.0 (8)	14.7 (10)	13.5 (12)	12.1 (10)	14.1 (50)
	High	16.8 (10)	16.6 (12)	17.8 (10)	14.0 (8)	14.5 (10)	16.0 (50)

As indicated by the Pearson correlation coefficient, individual home satisfaction is also significantly related to family satisfaction. A median-split between individuals with high and low home satisfaction suggests that, in all neighborhoods, the more individuals are satisfied with their homes, the more satisfied they are with their family lives (Table 75).

An examination of individual items included in the CLASCO index may further clarify the meaning of the relationship between home satisfaction and social involvement. For example, individuals with greater home satisfaction tend more often to propose political solutions for changing their situation and to attribute

TABLE 75

MEAN FAMILY SATISFACTION BY GROUP AND HOME SATISFACTION
(San Salvador Study - Adults)

		FUN	CRE	IVU	TEN	SHA	TOT
SATHOME	Low	8.1 (8)	7.7 (6)	8.6 (7)	7.7 (9)	7.0 (8)	7.8 (38)
	High	8.5 (8)	8.9 (11)	9.0 (7)	8.0 (2)	9.1 (8)	8.8 (36)

personal wealth to structural causes. Both answers indicate that those most satisfied with their homes develop a deeper social consciousness. On the other hand, the more satisfied the individuals are with their neighborhoods, the lesser their tendency to report helping their neighbors solve problems. In other words, it appears that when individuals are dissatisfied with their neighborhoods they report helping each other and looking for communal solutions to a neighbor's problems more often than when they are satisfied.

It might be argued that since the levels of social involvement, especially of social participation, are very low these relationships are not very important. However, the point is that low levels of social involvement may at least partially be due to housing

conditions and, more specifically, to high residential density. The present data appear to support this idea.

In order to further examine this issue, the indices of density and crowding were introduced into the analysis to see if, as the fourth hypothesis predicts, they produce a better differentiation in the measures of social involvement.

3. Density, Crowding, and Social Involvement

3.1. The UCA Survey

Stepwise multiple regression analyses performed on the two indices of social involvement produced very poor results in the UCA Survey. Only 13 % ($R^2 = .127$) of SOCPAR variance was predicted by the variables introduced into the equation. The three best predictors were: sex, "group" characteristics, and family income. The total amount of class consciousness variance predicted by the equation was 14 % ($R^2 = .137$), and the three best predictors were: individuals' satisfaction with their present situation, sex, and home ownership.

3.2. The San Salvador Study

Pearson correlation coefficients with crowding and density were computed for each of the three indices

of social involvement used in the San Salvador Study. Crowding was not significantly correlated with any of the social involvement indices. Of the density correlation coefficients, two were in the expected direction: the fewer square meters per person, the lower the individual's class consciousness ($r = .18$; $p < .05$); and the more persons per room, the lower the individual's family satisfaction ($r = -.27$; $p < .005$). However, contrary to expectation, the more persons per room, the greater the individual's social participation ($r = .28$; $p < .004$).

When individuals from each neighborhood are divided into high and low home density subgroups (median split), a clear difference occurs between their respective mean scores of social involvement. These differences become still larger when high and low density levels are cross-tabulated with levels of high and low crowding (for mean class consciousness scores, see Table 76). However, even though both home density and subjective crowding appear to have a modest direct effect on individual social involvement, this effect is not consistent across neighborhoods. The expectation that individuals living under more dense conditions and reporting stronger feelings of crowding would also report less social involvement is not confirmed by results.

TABLE 76

MEAN CLASS CONSCIOUSNESS BY GROUP, DENSITY, AND CROWDING
(San Salvador Study - Adults)

		FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY	
CROWDING		Low	High	Low	High	Low	High	Low	High	Low	High
DENSITY	Low	16.2 (5)	15.8 (5)	16.9 (7)	15.7 (3)	18.0 (4)	18.3 (4)	12.0 (3)	12.8 (5)	13.9 (7)	12.3 (3)
	High	20.0 (3)	16.1 (7)	17.5 (2)	13.9 (8)	14.8 (5)	14.8 (5)	13.5 (4)	15.7 (7)	8.0 (1)	13.1 (8)

As seen in Chapter 5, individual feelings of crowding have a strong effect on home satisfaction and home satisfaction is significantly related to social involvement. The fourth hypothesis assumes that individuals experience stressful crowding when they have strong feelings of home crowding and also experience little home satisfaction, and predicts that stressful crowding will result in specialized social withdrawal. A cross-tabulation of high and low crowding (median split) with high and low SATHOME (median split) results in clear differences between the mean scores of all three indices of social involvement (Tables 77 through 79).

The results largely support the prediction of the fourth hypothesis: individuals with stressful crowding report the least amount of SATFAM in four neighborhoods, the least amount of SOCPAR in three neighborhoods, and the least amount of CLASCO in two neighborhoods. However, the complementary prediction that individuals with low crowding and high SATHOME would be the most socially involved is supported in only two neighborhoods for CLASCO. Obviously, all these results have to be taken with caution since the sample is not representative and each particular cell in the tables has a very small number of subjects.

TABLE 77

MEAN SOCIAL PARTICIPATION BY GROUP, CROWDING, AND HOME SATISFACTION
(San Salvador Study - Adults)

		FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY	
CROWDING		Low	High	Low	High	Low	High	Low	High	Low	High
SATHOME	Low	4.0 (1)	1.6 (9)	0.0 (1)	1.3 (7)	1.3 (3)	0.9 (7)	0.5 (4)	1.5 (8)	1.0 (2)	1.9 (8)
	High	3.1 (7)	2.7 (3)	1.3 (8)	1.5 (4)	1.3 (6)	2.5 (2)	0.7 (3)	1.0 (4)	0.7 (6)	1.7 (3)

TABLE 78
 MEAN CLASS CONSCIOUSNESS BY GROUP, CROWDING, AND HOME SATISFACTION
 (San Salvador Study - Adults)

		FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY	
CROWDING		Low	High	Low	High	Low	High	Low	High	Low	High
SATHOME	Low	21.0 (1)	16.0 (9)	16.0 (1)	13.7 (7)	13.7 (3)	15.1 (7)	13.3 (4)	13.6 (8)	11.5 (2)	12.3 (8)
	High	17.1 (7)	16.0 (3)	17.1 (8)	15.5 (4)	17.5 (6)	20.5 (2)	12.3 (3)	16.3 (4)	13.7 (6)	14.7 (3)

TABLE 79

MEAN FAMILY SATISFACTION BY GROUP, CROWDING, AND HOME SATISFACTION
(San Salvador Study - Adults)

		FUNDASAL		CREDISA		IVU		TENEMENT		SHANTY	
CROWDING		Low	High	Low	High	Low	High	Low	High	Low	High
SATHOME	Low	- (0)	8.1 (8)	10.0 (1)	7.2 (5)	8.7 (3)	8.5 (4)	8.3 (3)	7.3 (6)	6.0 (1)	7.1 (7)
	High	8.2 (6)	9.5 (2)	8.8 (8)	9.0 (3)	8.6 (5)	11.0 (1)	- (0)	8.0 (2)	9.0 (5)	9.3 (3)

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It seems that, as the fourth hypothesis predicts, the stress of home crowding negatively affects individual social involvement, but this effect is clearer in the case of reported involvement with one's family than with other social groups. On the other hand, the absence of stressful home crowding does not necessarily result in greater social involvement. It seems as though low crowding may open the door to a process of social consciousness raising (conscientización), but whether the process actually occurs depends on other conditions. Finally, it seems that individuals from the best types of housing (FUNDASAL, CREDISA, and IVU) are affected by stressful crowding in respect to social involvement more consistently than individuals from the worst types of housing (the Tenement houses and the Shanty town). This result may be due to the fact that home crowding only becomes important once other, more fundamental, housing needs have been satisfied. In this sense, the claim of our theoretical model that crowding should be analyzed in concrete social contexts is strongly supported.

In order to get an overall picture of the relationships between different objective and subjective factors and the indices of social involvement, several stepwise multiple regression analyses were performed. All available variables which have previously been

related by other authors to social involvement were included in the regression. The two indices of density, P/R and M^2/P , were also included in the analyses since they evidence partially independent effects.

The three best predictors of social participation were home density (P/R), "group" characteristics, and job (i.e., type of job, if any, held by the interviewee in the period immediately preceding the interview). The total amount of SOCPAR variance predicted by the resulting equation was 26 % , which is an encouraging result (Table 80).

TABLE 80
STEPWISE MULTIPLE REGRESSION
PREDICTING SOCIAL PARTICIPATION
(San Salvador Study - Adults)

Step	Predictor	Simple r	Multiple R	Square R	Stand. reg. co.	F(in)
1	P/R (density)	.26	.26	.067	.39	14.17
2	"Group"	-.22	.42	.174	-.40	13.02
3	Job	-.25	.45	.204	-.22	5.42
4	SATNEI	.01	.49	.242	.20	3.42
5	Crowding	.09	.51	.259	.14	2.16
R ² adjusted for df = .218						
N = 96						

The total amount of class consciousness variance predicted by the regression is smaller than for SOCPAR: $R^2 = .22$ (Table 81). Both home density and crowding variables do not enter into the regression, which suggests that their predictive value, once other variables have entered into the equation, is negligible. The three best predictors of CLASCO, in order, are: "group" characteristics, years of schooling, and family income. This result will hardly surprise anyone familiar with studies on class consciousness.

TABLE 81
STEPWISE MULTIPLE REGRESSION
PREDICTING CLASS CONSCIOUSNESS
(San Salvador Study - Adults)

Step	Predictor	Simple r	Multiple R	Square R	Stand. reg. co.	F(in)
1	"Group"	-.33	.33	.109	-.23	4.46
2	School	.30	.39	.150	.17	2.37
3	Income	-.03	.42	.173	-.15	2.16
4	Age	-.18	.43	.188	-.18	3.00
5	SATHOME	.27	.45	.203	.14	1.54
6	Sex	-.11	.46	.215	-.12	1.36

R^2 adjusted for df = .162
N = 96

TABLE 82

STEPWISE MULTIPLE REGRESSION
 PREDICTING FAMILY SATISFACTION
 (San Salvador Study - Adults)

Step	Predictor	Simple r	Multiple R	Square R	Stand. reg. co.	F(in)
1	SATHOME	.27	.27	.073	.17	1.31
2	P/R (density)	-.26	.31	.099	-.20	2.32
3	SATNEI	.13	.36	.127	.21	3.34
4	Class consc.	.19	.40	.158	.19	2.63
5	Age	.15	.42	.177	.19	2.33
6	Reasons Both.	-.25	.45	.198	-.25	2.90
7	Crowding	.19	.46	.212	-.19	1.18
8	Sex	.04	.47	.225	.13	1.00

R² adjusted for df = .126
 N = 72

The three best predictors of individual family satisfaction are: home satisfaction, persons per room, and neighborhood satisfaction (Table 82). The total amount of variance predicted by all the variables is 23 % (although the coefficient adjusted for degrees of freedom is only .13). Within the limits of these results, it is interesting to observe the important relationship between individual satisfaction with home and neighborhood (i.e., SATHOME and SATNEI), and individual

satisfaction with family life (SATFAM). This relationship does not occur for either SOCPAR or CLASCO. Since reported satisfaction with one's home is directly influenced by feelings of crowding, it can be concluded that home density and crowding have a more significant effect on individual family satisfaction than on social participation and class consciousness. Moreover, the "group" variable does not appear in the regression predicting SATFAM. These results seem to support the idea that the effects of home density and crowding are different for the individual's primary group (i.e., the family) involvement than for involvement with larger (more secondary) social groups.

Stressful housing conditions have a small negative effect on the extent of individual involvement with larger social groups. However, these stressful conditions result in more direct deleterious effects on individual family life, precisely because the individual does not withdraw from this primary, relevant, group. In other words, stressful crowding does not have a major negative effect on individual social participation or class consciousness; other social conditions better explain the lack of individual social involvement. But stressful crowding does negatively affect the individual satisfaction with family life, a central part of their

social world. Stressful crowding may reinforce the exclusion of lower-class Salvadorans from the "dominant," organized social world; but it affects more seriously their family life, from which they have not withdrawn at all.

Certainly, lower-class Salvadorans are not very involved in social organizations, and this is a basic fact. However, those who take part in groups immediately affecting their lives, such as communal organizations or cooperatives (primarily in FUNDASAL), tend to be slightly more crowded at home than those who do not participate. The worst effects of stressful crowding occur at home, within one's own family group, even though those effects do not appear to be very large.

4. Summary

The levels of social involvement and class consciousness of lower-class Salvadorans are extremely low. However, individuals from the San Salvador sample report a relatively high degree of satisfaction with their family lives.

The effect of high home density and reported feelings of crowding on an individual's social participation is very small. Individuals who live under conditions of high home density (especially with

a large number of persons per room) but do not feel crowded at home tend to participate at least in those proximal groups which are immediately beneficial for them. Conditions of low crowding seem to make possible an incipient process of consciousness raising (conscientización), while conditions of high stressful crowding seem to contribute in blocking further social participation and the development of a class consciousness.

Stressful home crowding has a more direct (although relatively minor) negative effect on individual satisfaction with family life precisely because the individual usually does not withdraw from this primary group.

In conclusion, conditions of high home density and strong feelings of crowding (i.e., stressful crowding) do not lead lower-class Salvadorans to withdraw socially; but those conditions seriously interfere with their family life and mildly interfere with their becoming more socially involved, as the fourth hypothesis predicts.

CHAPTER 8
THE SOCIAL EFFECTS OF HIGH DENSITY AND CROWDING

Say that we are what we are:
suffering, illiterate,
undernourished and,
nevertheless, strong people,
because other people
would already be dead.

Oswaldo Escobar Velado
Salvadoran Poet (1918-1961).

1. High Density and Crowding in Lower-Class Salvadorans

The first set of questions posed in this work asked about conditions of household density among lower-class Salvadorans and whether this population experiences feelings of crowding at home. These questions are related to the issue of crowding thresholds, i.e., whether there is a standard level of density beyond which everyone feels crowded or whether threshold levels oscillate according to objective and subjective circumstances.

Data from the two samples examined here do not leave any doubt that lower-class Salvadorans live under conditions of extremely high home density. In the UCA sample, the mean persons per room was 3.9 (3.7 in the

six groups retained for analysis), and in the San Salvador sample the mean was 3.1 persons per room. By current American standards, a situation with one or more persons per room is considered to be highly dense (U. S. Bureau of Census, 1976; Baldassare, 1979). According to these standards, only 8 % of the UCA sample and 4 % of the San Salvador sample live under "acceptable" conditions of home density. The Salvadoran figures are comparable only to those found by Mitchell (1971) in some areas of Hong Kong.

Data from the two samples also indicate that lower-class Salvadorans know that they live in dense home conditions and perceive that their homes are crowded. In the San Salvador sample, 61 % state that the size of their homes is either small or very small, and 66 % state that their home is not large enough for the needs of their families. In terms of the index of crowding used in this work, 44 % of the San Salvador sample report high feelings of crowding at home, while only 28 % do not report feeling very crowded. Even though the San Salvador sample is not representative, the data support the hypothesis that lower-class Salvadorans tend to feel crowded at home in the sense that they perceive their homes to be overpopulated and that, as a result, they lack sufficient space at home for their family needs.

Contrary to the view of some authors (Altman, 1975), crowding is in no way a sheerly subjective perception. Both measures of home density, i.e., the number of persons per room (P/R) and the number of square meters per person (M^2/P), are clearly related to individual feelings of crowding at home. Mean crowding differences between individuals of different neighborhoods show that individuals living under conditions of higher home density feel significantly more crowded than individuals living under conditions of lower home density. The analysis of variance further shows that home density together with the "group" variable account for reported feelings of crowding at significant levels.

In general, two aspects of home density conditions, as measured by P/R and M^2/P , affect individual perception. However, M^2/P has a slightly stronger effect on the overall situation. It is reasonable to assume that the amount of space per person is most related to problems of privacy while the number of persons per room is most related to problems of home interference. If that is the case, it appears that lower-class Salvadorans are better able to cope with situations in which they cannot afford privacy (i.e., situations in which there is more space per person, even though there may be more persons per room) than

with situations in which they cannot develop their household routines without interference (i.e., situations of less space per person even though there may be fewer persons per room). In other words, a condition in which six persons live in a large room seems to be more bearable for lower-class Salvadorans than a condition in which four persons live in a small room. Certainly, both lack of privacy and interference caused by density conditions can be subsumed under a "loss of personal control" category.

These data have important implications for the issue of crowding thresholds. Only 4 % of the San Salvador sample live under conditions of one or fewer persons per room, while 28 % of the same sample do not express feelings of home crowding; this means that one person per room is not a universal threshold of home density which automatically triggers strong feelings of crowding in individuals. A goodly number of lower-class Salvadorans do not report feelings of crowding in home situations which are highly dense by American standards. Concretely, in the San Salvador sample, 31.2 % of those living under conditions of 2.6 or more persons per room do not report feeling very crowded at home. It appears that the implicit criteria by which lower-class Salvadorans estimate conditions of density

are different from those used by Americans. These implicit standards are not purely subjective, but seem to be related to groups with similar types of housing (not only one's own neighborhood). In the San Salvador sample, clear differences appear between FUNDASAL, CREDISA, and IVU, on the one hand, and the Tenement houses and the Shanty town, on the other. This clustering of neighborhoods reflects their objective quality and conditions. However, the present data are not conclusive in this regard. My guess is that density standards are based upon the social group which individuals have as their reference group; i.e., most probably individuals from their own socio-economic stratum. This hypothesis requires further study.

What the present data do support is the idea that spatial needs are neither abstract nor universal human needs; rather they are social products generated within a concrete historical context (as is maintained in the theoretical model presented in Chapter 2). Lower-class Salvadorans have grown up in conditions of extreme scarcity; in El Salvador, housing space is a commodity which only relatively wealthy people can afford. Most Salvadorans have grown accustomed to home conditions in which they consider themselves lucky if they can obtain a roof to protect them against the

elements and share a bed with two or three members of their family. Again and again we found in the San Salvador Study that the same individuals who considered their home to be insufficient for their family's needs, also expressed conformity with their situation, as if "density" or "God" did not allow them to hope for a better life.

2. The Character of Crowding

Two indices of residential satisfaction (i.e., individual satisfaction with home and with neighborhood conditions) have been used as measures of residential stress. Surprisingly enough, in both samples most individuals tended to express a relatively high degree of satisfaction with their residences. However, there are clear differences in the levels of satisfaction among individuals from different neighborhoods. Moreover, there are important differences among neighborhoods in the rank orders of home satisfaction and neighborhood satisfaction: individuals who are the most satisfied with their homes are often those least satisfied with their neighborhoods. This finding reflects objective conditions of housing in El Salvador, where some of the best lower-class neighborhoods (in terms of housing quality) are very deficient in neighborhood services.

It also raises questions about the opinion (Sharf, 1978) that an individual's evaluation of personal housing is the most important component of neighborhood satisfaction. Probably this opinion is correct for those situations where neighborhood services reach a minimum level; in situations where that is not the case, as in many lower-class neighborhoods in El Salvador, satisfaction with one's own housing cannot offset the inconveniences of the neighborhood.

As measured by the present indices of residential satisfaction, lower-class Salvadorans do not feel very stressed by their cramped home conditions. However, it appears clear that high home density and reported feelings of crowding are important elements in determining individual home satisfaction, but not neighborhood satisfaction. High home density, both in terms of persons per room and space per person, seriously decreases home satisfaction in all neighborhoods, although its effect must be included with the effect of the neighborhoods themselves and subjective feelings of crowding in order to account best for individual home satisfaction. Actually, it is the experience of home crowding which most strongly affects home satisfaction. But since feelings of crowding are directly influenced by conditions of high home density, it can be said that

high home density influences both directly and indirectly (through crowding) individual home satisfaction.

This last conclusion seems very important and provides an schema (as suggested in the theoretical model) for integrating the sociologists' emphasis on objective conditions with the psychologists' emphasis on subjective experience. Present data show that the effect of high home density and crowding on home satisfaction is partially independent, and that the inclusion of both indices significantly increases the capacity to predict an individual's level of home satisfaction. It appears that spatial constraints (as measured by square meters per person at home) affect home satisfaction directly, even though individuals may not subjectively be aware of the roots of their dissatisfaction. Interpersonal constraints (as indicated by the number of persons per room) affect home satisfaction by means of the subjective experience of crowding.

Knowledge of which person is most bothered at home by a lack of space helps to clarify the character of crowding. However, the specific reasons given by respondents for why the lack of home space affects their families do not add significant information about the character of crowding. In general, individuals tend

to mention some kind of interference as the basic way in which the lack of space at home bothers them. The lack of personal privacy is not often advanced as a stressful home condition, probably because individuals have grown up in conditions of high home density and have developed ways to deal with that situation. However, adults in the worst housing conditions (the Tenement houses and the Shanty town) appear to resent the inevitable presence of children during more intimate moments with their spouses or partners.

Present data seem to indicate that, even when they feel crowded, lower-class Salvadorans usually do not actively react to home interference. Rather they consider interferences at home to be inevitable, something which must be accepted, especially since those interfering with one's activity are members of the family. However, individuals sometimes resort to an active avoidance of the interfering situation, either expelling the disturbers from home or leaving the place themselves. Obviously, poor housing conditions, especially in the Tenement houses and the Shanty town, do not provide with many opportunities for alternative ways of reacting. This is probably the reason why levels of crowding are higher and more stressful among individuals in those two neighborhoods (the Tenement houses and the Shanty town) than among individuals in other neighborhoods.

These results lend support to at least three aspects of the model of crowding advanced here. First, objective conditions, both material (type of housing) and social (resource availability and cultural values), play an essential role in determining the character of specific crowding experiences. Second, crowding is an interpersonal process, and the identity of the individuals involved in the situation clearly conditions the perception and reactions of the subjects. Third, feelings of crowding are not necessarily stressful (i.e., negatively stressful) or motivating. However, it is maintained that a good part of the stress felt at home by the present sample of lower-class Salvadorans is due to conditions of high home density and to the experience of crowding, especially when material resources (i.e., the housing conditions) and cultural values (i.e., responsibilities toward one's family) do not offer alternative ways for dealing with a highly dense situation.

3. The Social Effects of High Home Density and Crowding

Results from the indices of social involvement used in this study support the idea that lower-class Salvadorans are almost totally excluded from the dominant social structures and organizations. There are minor

differences among individuals from different groups or neighborhoods, but these are differences of degree between very low levels of social involvement. The most striking indicator is the level of social participation: individuals from FUNDASAL are the most active participants in social organizations, and the average individual in FUNDASAL is involved with just one social organization, most often a religious or communal organization. In terms of political and cultural participation, the Salvadoran social structures seem to function with the almost total exclusion of the lower social classes, which constitute the overwhelming majority of the population.

In general, the levels of class consciousness found in the two samples are higher than those of social participation. Moreover, individuals from the San Salvador sample have greater class consciousness than individuals from the UCA sample. This difference may be due to the fact that they live in the San Salvador metropolitan area, where material and social conditions foster the individual awareness of class struggle; but it also may be due to the evolution of political conditions in El Salvador from 1974 to 1979. A steady deterioration of the socio-economic situation, and the loss of any remaining legitimacy of the existing

political system has produced, on the one hand, a drastic polarization of social groups and, on the other, a multiplication of violent repression and of demonstrations of popular protest. I was surprised by the fact that most individuals in the San Salvador sample were willing to answer political questions and quick to openly condemn the government, even though they knew that the country was under state of siege and that repression would not spare critics, especially those from the lower classes.

It is obvious that in a situation like that of El Salvador, where the basic problem for most lower-class individuals is sheer subsistence, conditions of high home density are a very minor issue. High home density is certainly part of the housing problem which afflicts between 60 and 70 % of the Salvadoran population (Harth, 1976). But the real dimensions of the housing problem itself are not understood unless they are seen as part of a broader social problem of exploitation, "marginality," and misery.

Present data show that the influence of high home density and reported crowding on individual social involvement is real, but small. Conditions of high home density and strong feelings of crowding seem to have a minor negative effect on social involvement in those individuals from the best types of housing, but no

consistent effect on those individuals from the worst types of housing. Home density (the number of persons per room) is the best predictor of an individual's social participation; however, this result has to be interpreted in the light of the level of social participation of this population, which is minimal. The interesting point is that, regarding individual social participation, the objective conditions of home density appear to be more important than the subjective feelings of crowding. On the other hand, neither density nor crowding are good predictors of class consciousness.

In my opinion, present data neither support nor contradict the hypothesis that individuals withdraw from social interaction due to conditions of high home density. Actually, it is dangerously misleading to speak of "social withdrawal" with respect to individuals who, as a group, have never been given the opportunity to participate actively in social organizations. However, it also seems true that conditions of high home density are part of a broader "syndrome" of social absenteeism and apparent passivity. Since high home density is intimately tied with conditions of poor housing, economic poverty, lack of formal education, and other social disadvantages, it would be naive to

conclude that high home density is an important factor in determining the lack of social involvement in this population. The crudity of the social involvement measurements do not allow us enough discrimination, especially since we lack adequate groups of control.

Several researchers (e.g., Chombart de Lauwe, 1961; Mitchell, 1971; Galle, Gove, & McPherson, 1972; Galle & Gove, 1979) have found that the most noxious effects of high home density are those on family relationships. Booth (1976), however, could not find unequivocal effects of high density on family relations, and Baldassare (1979) maintains that more research is needed to assess the effects of home crowding on different members of a family.

Present data support the idea that high home density has its worst effects on family life. On the one hand, individuals in the San Salvador sample tended to rate relatively high on the index of family satisfaction, which included items on relationships between couples and between parents and children. On the other hand, both high home density and crowding had a negative effect on the reported level of family satisfaction across the neighborhoods. Individuals who were experiencing stressful crowding (i.e., strong feelings of crowding and low home satisfaction)

reported to be significantly less satisfied with their family life than those with lower feelings of stressful crowding.

A comparison between adults and children with respect to family satisfaction indicates that the children in this sample expressed more satisfaction than adults. Some relative differences emerged within families which lend moderate support to Baldassare's idea that conditions of home density affect adults and children differently. However, contrary to Baldassare's hypothesis, adults in this sample appeared to be more negatively affected than children by conditions of high home density and feelings of crowding. It is my guess (in line with Baldassare's approach) that this result is related to the fact that lower-class adults in El Salvador lack real social power and, therefore, they do not have many possibilities to compensate for home deficiencies.

Several authors have indicated the importance of family ties and relationships for lower-class Salvadorans (Montes, 1979). This fact makes the negative effects of high home density more relevant since they affect the very core of the social world of this population. Home density and crowding may not have a significant effect on the social involvement

of lower-class Salvadorans within the broader society; but they do have a significant effect on that segment of social life (the family) with which lower-class Salvadorans are most deeply involved. Although this effect is in no way dramatic, it is high enough to be considered an important issue. In this respect, the data from the present research support previous intuitions that residential crowding is a disturbing factor for poor Latin American families (Lewis, 1961; Torres-Rivas, 1971). By forcing them to live under miserable housing conditions, the social "order" existing in El Salvador is damaging the only sector of life in which lower-classes are fully integrated and involved: the family.

4. Conclusions

Crowding is a human psychological experience. As such, it has an interpersonal, historical character. Crowding is a feeling which emerges in situations of high density which individuals, sometimes voluntarily, most times involuntarily, have to face in their daily lives. Situations of high density are concrete situations in specific environments: both individuals have a history and are immersed in a social context. The model proposed in this work has emphasized the

need to examine the micro-processes of crowding within the broader context of societies and their basic structures. Lower-class Salvadorans do not choose to live under the housing conditions they endure at the present, nor do they learn how to cope with high density through conscious efforts. They are born into and grow under conditions of high home density and, with very few exceptions, social factors will force them to remain in these miserable and overcrowded environments. However, they learn the value of family life and how to build deep interpersonal relationships with a minimum of material and spatial resources. They can feel crowded at home, but this feeling does not usually "disequilibrate" them nor does it constitute an important element in their lives.

The results obtained with data from two samples of lower-class Salvadorans support the theoretical model advanced here. Empirically, the major findings of this work can be summarized in six points.

(1) Most lower-class Salvadorans live under conditions of very high home density. They are aware of this situation and report experiencing feelings of crowding. Both the number of persons per room and the amount of space per person influence their feelings of crowding and both aspects have a partially independent

effect on individuals. The levels of density at which lower-class Salvadorans report feeling strongly crowded are higher than those found in other groups and cultures.

(2) Lower-class Salvadorans express a degree of residential satisfaction higher than would be expected by an objective appraisal of their housing conditions. However, individuals satisfied with their homes may be very dissatisfied with their neighborhood, and vice versa. These differences in reported satisfaction reflect the objective quality of housing and neighborhoods in El Salvador.

(3) High home density decreases individual home satisfaction both directly (especially in terms of the amount of space per person) and indirectly (by means of subjective feelings of crowding). The inclusion of both objective measures of home density and reported feelings of crowding significantly increases the capacity to predict individual home satisfaction.

(4) Home crowding is usually negatively stressful in the sense that it decreases reported home satisfaction. However, it does not seem to be necessarily motivating or disequilibrating--at least, it does not seem to be motivating enough to trigger responses. Social forces and an introjected experience

of futility have probably led lower-class Salvadorans to accept high home density and feelings of crowding as a "normal" part of their lives. This is one of the reasons why the process of crowding has to be understood in its broader social context.

(5) Lower-class Salvadorans are almost completely excluded from participation in any type of social organizations. Conditions of high home density appear to be related to this social "un-involvement," but as a part of a larger syndrome of material and cultural deprivation. The extent to which this lack of social involvement is due to high home density and crowding seems to be very small.

(6) A particular form of "specialized social withdrawal" (Baldassare) appears to occur: high home density and crowding have a relatively important negative effect on reported satisfaction with family life and, in this sense, have damaging effects on the most important social group within which lower-class Salvadorans organize and develop their lives.

APPENDIX 1
THE SAN SALVADOR QUESTIONNAIRE
FORM: ADULTS

FUNDACION SALVADOREÑA DE DESARROLLO Y VIVIENDA MINIMADatos del entrevistado

Nombre _____

Dirección _____

1. Tipo de asentamiento: Colonia de la FSDVM

Fondo Social para la Vivienda

IVU

Mesón

Tugurio

Datos sobre administración de la entrevista

Nombre del encuestador _____

Grado de Terminación	Número de Visitas Realizadas			
	1	2	3	4
Completa				
Incompleta				
Fecha				
Duración				

Nombre del revisor _____

Visto bueno del revisor _____

Supervisor (nombre) _____

Visto bueno del supervisor _____

Observaciones _____

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Por favor, me puede informar acerca de las personas que normalmente viven en esta casa?

(Empezar por el entrevistado. Se deben anotar solamente las personas que normalmente viven en la casa y no las personas que están de paso).

		2.	3.	4.	5.
N o m b r e	Parentesco con jefe de familia	Sexo	Edad	Años escuela aprobada.	Ocupac. semana pasada*

- * Categoría de ocupación:
- 1. Ocupado
 - 2. Desocupado: cesante, busca trabajo
 - 3. Estudiante
 - 4. Ama de casa
 - 5. Incapacitado
 - 6. Jubilado
 - 7. Rentista

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6. Cuántas personas viven (duermen) en esta casa? _____
7. Ingreso total del hogar (por MES) ₡ _____
8. Tenencia de la casa y del terreno:
 La casa es:
- | | |
|--|--------------------------|
| 1. Propia | <input type="checkbox"/> |
| 2. Arrendamiento con
promesa de venta | <input type="checkbox"/> |
| 3. Alquilada | <input type="checkbox"/> |
| 4. Agregado familiar,
colono | <input type="checkbox"/> |
| 5. Otro | _____ |
9. El terreno es:
- | | |
|--|--------------------------|
| 1. Propio | <input type="checkbox"/> |
| 2. Arrendamiento con
promesa de venta | <input type="checkbox"/> |
| 3. Pago con hipoteca | <input type="checkbox"/> |
| 4. Alquilado | <input type="checkbox"/> |
| 5. Ocupado sin
documento de propiedad | <input type="checkbox"/> |
| 6. No aplica | |
10. Costo total de la casa:
- | | |
|-------------------|--------------------------|
| 1. compra contado | ₡ _____ |
| 2. compra crédito | ₡ _____ |
| 3. No aplica | <input type="checkbox"/> |
11. Costo total del terreno:
- | | |
|-------------------|--------------------------|
| 1. Compra contado | ₡ _____ |
| 2. Compra crédito | ₡ _____ |
| 3. No aplica | <input type="checkbox"/> |
12. Área del lote _____ M2.
13. Área techada de la casa _____ M2.
14. Número de cuartos (sin contar sanitario) _____
15. Siente usted que el tamaño de su casa es:
- | | |
|-------------|--------------------------|
| Muy pequeño | <input type="checkbox"/> |
| Pequeño | <input type="checkbox"/> |
| Suficiente | <input type="checkbox"/> |
| Grande | <input type="checkbox"/> |
| Muy grande | <input type="checkbox"/> |
16. Cuenta la casa con servicios sanitarios?
- | | |
|----|--------------------------|
| SÍ | <input type="checkbox"/> |
| No | <input type="checkbox"/> |

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6. Cuántas personas viven (duermen) en esta casa? _____
7. Ingreso total del hogar (por MES) ₡ _____
8. Tenencia de la casa y del terreno:
- La casa es:
- | | |
|---------------------------------------|--------------------------|
| 1. Propia | <input type="checkbox"/> |
| 2. Arrendamiento con promesa de venta | <input type="checkbox"/> |
| 3. Alquilada | <input type="checkbox"/> |
| 4. Agregado familiar, colono | <input type="checkbox"/> |
| 5. Otro | _____ |
9. El terreno es:
- | | |
|---------------------------------------|--------------------------|
| 1. Propio | <input type="checkbox"/> |
| 2. Arrendamiento con promesa de venta | <input type="checkbox"/> |
| 3. Pago con hipoteca | <input type="checkbox"/> |
| 4. Alquilado | <input type="checkbox"/> |
| 5. Ocupado sin documento de propiedad | <input type="checkbox"/> |
| 6. No aplica | |
10. Costo total de la casa:
- | | |
|-------------------|--------------------------|
| 1. compra contado | ₡ _____ |
| 2. compra crédito | ₡ _____ |
| 3. No aplica | <input type="checkbox"/> |
11. Costo total del terreno:
- | | |
|-------------------|--------------------------|
| 1. Compra contado | ₡ _____ |
| 2. Compra crédito | ₡ _____ |
| 3. No aplica | <input type="checkbox"/> |
12. Area del lote _____ M2.
13. Area techada de la casa _____ M2.
14. Número de cuartos (sin contar sanitario) _____
15. Siente usted que el tamaño de su casa es:
- | | |
|-------------|--------------------------|
| Muy pequeño | <input type="checkbox"/> |
| Pequeño | <input type="checkbox"/> |
| Suficiente | <input type="checkbox"/> |
| Grande | <input type="checkbox"/> |
| Muy grande | <input type="checkbox"/> |
16. Cuenta la casa con servicios sanitarios?
- | | |
|----|--------------------------|
| Sí | <input type="checkbox"/> |
| No | <input type="checkbox"/> |

17. Cuántas familias viven en esta casa? _____
18. Cuántas personas se mantienen en la casa? _____
19. en la mañana _____
 en la tarde _____
 en la noche _____
20. El inodoro que usted usa, lo usan también otras familias?
 Sí → Cuántas? _____
 No
21. Cuántas horas se mantiene en la casa durante el día, sin contar las horas en que duerme? _____
22. Qué acostumbre hacer cuando está aquí en la casa?
 1 _____
23. 2 _____
24. 3 _____
- 25.Cuál de estas actividades le parece más importante? _____
26. Cree usted que el tamaño de su casa es suficiente para sus necesidades y las de su familia? Si
 No
27. Acostumbra recibir visitas aquí en la casa? si
 No
28. Le gusta que la gente venga a visitarle? Si
 No
29. Le gusta a usted comer en la casa con toda la familia? Si
 No
30. La habitación donde duerme, la ocupan también para otras cosas?
0. No
1. Cocinar
2. Comer
3. Trabajar
4. Estar
5. Reuniones
6. Todo uso

31. Le gusta que su familia esté en la casa cuando usted está descansando?

Sí

No

32. Qué hace usted cuando quiere descansar y hay mucha gente en la casa?

33. Le gusta trabajar aquí en la casa? Sí

No

34. Le gusta que sus hijos jueguen en la casa cuando usted está aquí?

Sí

No

35. Le molesta a usted o a alguno de su familia la falta de lugar en la casa?

Sí

No

A quién cree que le molesta más la falta de lugar en la casa?

36. Por qué?

37. Qué hace usted cuando algún familiar le estorba en la casa?

38. Dónde acostumbran jugar sus hijos? En la casa

En la calle

En el parque

Otros sitios

No sabe

39. Comparados con otros niños, le parece a usted que sus hijos le dan:

Muchos problemas

Algunos problemas

Lo normal

Pocos problemas

Ningún problema

40. Cuando quiera usted platicar cosas personales con su señor(a), le molesta que sus hijos estén delante?

Sí

No

41. Teniendo todo en cuenta, cómo se siente de vivir en esta casa?

Muy satisfecho

Algo satisfecho

Algo insatisfecho

Muy insatisfecho

Me gustaría que me informe sobre sus impresiones de satisfacción o insatisfacción con ciertos servicios:

Servicio	Muy satisfe.	Algo satisfe.	Algo insatis.	Muy insatis.
42. Acceso a consulta médica				
43. Acceso a escuela para niños				
44. Calidad de la escuela				
45. Alumbrado público				
46. Acceso transporte				
47. Tren de asco				
48. Seguridad de la colonia				
49. Abastecimiento de agua				
50. El tipo de vecinos				
51. Acceso a comercios				
52. Sitios de diversión				

53. Cuántos años tiene de vivir en esta ciudad, _____

54. Y cuántos en esta vivienda? _____

55. Le gustaría cambiar de casa? Mucho
 Sí, pero no puedo
 No
56. Cómo se lleva usted con su señor(a)? Bien
 Regular
 Mal
57. Cuando usted está aquí, en su casa, cómo se siente?
 Muy a gusto
 Regular
 Incómodo
 Muy incómodo
58. Qué es lo que más le gusta hacer cuando no trabaja?
 1. _____
 2. _____
 3. _____
59. En la vida familiar, acostumbra haber desacuerdos entre el hombre y la mujer. Cuánto discuten entre ustedes?
 Mucho
 Regular
 Poco
 Nunca
60. Teniendo todo en cuenta, cómo se siente usted con su vida familiar?
 Muy satisfecho
 Algo satisfecho
 Algo insatisfecho
 Muy insatisfecho

PERCEPCION DEL MUNDO

61. Cuáles cree usted que son las razones de que exista pobreza en el país?

62. En su opinión, qué cambios a nivel del país serían necesarios para que la pobreza desaparezca?

63. Qué necesidades básicas no puede usted satisfacer adecuadamente con su ingreso actual?

64. En una conversación: Luis dijo: lo mejor es estarse quieto y no meterse en política. Los pobres no podemos hacer nada para cambiar esta situación. Marcos dijo: si los pobres nos uniéramos y lucháramos juntos podríamos lograr muchas mejoras. ¿De ambos? para usted quién tiene mayor razón?

1. Luis
2. Marcos
3. Ninguno

65. Por qué? (en cualquier caso) _____

66. Mario dijo: la mayoría de los ricos se han hecho porque han pagado a sus empleados bajos salarios. Alejandro dijo: la mayoría de los ricos han llegado a serlo por su propio esfuerzo y habilidad. Para usted, quién tiene la razón?

1. Mario
2. Alejandro
3. Ninguno

67. Por qué? (en cualquier caso) _____

68. Cree usted que todas las personas en el país tienen igual posibilidad de adquirir vivienda?

1. Sí 2. No

69. ↓ Cuáles son las razones de esa no posibilidad de adquirir vivienda?

70. Cómo cree usted que se puede aumentar la posibilidad de los pobres de adquirir vivienda?

71. En una reunión comunal hecha para tratar un problema de demolición de algunas viviendas de los vecinos por el paso de una nueva carretera, Enrique pidió la palabra y dijo: Como este es un problema que solamente afecta a unos, creo que no deberíamos de estar reunidos para tratarlo. Cada uno debe velar por sus intereses. Pedro opinó: Pienso que a pesar de ser un problema de pocos debe enfrentarse como un problema de la comunidad.

Quién cree usted que está actuando mejor de los dos?

1. Enrique
2. Pedro
3. Ninguno

72. Por qué? (en cualquier caso) _____

73. CONSIDERA USTED que hay escasez de trabajo en el país?

1. Sí 2. No



74. A qué cree usted que se debe la escasez de trabajo?

75. Cómo cree usted que se puede mejorar la situación social de los pobres?

76. Qué tipos de cambios considera usted que es necesario hacer para que haya una mejor situación social y económica en el país?
(Señale dos en orden de prioridades).

- | | |
|---|--------------------------|
| 1. Que haya vivienda para los pobres | <input type="checkbox"/> |
| 2. Que se mejore la situación del empleo y el ingreso | <input type="checkbox"/> |
| 3. Reforma Agraria | <input type="checkbox"/> |
| 4. Cambios políticos | <input type="checkbox"/> |
| 5. Todos los anteriores juntos | <input type="checkbox"/> |
| 6. Ninguno | <input type="checkbox"/> |

77. Por qué? (explique) _____

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78. Juan, Pedro y Alicia son dirigentes de los barrios de esta ciudad, a quienes se les ha amenazado con subirles los precios de la luz eléctrica y el agua potable. Juan dejó el problema en manos del Alcalde Municipal para que él lo resolviera, Pedro ha estado realizando gestiones directamente con las autoridades de ambas compañías y Alicia ha reunido a sus vecinos para unirlos en una protesta colectiva en contra del gobierno por dicho aumento.

Para usted, quién ha actuado mejor?

1. Juan
2. Pedro
3. Alicia
4. Ninguno

79. Por qué? (en cualquier caso) _____

80. Cree usted que la gente del gobierno trata en realidad de entender y resolver sus problemas?

1. Sí 2. No

81. Por qué? (en ambos casos) _____

P A R T I C I P A C I O N

Quisiera preguntarle ahora si pertenece o participa usted en alguno (s) de los tipos de organización que le voy a leer a continuación:

	Tipo de Organización	Pertenece		Participa	
		SI	NO	SI	NO
82.	Club Deportivo				
83.	Grupo Religioso				
84.	Cooperativa				
85.	Sindicato				
86.	Organización Política				
87.	Organización Comunal				

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88. De los tipos de organizaciones que le voy a mencionar, en cuál cree usted que es más efectivo participar para buscar mejoras en las condiciones de los pobres?

1- Sindicato

2- Cooperativa

3- Partido político

4- Iglesia

5- Organización comunal

6- Otro _____
(especifique)

89. Por qué cree usted que participar en _____
es lo más efectivo?

90.Cuál de las organizaciones mencionadas anteriormente es menos efectiva? _____ Por qué? _____

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91. Se mantiene informado usted de los problemas sociales, económicos y políticos que suceden en el país?

1 SI 2 NO



92. Por qué medios se informa usted con más frecuencia de los problemas del país? (Señale 2 en orden de prioridades)

1- Radio _____

2- Periódico _____

3- Reuniones Sindicato _____

4- Reuniones Promotor _____

5- Conversaciones con vecinos _____

6- Conversaciones con familiares _____

7- Otros medios _____
(especifique)

93. Discute usted con otras personas los problemas sociales, económicos y políticos que suceden en el país?

1 SI 2 NO



94. Por qué? _____

95. Cómo se manifiestan para usted en la vida real de la población los problemas sociales, económicos y políticos que suceden en el país?

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En comparación con su situación de hace dos años, como se encuentra actualmente usted en cuanto a:

	Mejor	Igual	Peor	Explique
96. Su ingreso familiar es				
97. Su oportunidad de empleo o trabajo es				
98. La salud de su familia es				
99. Los gastos de presupuesto familiar es				

APPENDIX 2

THE SAN SALVADOR QUESTIONNAIRE
FORM: CHILDREN

FUNDACION SALVADOREÑA DE DESARROLLO Y VIVIENDA MINIMADatos del entrevistado

Nombre _____

Dirección _____

1. Tipo de asentamiento: Colonia de la FSDVM

Fondo Social para la Vivienda

IVU

Mesón

Tugurio

Datos sobre administración de la entrevista

Nombre del encuestador _____

Grado de Terminación	Número de Visitas Realizadas			
	1	2	3	4
Completa				
Incompleta				
Fecha				
Duración				

Nombre del revisor _____

Visto bueno del revisor _____

Supervisor (nombre) _____

Visto bueno del supervisor _____

Observaciones: _____

2. Edad (años) _____
3. Sexo: Masculino
Femenino
4. Años completados de escuela: _____
5. Asiste todavía a la escuela? Sí
No
6. Te parece que el tamaño de tu casa es: Muy pequeño
Algo pequeño
Suficiente
Grande
Muy grande
7. Qué acostumbras hacer cuando estás aquí, en la casa?
1. _____
2. _____
3. _____
- 8.Cuál de estas actividades te parece más importante? _____
9. Se queja alguno de tu familia de que sea pequeña la casa?
Sí → quién? _____
No
10. Dónde acostumbras ir a jugar? En la casa
En la calle
En el parque
Otros sitios
11. Cómo te parece que se llevan tus papás? Bien
Regular
Mal
12. Pelean mucho tus papás? Sí
No

13. Quién te regaña más de tu familias? Papá
 Mamá
 Hemano(a) mayor
 Otro (especificar) _____
14. Te han echado alguna vez de la casa? Sí
 No
15. Cuántas veces que te acuerdes? _____
16. Estás contento de vivir en esta casa? Sí
 Regular
 No
17. Qué tal te llevas con tus hermanos y hermanas? Bien
 Regular
 Mal
18. Puedes estudiar o hacer los deberes de la escuela aquí, en la casa?
 Sí
 No
 No va a la escuela
19. (Si la respuesta 18 es "no") por qué? _____

20. Te ayuda a hacer los deberes alguno de tu familia?
 Sí → quién? _____
 No
21. Cuántos amigos (as) tienes aquí, en la colonia? _____
22. Te gusta que vengan tus amigos a la casa? Sí
 No
23. Te gustaría cambiar de casa? Sí
 No
24. Por qué? _____

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MARTIN-BARO, IGNACIO
Household density and
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