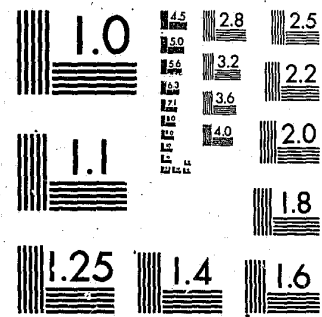


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MULTIVARIATE ANALYSIS OF GANG
DELINQUENCY: I. ECOLOGIC INFLUENCES¹

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ABSTRACT

ACQUISITIONS

In continuity with delinquency area research, the study examined the neighborhood characteristics of 16 delinquent gangs in Chicago, 1960. Compared with city norms, gang neighborhoods were lower on Borgatta-Hadden census tract factors of Socio-Economic Status and Stable Family; higher on Disorganization-deprivation; not different on the Suburb factor.

Measures of gang behavior were taken from the Short-Tennyson-Howard rated behavior factors: Conflict, Stable Corner-Boy, Mature Sex, Retreatist, and Authority Protest. Significant positive correlations were found between the Suburb and the Stable Corner-Boy factors; and between the Socio-Economic Status and Authority Protest factors. These results seem to support two major parts of A. Cohen's theory of delinquent boys.

This paper reports part of a study of gang behavior, focussing upon ecological associations and influences. Emphasis upon ecology has been growing in recent years among both sociologists and psychologists, and it seems appropriate to document these trends briefly here, along with the newer trend toward application of multivariate techniques in ecologic enquiry.

Sociology. From the pioneer work of Park, Burgess, Thomas and other sociologists of the Chicago School came rich results such as those of Faris and Dunham (1939) on geographical distributions of mental disorder within the city; of Shaw and McKay (1929, 1942) on the distribution and correlates of delinquency rates; of Thrasher (1927) on the ecology of the gang; of Wirth (1928) on the ghetto, Zorbaugh (1929) on the slum and the Gold Coast, Drake and Cayton (1945) on the Black Belt. For a period sociologists engaged in massive "community studies" such as those of Warner and Lunt (1941), and Hollingshead (1949); but, as Toby (1964) has pointed out, sociologists have become less interested in studying total geographic communities in recent years, and more concerned with specialized segments of them, due (Toby, 1964, p. 29) ". . . to increasing recognition that differentiated parts of complex societies are relatively independent of each other." Recognition of such differentiation is well marked in the

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recent work on urban ecology and demography, integral parts of modern urban sociology (Burgess and Bogue, 1964). An outstanding example of focus upon a geographical part (rather than a systemic part or institutional part) of a community is the research of Srole and his associates on mental health in Manhattan, in which one approach provided (Srole *et al.*, 1962, p. 337) "... a synoptic portrait of Midtown (Manhattan) as a residential section near the turbulent center of New York City's rampant economy. Sketched were the consequences for this area of a population density probably unmatched beyond Manhattan and of the kind of massive housing, compressed horizontally and overextended vertically, that alone can make such unparalleled density possible."

Psychology. In psychology, the work of Egon Brunswik (1943) was preeminent in drawing attention to the importance of "ecological validity" in research, of attempting to "imitate experimentally the tangled causal texture of the environment" (1943, p. 261). The role of environmental circumstances in controlling development of such basic processes as perception (Hebb, 1949; Riesen, 1958) and intelligence (Hunt, 1961) has received much attention in recent years of work on sensory deprivation, early experience, and enriched environments. Explicit address to the existing poverty in our knowledge of fundamental ecologic givens has been made by Barker (1965). Pursuing research on the stimulus determinants of behavior in natural settings (Sells, 1963), Sells has recently drawn attention to what he calls the "ecologic niche" and the strategic role it plays in the structure of behavior. He writes (Sells, 1966): "... the understanding of behavior requires systematic study of the characteristics of the environmental pattern defining the ecologic niche of each species and the adaptations required by that environment as well as of response processes."

Multivariate techniques. The very complexity of ecologies calls for the application of multivariate techniques of analysis, both in description and in analysis of adaptation processes (Brunswik, 1943). Cattell has pioneered in the study of culture pattern dimensions (1949; also 1964, pp. 508-527), and of dimensions of social change (Cattell and Adelson, 1959; also 1964, pp. 544-554). Lander (1954), Bordua (1958) and Chilton (1964) have employed factor analysis and regression analysis in the study of correlates of delinquency rates. Tryon (1955) distinguished social areas in San Francisco using cluster analysis. In the most thorough analysis to date of basic dimensions for the description of urban ecologies, Hadden and Borgatta (1965) have established the essential similarity of structure for a dozen or more factors obtained in eight parallel studies of American cities. From extensive though preliminary researches, Sells (1965) has obtained dimensions for the analysis of social groupings to which people belong in ordinary American life. Later work by Borgatta and Hadden (1965 as yet unpublished) has provided fundamental dimensions of census data

for the description of census tracts; data which will provide an important part of the present analyses.

DELINQUENCY RESEARCH AND THE CHICAGO SCHOOL APPROACH

We turn now to a brief discussion of delinquency research as a more specific framework within which the present paper is conceived. Following a general statement, the presentation will develop more fully the background and thinking of the Chicago School, whose exponents must rightfully claim priority to the conceptions of basic method and intent which guide the present study. (Readers already familiar with these matters should go directly to Section "The Present Approach," p. 331 below.)

The study of delinquency falls broadly into two classes: study of psychogenic influences, in which attention is concentrated upon the individual character and temperament; and study of sociogenic influences, in which attention is concentrated upon the social and other environmental pressures toward delinquency. The study of gang delinquency necessarily falls into both classes. In addition, gang delinquency raises problems for study which are unique. This class of problems may be referred to as "group processes", which may be understood as group-dynamic influences upon delinquent behavior (Short and Strodtbeck, 1965).

Most major programs of research on delinquency have examined both sociogenic and psychogenic influences. In his classic work, for instance, Sir Cyril Burt (1925) devoted one quarter of his report to environmental conditions in the home and outside the home: companions, leisure activities, and work conditions. Using roughly 200 delinquents and 400 non-delinquents, Burt calculated coefficients of association between delinquency and various conditions: hereditary, environmental, physical and psychological. Average coefficients for the various sets of data showed the psychological set to be most important (.45) and environmental to be next most important (.34); though such figures cannot be taken as final, a fact clearly emphasized by Burt (1925, pp. 51-57), who was inclined toward a multiple-factor approach.

The single most extensive program of research on delinquency is that of Shaw and McKay (Shaw *et al.*, 1929; Shaw and McKay, 1942) in what has come to be known as "delinquency area research" (Lander, 1954; Bordua, 1958; Chilton, 1964). As the name suggests, the approach has been preeminently sociogenic, though in its conception it included a great deal of reference to psychological factors. Since the present research study is conceived in continuity with that of Shaw and McKay and other members of the "Chicago School", it is appropriate to give a brief overview of their purposes, methods and results.

The "Chicago School" may be said to have had its formal inception with an article by Robert E. Park on: "The City: Suggestions for the Investigation of Human Behavior in the Urban

Environment" (1916), in which the concept of the city as a natural laboratory for social science research was developed. As recollected by another pioneer, Ernest W. Burgess (1964), he and Park were impressed with the diversity of neighborhoods in the city, and one of their earliest goals was that of finding a pattern to the patchwork of differences. They assumed that the city had a characteristic organization and way of life, and that it was composed of natural areas, each having a particular function in the economy of the city. They assumed that each had its distinctive physical structure. Thus two major aspects of natural areas could be studied: The *spatial patterns* of topography and manmade structures for dwelling, manufacturing, storing and transportation; and the *cultural life* of the inhabitants, their modes of living, customs, and standards. A principal method of study was that of maps, showing the distribution of a social phenomenon, such as physical deterioration; and the relating of one map to another, such as the incidence of juvenile delinquency in relation to physical deterioration of dwelling structures. It was thereby seen that areas high on the one variable were also high on the other.

Burgess offers a description of the city of Chicago as it was in the early 1920's, the time when Shaw and McKay began their meticulous work. Burgess writes:

"Chicago had been flooded with wave after wave of immigrants from Europe. The number of new arrivals had been especially heavy from 1890 to 1910. World War I had caused this flow to cease, but immediately after the war there was great speculation that it would be renewed—with perhaps even greater activity. By the time our studies began, the various ethnic neighborhoods were well established, with each ethnic group having its own churches, schools, newspapers, restaurants, stores, social clubs, politicians, and welfare stations. By this time, too, public sentiment had crystallized into rather firm prejudice and discrimination against the new arrivals from Eastern and Southern Europe. Anti-Jewish, anti-Polish, anti-Italian, and anti-Czech feelings were especially strong in particular neighborhoods. In those days, even Germans, Irish, and Swedes were regarded by the old-line English families as being socially inferior. Landlords were taking advantage of the crowded housing situation and the ignorance of the newcomers to offer substandard living units at exorbitant rents. The public prejudice and desire for segregation of the foreign stock made it possible to maintain a housing shortage for these despite rapid building in other parts of the city. Fertility was high, families were large, and the overcrowding was very great. Health, educational, and other municipal services were definitely inferior in the ethnic neighborhoods to those in the upper-class and middle-class areas.

The children of immigrants, standing between two cultures, were loyal neither to their parents nor to America, although they identified themselves with the New World. They had formed street corner groups that were acting in open defiance of both the desires of their parents and the social rules of the community at large." (1964, pp. 4-5)

In this quotation Burgess shows the extensive ethnic basis for neighborhood differentiation in the city of Chicago at that period. Writing in the mid-twenties, Robert Park elaborated the nature of the differentials along several other lines:

"The city plan establishes metes and bounds . . . and imposes an orderly arrangement . . . upon the buildings. . . . Within the limitations prescribed, however, the inevitable processes of human nature proceed to give these regions and these buildings a character which it is less easy to control. . . . Personal tastes and convenience, vocational and economic interests, infallibly tend to segregate and thus to classify the populations of great cities . . .

Physical geography, natural advantages and disadvantages, including means of transportation, determine in advance the general outlines of the urban plan. As the city increases in population, the subtler influences of sympathy, rivalry, and economic necessity tend to control the distribution of population. Business and industry seek advantageous locations. . . . There spring up fashionable residence quarters from which poorer classes are excluded because of the increased value of the land. Then there grow up slums . . .

In the course of time every section . . . of the city takes on something of the character and qualities of its inhabitants. . . . The effect of this is to convert what was at first a mere geographical expression into a neighborhood, that is to say, a locality with sentiments, traditions, and a history of its own . . . and the life of every locality moves on with a certain momentum of its own, more or less independent of the larger circles of life and interests about it." (1925, pp. 4-6)

A year later Park wrote further upon the differentiation of city areas:

"Natural areas are the habitats of natural groups. Every typical urban area is likely to contain a characteristic section of the population. . . . In great cities the divergence in manners, in standards of living, and in general outlook on life in different urban areas is often astonishing . . .

There are regions in the city in which there are almost no children, areas occupied by residential hotels, for example. There are regions where the number of children is relatively high: in the slums, in the middle-class residential suburbs. . . . There are regions where people almost never vote, except at national elections, regions where the divorce rate is higher than it is for any state in the Union, and other regions in the same city where there are almost no divorces. There are areas infected by boy's gangs . . . regions in which there is an excessive amount of juvenile delinquency and other regions in which there is almost none." (Park, 1926, pp. 11-12)

In such a setting of the City of Chicago and of the intellectual climate provided by the Chicago School, those of its members who specialized in delinquency, Shaw, Zorbaugh, McKay and Cottrell (1929) set forth a basic programmatic principle for research: "Any study of delinquent behavior must take into account the character of the community in which the behavior arises." They elaborate as follows:

"An important function of the community is what Thomas calls 'defining the situation', i.e., of interpreting situations, defining ends and goals, setting up standards for the members upon the basis of which members may act . . .

These social standards and attitudes become embodied in the institutions and groupings of the community. Their character reflects that of the community. If the community is disorganized and weak in its control, it will be easy for the institutions to disintegrate and behavior will not be controlled by conventional standards. If the community standards are positive but not according to accepted codes

of conventional society, behavior will accordingly be contrary to standards of the larger society . . .

Perhaps the group which most readily reflects the community background and at the same time is probably the most important in determining personal behavior is the family . . . (Also the) play group is a spontaneous form of primary relationship which reflects community life and is very significant in determining attitudes, habits, and standards of conduct in the juvenile. In certain areas of the city these groups become delinquent gangs with persistent delinquent patterns and traditional codes and standards which are very important in determining the behavior of the members . . .

That the gang is a significant factor in juvenile delinquency is indicated by the fact that in a study of stealing cases coming before the Juvenile Court of Cook County it was found that in approximately nine-tenths of the cases two or more boys were involved in the act . . .

. . . the study of such a problem as juvenile delinquency necessarily begins with a study of its geographical location. This first step reveals the areas in which delinquency occurs most frequently, and therefore marks off the communities which should be studied intensively for factors related to delinquent behavior." (Shaw *et al.*, 1929, pp. 5-8.)

Thus delinquency area research begins with geographical delineation and is followed by intensive investigation of socio-cultural determinants. Shaw and his associates followed certain methods including: 1) from public records such as those of the probation department or the court, the name, age, sex, and home address of all offenders during a certain period of time were obtained; 2) the addresses were plotted on maps, using a spot for each address; from the swarms of points here, and the freedom from points there, an immediate visual impression of the distribution of delinquents' addresses throughout the city could be obtained; 3) delinquency rates were calculated by first marking off the city into square-mile areas, using the total population of given age and sex within that area as base, and calculating the rate as the ratio of number of offenders to the base population; 4) rate maps were constructed, in which each square-mile area of the city was outlined and within each square was placed its delinquency rate value; thereby the rate of a given area, its relation to adjacent areas, and the range of rates in a section or in the city as a whole were made apparent; 5) radial maps were constructed: straight lines emanating from the center (the Loop) were drawn so that they coincided with the principal streets of the city. Along these lines, at approximately one-mile intervals, were written the rates of the square-mile areas intersected by a radial line; such maps revealed radial patterning of rates and gradients in rates; 6) zone maps were made by drawing a series of concentric part-circles with center on the Loop; the first zone was taken to Halsted Street as tangent, with radius of subsequent zones increasing by one mile successively; 7) correlations were computed over square-mile area rates for diverse phenomena; 8) case histories were obtained in selected areas.

These methods yielded a rich harvest of information. Marked variations were found in the rates of school truants, juvenile delin-

quents and adult criminals between different areas in Chicago. The rates of truancy, delinquency and crime were found to vary inversely with distance from the center of the city. The rates for truancy, delinquency and adult crime were highly correlated. High rate areas were also found to be physically deteriorated and with declining populations; they also had been high rate areas for a long period of time (thirty years), the rates persisting despite marked change in the composition of the population. Recidivism was found to covary with the rates of individual delinquents and to vary inversely with distance from the city center.

After several years of further work, Shaw and McKay (1942) reported the extension of their techniques of analysis to twenty American cities. The results showed uniformity in every city: higher rates in the inner zones, with progressive decline in rates toward the outer zones. Within Chicago, a remarkable degree of correlation was found between rates for the 1900-1906 period and rates for the 1927-1933 period. High correlations were found between delinquency rates and: physical deterioration, cheap housing, proximity to industrial incursion, low rentals, proportion of homes renter-occupied, proportion of families on relief, extent of population decline, tuberculosis rates, infant mortality rates, rates of mental disorder and of adult crime. Many of these variables showed the same pattern of zonal distribution as did delinquency, a fact that would appear reasonable from the high correlations over areas (Shaw and McKay, 1942, p. 100).

Not all of these correlated variables have been found similarly associated with delinquency rates in other studies. As one example, Shaw and McKay had found that high rates of delinquency characterized areas inhabited by a population heavily composed of foreign born persons. Lander (1954), in his study of Baltimore, found an exactly opposite relationship between proportion of foreign-born and delinquency rates. He also showed that some of the city's lowest delinquency rates were to be found in some of the industrial areas (though, in general, proximity to industry was associated with high delinquency rates).

Lander's study of Baltimore was carried out for the 1940 period, and Bordua (1958), following Lander, studied the city of Detroit for the 1950 period. Chilton (1964) studied Indianapolis for the 1950 period also. A quite remarkable degree of consistency in results was obtained, as shown by Chilton in his comparison of the three studies. Zero-order correlation coefficients between delinquency rates and seven variables common to the three separate studies are shown in Table 1. Also shown are the sums of squares of coefficients in each column, indicating that there is considerable overlap in delinquency-rate variance accounted for by the several associated variables. The multiple correlations are also shown, along with their squares, giving the total non-overlapping proportions of variance accounted for by the seven variables.

The inclusion of the variables Median Family Income and Per

Table 1
Correlations between Delinquency Rates and Seven other Variables^a

Variable	City and Date		
	Baltimore, 1940	Detroit, 1950	Indianapolis, 1950
Education	-.51	-.47 ^b	-.64
Rent	-.53	-.35	-.57
Owner Occupied	-.80 ^b	-.61 ^b	-.64 ^b
Foreign-born	-.16	-.44 ^b	-.11
Non-white	.70	.52	.41
Overcrowded	.75	.65 ^b	.85 ^b
Substandard Housing	.69	.62	.81
Sum of squares	2.706	1.986	2.705
R	.843	.736	.882
R ²	.711	.542	.778

^aSource: Roland J. Chilton, *Continuity in Delinquency Area Research: A Comparison of Studies for Baltimore, Detroit, and Indianapolis*. *Amer. J. Soc.*, 1964, 29, p. 73. Data extracted from Chilton's Table 1, except sums of squares and R-squared, which were computed by present authors.

^bIndicates that the variable had a significant beta weight in the associated regression analysis. See Chilton, *ibid.*, p. 74

Cent Unrelated Individuals raised the multiple correlation to $R = .745$ for the Detroit data, and to $R = .900$ for the Indianapolis data (Chilton, 1964, p. 74).

It is clear that, despite certain variations from city to city (and time to time), the pattern of ecological associations with delinquency rates is rather similar across cities. Uniformly in the three studies cited, the association with the proportion of foreign-born is negative and small. Doubtless it took the particular immigration circumstances described by Burgess for the Chicago of the 1900's to produce the positive associations found by Shaw and McKay. For the remaining six variables in the three studies, the correlations with delinquency rates are all substantial and in the same direction as those found by Shaw and McKay.

GANG RESEARCH

Much attention was given to the gang by members of the Chicago School, and Frederick M. Thrasher produced his famous work on *The Gang* after seven years collecting data by informal observational methods. Unlike the work on delinquency by Shaw and his collaborators, Thrasher's study (1927) did not draw upon maps and rates; it did draw upon certain other procedures of the Chicago School however. Extensive use was made of personal documents and of written reports of observations by social workers, detectives, gang boys and ex-gang boys. In particular the use

of the case history (step eight in the Shaw *et al.* procedures), provided Thrasher with much illustrative material. Moreover his study was guided throughout by the conceptual framework of his teachers and colleagues. This becomes especially apparent in his approach to gang ecology. He wrote:

"The gang is almost invariably characteristic of regions that are interstitial to the more settled, more stable, and better organized portions of the city. The central tripartite empire of the gang occupies what is often called the 'poverty belt'—a region characterized by deteriorating neighborhoods, shifting populations, and the mobility and disorganization of the slum. Abandoned by those seeking homes in the better residential districts, encroached upon by business and industry, this zone is a distinctly interstitial phase in the city's growth. It is to a large extent isolated from the wider culture of the larger community by the processes of competition and conflict which have resulted in the selection of its population. Gangland is a phenomenon of human ecology." (1963, abridged edition, pp. 20-21).

The "tripartite empire of the gang" consists of three major natural areas of Chicago. Thrasher named them as follows: the North Side Jungles included the area north of the Loop and east of the North Branch of the Chicago River; the West Side Wilderness lay south and west of the North Branch, west of the Loop, and north and west of the South Branch of the Chicago River; the South Side Badlands lay south of the Loop and southeast of the South Branch.

There is unfortunately insufficient space here to document fully the extent to which Thrasher's description of gangland as it was in the early 1920's still holds good for the 1960's. The names have changed but the locations and practices and relationships with ecological circumstances appear to have remained. A few examples must suffice.

Three of the gangs studied in the present research were located in what Thrasher found to be an area known as "Little Sicily" in 1920. There the Gloriannas and the Little Italy gang reigned, and the vendettas often were carried over into the quarrels of juvenile gangs. Predominantly Negro in population in 1960, the gangs of the area at that later time were all Negro too.

While Little Sicily lay immediately north of the Loop, "Pojoy Town" was directly north of Little Sicily in Thrasher's time. Polish gangs were prevalent then; in the 1960 study three white gangs were drawn from the Pojoy Town area, in which the country of origin for the foreign stock was by then principally Germany.

One Negro gang studied in the 1960 research was located in the Lawndale area on the West Side. In 1920 that community had 75,000 Jewish inhabitants and was, in Thrasher's terms, "typically a middle-class community". Southeast across Ogden Avenue and Douglas Park was a large Polish colony from which gangs would sally forth to wage pogroms upon the Jews in Lawndale. In his Document Number 110, Thrasher gives a vignette example of the

way in which a small piece of "territory" can become the basis for gang war:

"Use of the privileges afforded by Douglas Park, which was a common meeting place of the two groups, has always been a bone of contention. There is a refectory and boathouse in the northern portion of the park, which under normal circumstances is open to members of any race or creed. During this period, however, it was a different story. Some days the Jews dominated, but when a gang of Poles larger in number approached, the former would leave. On one occasion the two gangs were of about the same size and the result was a pitched battle." (1963, p. 135).

Thrasher pointed out that conflict between gangs is organized on territorial rather than on a racial basis; but where an area is dominantly of one nationality, solidarity is national as well as territorial. Reaffirming this point 40 years later, James F. Short Jr. writes in his introduction to the abridged edition of Thrasher's book:

"Douglas Park still is the scene of gang warfare, but now instead of Polish and Jewish boys doing battle . . . , Negro gangs engage in the internecine conflict which has become famous through the mass media. Lawndale was an area of very rapid shift from white to Negro in the 1950's. During this period and into the sixties it was the primary locus of gang conflict in Chicago." (In: Thrasher, 1963, p. xxv.)

As a final example of the persistence of conditions and gangdom, the gangs of the Maxwell Street area, a few miles to the east of Lawndale, were known in Thrasher's time as the "Jews from Twelfth Street". Although the population of the area in 1960 was 87 percent Negro, and although the gangs were also Negro, they were still known as the "Jewtown" gangboys.

The 1313 gangs studied by Thrasher covered a very wide range of sizes, ages and activities. They ranged in size from a low of three to a high of 2000 members, with a median of 16, (1963, p. 222). Childhood gangs of persons aged 6-12 years were found; and adult gangs, aged 21-50 were found. However the majority were in the 11-25 age range. Not all gangs were restricted in age-range however, though sometimes, if there were sufficient numbers at each of several general age levels, they would divide themselves up into "juniors" and "seniors" (1963, p. 61). In the present study two such pairs of age-graded divisions of one gang were included.

Thrasher's groups included small railroad junking gangs, organized pickpocket gangs, festive groups such as the "Fusileers" (1963, p. 41), tongs, organized racketeers, and shortlived groupings of boys out for a lark. He arrived at a general definition of the gang as a social type:

"The gang is an interstitial group originally formed spontaneously and then integrated through conflict. It is characterized by the following types of behavior: meeting face to face, milling, movement through space as a unit, conflict, and planning. The result of this collective behavior is the development of tradition, unreflective internal structure, *esprit de corps*, solidarity, morale, group awareness, and attachment to a local territory." (1963, p. 46).

SOME LATER THEORY

Whereas Thrasher saw the origin of a gang primarily in the reaction of a playgroup to attack from some part of the environment, certain later writers have offered different explanations. These later authors have concentrated upon the *delinquent* gang, of course, whereas delinquency was only one (though an important) aspect of the various behaviors of many of the different kinds of gangs studied by Thrasher. Mere mention can be made here of the Cohen (1955) position that the "garden variety" delinquent gang springs from an attempt of similarly circumstanced youngsters who do poorly in school to construct an alternative "subculture" for themselves in which the values are in direct opposition to middle-class, dominant-culture values, and in which alternative definitions of status are provided, definitions by which the youngsters may in fact achieve status in the eyes of their gang peers. An elaborated view by Cloward and Ohlin (1960) deriving from earlier formulations by Merton (1957), describes three types of delinquent subculture—conflict, retreatist and criminal—adoption of which by a particular gang depends on both pressures toward deviance generally and the availability of carriers and relevant means; in short, upon the opportunity to learn and engage in the selected deviant behavior. A different formulation by Yablonsky (1962) accounts for the apparent senselessness of some gang behavior by distinguishing between delinquent gangs generally and those whom he calls the "Violent gangs" or "near-groups". The latter have participants who are more likely to be sociopathic personalities, especially the core leadership. Offering yet a different view, Walter Miller (1958) proposes that much lower-class male delinquency is in essence the expression of a distinctively lower-class subculture and especially of a distinctively lower-class conception of masculinity.

Data relevant to many specific points of these various theoretical formulations have been gathered as part of the present project, and a few relevant results have already been reported (Gordon *et al.*, 1963; Short and Strodtbeck, 1965; Short, Rivera and Tennyson, 1965). The paper now presented, however, is conceived as squarely in the Chicago School tradition.

THE PRESENT APPROACH

The orienting attitudes of the present authors in regard to the study of ecological influences in gang delinquency are directly in line with those of the Chicago School. Shaw and his collaborators stated (1929, pp. 7-8) that "the first step . . . marks off the communities which should be studied intensively for factors related to delinquent behavior . . . it is necessary to understand the culture—the more general social norms, the local community, the family, the gang, and other groups in terms of the traditions, sentiments and attitudes of each group . . ."

The present focus is upon the intact gang as unit of observa-

tion, or at least upon those members of such gangs as may be accessible. The communities (or "neighborhoods", as they will later be called) in which the gangs reside are first marked off, and a battery of variables descriptive of the physical and social aspects of the communities is then examined for characteristics which distinguish gang neighborhoods from others. The relation of these same ecological variables to various forms of delinquent and other behaviors is then examined. In subsequent phases of the research, the values and attitudes of gang members and of non-gang boys are compared and related back to the ecological variables and also to the delinquent and other behavior variables.

The present approach is socio-psychological. From this point of view, the systematic study of urban places and of community areas, the demography and ecology of neighborhoods, and the study of family structures, all become directly pertinent to the study of gang boys. They provide an indispensable account of the broadly impinging environmental context within which individual and group behavior occurs. The neighborhood, in all its idiosyncratic complexity, may be seen as the stage, set and props in relation to which the play of gang formation and functioning is unfolded. The neighborhood also provides the social context for the gang, the people thronging around the principal players, and also those presumed to be backstage: the families, relatives, friends, acquaintances, storekeepers, teachers, police. These are the persons whom gang members are likely to see and who are likely to see gang members. They are the people to whom a member of a gang might most easily refer in his mind's eye as he answers a question such as: "Do most people you know lead happy and useful lives?" They form the context within which the gang boy's struggles for personality development must be carried on, and within which his coping structures for adjustment (or maladjustment) will take shape.

As an approach to the delinquency aspect of gang behavior, the present view is best described as a multiple-factor one, similar to Burt's (1925) in its joint emphasis upon psychogenic and sociogenic factors, but deriving more specifically from the conceptions of Shaw and McKay (1942), however, in the insistence upon primacy of social sources of influence.

THE QUESTIONS OF THIS STUDY

A number of specific questions may be formulated as motivating this investigation of gang ecology. In what general ways do gang areas differ from other parts of the city? Is the distribution similar to that of the delinquency rates? Are the associated ecological variables similar? Are there any very general relations between ecological variables and particular types of behavior engaged in by gangs?

Since the gangs under study are all delinquent (and/or violent), it would be expected that their distribution should be similar

to that of delinquency rates: more frequent in the zones closer to the center of the city, for example. If, as Thrasher claimed, the empire of gangland is coextensive with the poverty belt, then economic and housing condition variables should distinguish between gang areas and the remainder of the city or the city as a whole. If ganglands and delinquency areas are coextensive, then one would expect to find many of the same community variables associated with gang presence as Shaw and McKay found associated with delinquency rates.

METHODS AND PROCEDURES

Gangs. Delinquent (and especially violent) gangs cannot be randomly chosen from a specified population; indeed they cannot be *chosen* at all; at least not by ordinary citizens. The present researchers were fortunate that the YMCA of Metropolitan Chicago sent Detached Workers² to contact and work with the most severely delinquent gangs in the city. Sixteen of these gangs are the subjects of this study. The ages of the boys ranged from 11 through 23 years. Ten gangs were Negro; six were white.

Ecological variables. All ecological variables are derived from the 1960 Census reports (U. S. Bureau of the Census, 1960). The problem of definition for the ecological niche of a particular gang was resolved as follows. Quite often a gang will have its major headquarters in the same immediate area as the homes of most of its members; though this is not always true.³ From the point of view of delinquency research it is sometimes thought best to evaluate distributions on the basis of locations of crimes committed rather than on the basis of residence of criminals or delinquents. From the point of view of ecological research, however, it seems best to rely upon residence data as providing information about relatively more permanent or pervasive environmental influences.

It was therefore decided to make the neighborhood of a given gang the unit of study. The neighborhood, moreover, was defined to mean "that set of census tracts which includes the residences of at least 70 percent of the membership of the gang so far as this is known."⁴ The residence data were secured by interview with each boy during his attendance at the Laboratory for Personality Assessment of the Youth Studies Program, University of Chicago (Cartwright and Howard, 1962). Since "addresses" sometimes proved fictitious, a double check was always made with the Detached Worker of the boy's gang.

2. A general description of the program is given by Short and Strodbeck (1965) in their Preface.

3. Uniquely for this study, the members of Gang 25 lived in six different community areas.

4. A neighborhood contained the residences of at least 70 percent of the gang members who were tested in the laboratory. The percentage tested varied from a low of 23 percent to a high of 86 percent. It is assumed here that the number tested was sufficient in each case to warrant generalization to the entire gang.

Organization of variables. In assembling and presenting census tract data, it was desirable that each gang's neighborhood be described uniquely for a given variable. For example, if a gang's members lived in three different census tracts, the variable Per Cent Unemployed would occur three times, presumably with three different values. It was therefore necessary to pool the data for the several tracts included in the neighborhood of a given gang.

In many tracts a particular variable would have different values for white and for nonwhite populations. For example, in Tract 122, the median age of white males was 28.1; of nonwhite males 19.0. There thus was clear need to separate the values for white and for nonwhite when pooling data for a neighborhood. However there was then a question of *which* set to pool. It seemed most reasonable to pool the data for whites in order to obtain a neighborhood value for a white gang; and to pool data for nonwhites to obtain a neighborhood value for a Negro gang.

One further aspect of the pooling procedure should be mentioned here: wherever rates or median values were given for tracts, it was necessary to pool the values as weighted by their respective population figures. Thus two tracts with median age for white males of 18.0 and 20.0 respectively would not simply be pooled to yield a median age of 19.0. Each median age value would be weighted according to the numbers of white population in the two tracts. For example, if the numbers were 2000 and 5000, the pooled value would be: $(2000 \times 18.0) + (5000 \times 20.0) / 7000 = 19.43$.⁵

A considerable body of data was available on each gang's neighborhood, and it was necessary to be selective. Materials judged relevant to the specific questions of the study were selected. It was further felt to be desirable that the mass of data be divided up in some sensible way, but the divisions already present in the census reports were not entirely adequate for present purposes, and at the time of the initial organization of data the Hadden-Borgatta factors were not available. Consideration of the several types of variables previously found associated with delinquency (and hence putatively with gang presence) led to the following list of headings under which to present census materials: 1) Population; 2) Housing; 3) Employment; 4) Economic position; 5) Family structure; 6) Residential mobility; 7) Individual psychopathology; 8) Crime and delinquency.

Subgroups of gangs. On the basis of Thrasher's discussions of locales of gangs, it seemed desirable also to present census materials in some form of division between gangs. Evidently the environments of Negro and white gangs differed sharply in all instances, as would be expected from the relative insulation of

5. It is recognized that multiplication of medians is not strictly legitimate. More mathematically accurate procedures would have required much greater labor, however, and it was felt that the value of the resulting data would not be improved thereby sufficiently to justify the additional labor.

Negro areas due to the protective covenants (Drake and Cayton, 1945). However, there were many areas that had in just recent times been occupied by Negroes, as contrasted with those areas (like the Black Belt) where Negroes had been solidly confined for some decades. Hence one would wish to contrast not only Negro with white neighborhoods, but also old with new neighborhoods for Negroes.

Shaw and McKay noted over series of data from 1900 to series from the 1927-1933 period that the values of delinquency rates for the South Side in any one concentric zone exceeded the values for the North Side in that same zone. Certainly there are many gross differences between the North and South sides. The three Negro gangs in the West Side Wilderness (Thrasher) part of the city were all south of the Madison Street line, and they were included in the South Side grouping for presentation purposes.

Related to the fact of difference in delinquency rates between North and South sides is the difference between gangs in community areas which have high rates relative to their concentric zone rate (zone-high areas), and gangs which reside in community areas with rates which are normal for their zone (zone-normal). Given Shaw and McKay's observations, it would be expected that there would be more zone-high areas on the South Side. That in fact is the case in the gangs under study here, as may be seen in Table 2, which, in addition to giving some basic information about each gang's neighborhood, also shows the format for subsequent tables of census data. The zones were calculated with center on State and Madison at two-mile successive increases of radius.

Table 2
Tracts and Divisions of Gang Neighborhoods

Gang or Group	Negro (N) or White (W)	North (N) or South (S)	Zone-high (ZH) or Zone-normal (ZN)	Number of Zone	Tracts in Neighborhood
11	N	S	ZH	III	578, 581.
01	N	S	ZH	III	450-B, 452, 454.
15	N	S	ZH	IV	871, -2, -6, -9, 881.
05/06	N	S	ZN	I	441.
09	N	S	ZN	II	558, 559, 560.
10	N	S	ZN	II	542.
20/21	N	N	ZN	I	121, 122, 127.
23	N	N	ZN	I	127, 133, 134.
16	W	S	ZH	IV	882.
13	W	S	ZH	V	646, 661, 894, 922.
14	W	S	ZH	V	646, 894.
22	W	N	ZN	II	107, 116.
25	W	N	ZN	II	47, 107, 115, 122, 190, 273, 303.
18	W	N	ZN	III	74, 93, 111.

Figure 1 gives a schematic outline of the City of Chicago, and shows the locations of gangs along with zonal demarcation, zonal delinquency rates for 1960. (Rates for the community areas containing gangs are given below, Table 18. Note that a community area is a more extensive natural area than is a neighborhood as the latter is here defined.)

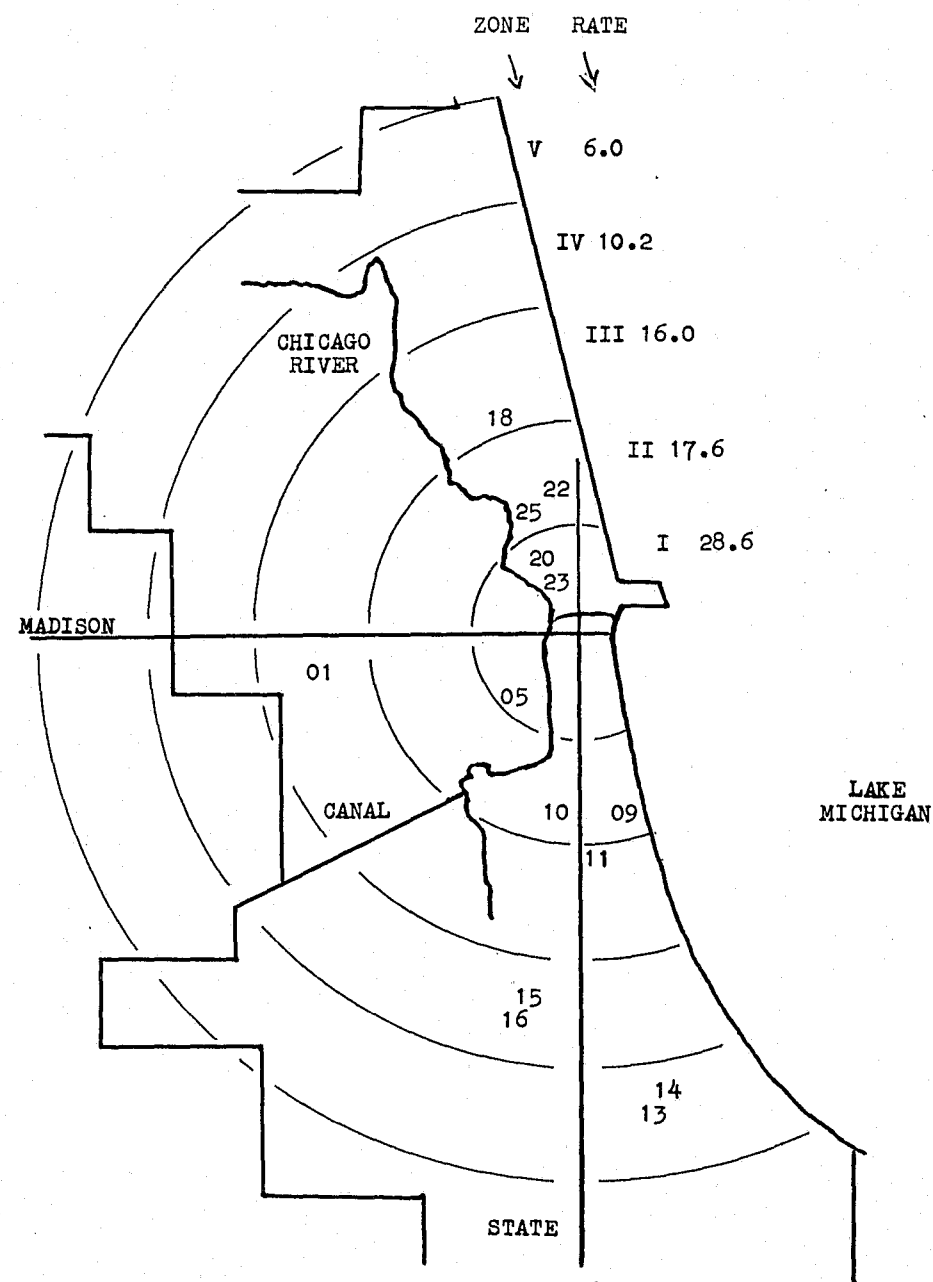


Fig. 1. Locations of gangs studied in City of Chicago with respect to concentric zones and their delinquency rates for males.

It may be seen in Table 2 that zone-high gangs live in zones of higher number than zone-normal gangs; i.e., they live in neigh-

borhoods which are further from the center of the city. One aspect of distance from the center must be noted, and that is that zones more distant also include more community areas, more space. Hence the possibilities for a range of delinquency rates are greater, and more numerous deviations from the mean (and larger deviations) may be expected. While this would not account entirely for the fact that six out of seven gangs in zone III—V are also in zone-high community areas, it would open the possibility that the very extremes of delinquency rate found within those areas relative to the zonal average are contributed to heavily by the acts of the particular gangs under study.

Because of the many confoundings in the bases of subgrouping in Table 1, no analytic faith should be placed in most of the divisions. For whites there is complete confounding between North-vs-South and Zone-high-vs-Zone-Normal, for instance. Even the North-vs-South differences for Negroes are confounded with differences between housing-project areas and others. All three North Side Negro gangs occupy neighborhoods which include important housing-projects. Similarly, although gangs 09, 10 and 11 are all in the Black Belt, 10 is in an area consisting entirely of housing-projects; 09 is on the Belt's north-east expansion fringe, and is bordered by some housing-projects within the Belt's older part; while gang 11 is plumb in the middle of the oldest part of the Belt. Whatever homogeneity might have appeared among the three Black Belt gang neighborhoods is likely to be upset by the radical differences in land-use, buildings and population associated with housing-projects.

Thus differences between subgroups of gang neighborhoods must be treated as suggestive at best. At the same time, the diversity among the gang neighborhoods, coming as they do from all five zones within a ten-mile radius from the center of the city, from north and south (and from west), suggests that representativeness of gang neighborhoods may have been inadvertently obtained. A difference found between these gang neighborhoods studied here and the city norms, may well be thought characteristic of gang neighborhoods in Chicago generally. Some relevant statistical considerations will be discussed next.

Statistical considerations. Since the main purpose of any generalization to be made from the present data is to produce hopefully viable hypotheses about gang neighborhoods, the latter must be chosen as unit (in lieu of persons or building structures, for instance). Given this decision, a problem centers upon the fact that in some cases more than one gang resided in a given neighborhood, and that in other cases gangs were close geographically so that some of their members lived in tracts common to the two gangs. As examples of the former problem, gangs 05 and 06 lived in an identical tract (they were in fact senior and junior division respectively). Since the neighborhood as such is of focal interest, the two gangs were treated jointly; and their conjunction in Table 2

reflects this decision. Gangs 13 and 14 provide an example of the second type of problem, since the two tracts occupied by members of gang 14 are also two of the four tracts in which members of gang 13 reside. In this type of case it was decided to retain the two neighborhoods as separate entities. Strictly this poses a problem of non-independence of observations. However, it was felt that such a definite difference in neighborhood make-up could legitimately be treated as at most partially non-independent. Accordingly the fourteen neighborhoods shown in Table 2 were employed throughout, with certain exceptions that will be indicated when they arise.

In posing the question of difference between these gang neighborhoods and city norms, both absolutely and with respect to inference to gang neighborhoods of Chicago generally, it was necessary to choose an appropriate statistic. Since the fundamental statistical situation is that of a one-sample (of gang neighborhoods) test, and since the level of initial concern is simply to establish whether there is a difference in one direction (either greater than the city norms or less than those norms), it was decided to employ the binomial test. The test also has the advantage of ready visibility to the reader. A split of 11-3 or better has a two-tailed probability value of .058 or less (Siegel, 1956, p. 250). Splits of 11-3, 12-2 ($p < .012$), 13-1 ($p < .002$), or 14-0 will therefore all be considered to mean first that these gang neighborhoods as a sample do in fact differ from the city norms; second that gang neighborhoods generally in the city of Chicago differ in the same way. To allow identical norms for both Negro and white would obscure differences that are real; hence norms are taken respectively for each race wherever possible. The set of Negro gang neighborhoods is thereby compared with the nonwhite city norms; the set of white gang neighborhoods is compared with the white norms.

Behaviors. The data employed here for criterion behaviors consist of factor scores obtained by Short, Tennyson and Howard (1963). The factors were derived from intercorrelation of 37 sets of behaviors. Each set consisted of one or more behavior judgments made by Detached Workers. For example, Social Activities was comprised of Dancing, Singing, Playing Cards for Fun. Theft comprised Burglary, Shoplifting, and Theft. Carrying Concealed Weapons stood alone. These judgments were made on the following basis. The Worker was given a sheet labelled "Time Consuming Activities", one sheet for each boy in the gang to which he was assigned. The instructions were as follows: "Place mark through item if boy has done this. If it has been done more than three times for those items preceded by a (2), check the (2) also." The 69 behaviors followed in a simple list: Baby sitting; Baseball; Basketball; . . . Abandonment or nonsupport; Arson; Auto theft . . . , and so on. Comparison of Workers' reports with police records indicated no tendency for over- or underreporting. The authors pointed out that *a priori* expectations of validity were high since the Workers had the closest ongoing contact with the boys.

There is overlap between the set of gangs studied here and the set reported upon in the article by Short, Tennyson and Howard. Twelve of the sixteen gangs they studied are included in the present set of sixteen. On the remaining four gangs in the present set there are no behavior data available. The available factor scores will be taken directly from the earlier report.

RESULTS

Population. Table 3 contains the first set of information about the population characteristics of the gang neighborhoods. It is immediately apparent that each gang dwells in a neighborhood in which its own race is in the numerical majority.

For both males and females, the gang neighborhoods have populations of lower median age than the respective city norms. It is not enough to conclude that the populations in gang neighborhoods are younger. A closer examination of the several age-levels can reveal exactly which age-groups are under- or overrepresented in the gang neighborhoods by comparison with the city norms. Table 4 gives the pertinent information.

Table 3
Population Characteristics of Gang Neighborhoods: General^a

Gang or Group	Total Population	Whites as % of Total	Negroes as % of Total	Foreign Stock % of Total	Foreign Born % of Total	Median ^b Age	
						Males	Females
11	7968	0.54	99.35	1.42	0.11	34.0	34.7
01	25746	2.86	96.99	2.22	1.61	17.7	20.1
15	34656	18.71	79.90	7.90	2.99	23.1	24.1
05/06	3383	13.18	86.76	6.68	2.75	21.8	24.5
09	11515	1.13	98.38	0.50	0.36	17.5	20.6
10	7534	0.12	99.80	0.11	0.05	9.8	13.3
20/21	20414	31.13	67.88	9.84	3.67	12.5	14.5
23	14457	14.01	84.71	4.06	1.92	11.5	13.8
City Negro	812637					25.2	25.6
16	7702	69.18	30.35	25.36	8.66	30.8	34.5
13	17241	82.03	15.65	34.47	9.96	35.0	38.0
14	8462	63.59	31.86	32.70	10.35	35.5	38.5
22	10447	96.25	0.95	38.08	20.94	31.3	31.0
25	46688	93.58	5.60	47.73	20.99	33.4	36.2
18	12040	96.00	0.00	47.08	21.51	32.8	34.4
City White	2712748					34.7	36.6
City Total	3550404	76.41	22.89	35.98	12.35	32.3	33.4

^aSource: U. S. Bureau of the Census. *U. S. Censuses of Population and Housing: 1960. Census Tracts.* Final Report PHC (1)—26. U. S. Government Printing Office, Washington, D.C., 1962. For all data except age, Table P-1 of the Census documents was used. For the age data, Table P-2 was used.

^bMedian ages of tracts combined into a gang "neighborhood" were weighted by the race-appropriate population figures before combination.

Table 4a
Distribution of Ages in Population for Gang Neighborhoods: Males I

Gang or Group	Percentage of Population ^a							
	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39
11	12.9	8.9	6.8	4.7	5.5	5.3	6.7	6.9
01	20.5	16.0	9.9	6.7	6.5	8.0	7.2	6.5
15	16.6	13.0	10.1	6.7	6.1	7.3	7.5	7.7
05/06	16.1	14.2	9.8	8.0	5.4	4.4	5.3	7.1
09	19.3	15.9	11.5	7.3	4.4	5.2	5.3	6.4
10	26.3	24.7	14.6	7.6	2.4	6.0	6.6	3.7
20/21	24.9	19.6	12.6	5.9	4.5	6.6	6.5	5.4
23	25.9	21.2	12.9	5.9	4.0	7.0	6.4	5.1
City Non-White	16.2	12.7	8.9	5.9	6.0	7.2	7.7	7.5
16	12.0	9.7	9.1	5.8	6.3	6.0	6.3	6.0
13	9.9	9.4	8.1	6.9	5.0	4.8	6.2	6.3
14	9.4	8.5	8.0	6.2	5.7	5.6	5.7	6.2
22	11.0	8.9	6.8	6.3	7.5	7.5	6.9	6.5
25	10.4	7.7	7.3	5.6	6.5	7.5	7.5	6.5
18	11.4	7.8	7.1	6.4	6.7	6.6	7.0	6.9
City White	9.6	8.0	7.6	6.2	5.9	6.4	6.6	6.9

^aSource: U. S. Bureau of the Census; as for Table 3; data from Census document Table P-2.

Table 4b
Distribution of Ages in the Population for Gang Neighborhoods: Males II

Gang or Group	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+
11	6.9	7.0	6.4	6.7	6.4	3.9	2.7	2.3
01	5.4	3.8	3.2	2.7	1.5	1.1	0.5	0.5
15	5.7	5.2	3.9	3.9	2.7	1.7	1.0	1.0
05/06	6.3	6.1	4.2	5.3	2.5	2.1	1.3	1.9
09	5.1	4.8	4.3	3.6	2.3	2.0	1.2	1.4
10	2.2	1.2	0.9	0.8	0.6	1.1	0.7	0.5
20/21	4.0	2.7	2.2	1.7	1.0	1.1	0.7	0.6
23	3.5	2.1	1.6	1.1	0.9	1.1	0.8	0.7
City Non-White	6.2	5.4	4.6	4.2	2.9	2.0	1.3	1.2
16	4.9	6.5	6.1	6.0	4.9	3.7	3.8	2.8
13	5.8	6.4	6.6	7.0	5.8	4.6	3.3	3.8
14	6.3	5.7	7.1	6.8	6.4	4.5	3.5	4.6
22	5.7	6.2	6.2	6.0	4.3	4.2	3.4	2.5
25	6.3	6.4	6.4	6.0	5.3	4.6	3.3	2.7
18	6.4	6.5	6.2	6.2	5.1	4.4	2.8	2.5
City White	7.0	7.2	6.6	6.2	5.3	4.5	3.2	2.8

Table 4c
Distribution of Ages in the Population for Gang Neighborhoods: Female I

Gang or Group	Percentage of Population							
	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39
11	11.4	8.2	6.1	5.2	5.9	6.4	7.0	6.7
01	18.7	14.3	9.6	7.2	8.5	9.0	7.7	6.7
15	15.4	12.3	9.5	6.6	7.8	8.0	8.4	7.4
05/06	13.4	14.7	11.3	5.8	5.4	4.8	8.4	6.9
09	17.3	14.4	10.9	6.7	5.8	6.2	7.0	7.2
10	21.1	19.8	13.8	6.1	5.3	8.7	8.9	5.3
20/21	22.3	19.0	10.6	5.9	6.7	8.7	7.8	5.7
23	22.6	19.4	11.1	5.6	6.3	9.1	7.3	5.6
City Non-White	15.0	11.8	8.4	6.2	7.6	8.0	8.2	7.6
16	10.3	7.7	8.1	7.1	6.7	5.5	5.1	5.6
13	8.9	8.2	7.2	6.1	5.0	4.6	6.3	5.8
14	7.5	8.0	7.2	6.4	5.9	5.1	5.7	6.3
22	10.9	7.9	7.1	7.9	7.8	6.9	6.8	6.2
25	9.7	6.9	6.2	6.4	7.6	6.7	6.2	6.3
18	9.3	7.6	6.6	7.1	6.5	6.3	6.2	6.8
City White	8.9	7.5	7.1	6.4	6.4	5.6	6.0	6.7

Table 4d
Distribution of Ages in the Population for Gang Neighborhoods: Female II

Gang or Group	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+
11	7.3	7.5	7.4	6.0	5.6	3.8	2.9	2.6
01	4.7	4.3	3.0	2.4	1.4	0.9	0.8	0.8
15	6.0	5.0	4.0	3.1	2.3	1.7	1.2	1.3
05/06	6.4	7.6	4.5	3.3	3.5	1.7	1.0	1.3
09	5.8	4.0	3.7	3.4	2.4	2.0	1.8	1.4
10	2.9	2.0	1.1	1.3	1.1	1.0	0.4	0.9
20/21	3.5	2.9	1.8	1.5	1.3	1.1	0.7	0.7
23	3.1	2.4	1.5	1.4	1.1	1.3	1.0	1.0
City Non-White	6.2	5.2	4.3	3.8	2.7	2.1	1.4	1.5
16	5.9	6.8	5.6	6.0	4.9	5.2	4.2	5.4
13	6.2	7.4	7.4	6.6	6.2	5.6	4.0	4.4
14	5.2	7.2	7.3	6.2	6.1	6.4	4.1	5.1
22	5.8	6.7	5.6	5.4	4.5	4.4	2.8	3.3
25	6.8	7.1	6.7	6.3	5.6	4.7	3.3	3.4
18	6.8	6.6	6.0	6.5	5.6	4.3	3.5	3.8
City White	7.2	7.4	6.8	6.2	5.5	4.9	3.6	3.7

Table 5
Ratios of Mature Males to Young Males in Gang Neighborhoods

Gang or Group	Per Cent of Males		
	Young 10-24	Mature 35-49	Mature/Young Ratio
11	17.0	20.8	1.22
01	23.1	15.7	.68
15	22.9	18.6	.81
05/06	23.2	19.5	.84
09	23.2	16.5	.70
10	24.6	7.1	.29
20/21	23.0	12.1	.53
23	22.8	10.7	.47
City Non-White	20.8	19.1	.92
16	21.2	17.4	.82
13	20.0	18.5	.93
14	19.9	18.2	.92
22	20.6	18.4	.89
25	19.4	19.2	.99
18	20.2	19.8	.98
City White	19.7	21.1	1.08

From Table 4 it may be seen that gang neighborhoods have significantly more males than city norms in the ages less than five and 5-9; they have significantly less males than city norms in ages 30-54 and 60-64. For females, gang neighborhoods have more than city norms in the ages up through fourteen; they have less than city norms in the ages 35-49.

The gang neighborhoods, then, are oversupplied with young children of both sexes, and undersupplied with mature adults. (Note that the undersupply could have been among the very old; the oversupply could have been among the teenagers and young adults). These data suggest strongly that the balance of age-groups is disturbed in gang neighborhoods in the direction of weakening adult control.

It is of interest that the teenage and young adult brackets are not involved in the above discussion of findings. A direct examination of the numerical ratios involving mature adults and teenagers or young adults should prove especially fruitful in view of the suggestions concerning control. Table 5 shows the percentages of males in the 10-24 brackets and the percentages in the 35-49 brackets. The ratio of mature adults to teenagers and young adults is given in the final column. One gang neighborhood only has a ratio equal to or exceeding the respective city norm. It is suggested that these data may be interpreted as meaning that gang neighborhoods generally are characterized by weak mature adult control

over teenagers and young adults, due in the first place to numerical weakness.

Table 6 shows the composition of the foreign stock in the gang neighborhoods. It is conspicuously small in the Negro neighborhoods. Considering only the single most numerous country of origin in any one neighborhood, certain conclusions may be drawn. Among North Side white gang neighborhoods the foreign stock has come chiefly from Germany. Among North Side Negro gang neighborhoods the foreign stock has come chiefly from Italy. Among South Side white gang neighborhoods the foreign stock has come chiefly from Eire. The gang neighborhoods differ from the city as a whole whose chief country of origin for the foreign stock is Poland.

Table 6
Population Characteristics of Gang Neighborhoods: Composition of Foreign Stock^a

Gang or Group	Country of Origin ^b										
	B	E	NS	G	P	CE	R	I	C	M	O
11	4					4			9		96
01		5			63	25	165	88		98	123
15	222	542	150	326	182	173	62	200	148	129	604
05/06					3		7		4	208	4
09				4					10	8	35
10										4	4
20/21	81	46	95	236	40	105	31	496	58	223	598
23	25	14	24	98	32	12	16	143	7	125	94
16	112	518	144	279	58	157	23	83	72	42	464
13	516	1146	617	656	255	361	172	694	284	279	963
14	141	449	265	259	59	150	30	437	103	279	595
22	95	111	83	858	146	641	61	554	74	123	1232
25	813	654	1382	3585	3503	1946	3097	1783	496	396	4630
18	214	282	358	1522	233	654	139	417	116	172	1561
City Total	52039	85120	72019	161567	258657	115907	96626	134963	34639	44686	221118

^aSource: U. S. Bureau of the Census; as for Table 3; all data from Table P-1 of the Census documents.

- ^bB = United Kingdom
- E = Eire
- NS = Norway and Sweden combined
- G = Germany
- P = Poland
- CE = Central Europe: Czechoslovakia, Austria, Hungary.
- R = U.S.S.R.
- I = Italy
- C = Canada
- M = Mexico
- O = All Other and Not Reporting.

Thrasher (1963, p. 130) observed that the gang was a phenomenon largely of the immigrant community of the poorer type. That may still be true; but the ethnic composition has changed

sharply since Thrasher's observations. Then, out of 396 gangs composed of one nationality only, 37.37 percent were Polish, the largest number of such gangs. In the present project not a single Polish gang was observed (though there may have been some, neither studied nor known to the investigators). Doubtless the migration of persons reaching improved economic circumstances and the eventual stabilization (Whyte, 1964) of ethnic communities may account for these findings.

It may be noted that no very great preponderance of a single ethnic group is evident in any of the neighborhoods shown in Table 6. Thus there appears to be little basis for ethnic conflict involving gangs, apart from that arising in connection with the accommodations of Negro and white as the former expand outward from the Black Belt and other enclaves.

Housing. From Table 7 it may be seen that there are no overall differences between gang neighborhoods and others in regard to

Table 7
Housing in Gang Neighborhoods: Structural Characteristics^a

Gang or Group	Total (b) Occupied Housing Units	Per Cent. Units in 1-Unit Structures	Per Cent Units in 5+-units Structures	Median Rooms Per Unit	Per Cent(c) Units with No Bathroom or Sharing Bathroom
11	2466	3.6	65.8	3.4	36.0
01	5714	1.8	55.5	4.2	14.2
15	6443	18.5	20.4	4.8	5.5
05/06	796	39.7	15.7	3.9	62.8
09	3196	25.3	56.8	3.0	38.2
10	1512	0.0	99.1	4.1	0.0
20/21	2974	9.7	65.6	4.4	15.6
23	2696	42.5	51.4	4.2	12.0
City (d) Non-White	233494	16.5	53.5	3.9	(12.4)
16	1610	16.8	26.6	4.9	2.9
13	4369	60.3	17.1	5.3	0.8
14	1767	32.8	25.3	5.3	1.4
22	3812	3.6	60.8	3.8	24.4
25	15333	8.8	45.3	4.3	7.8
18	4182	7.8	33.9	4.4	7.2
City White	923915	27.4	37.9	4.6	(12.4)

^aSource: U. S. Bureau of the Census; as for Table 3; data from Tables H-1 and H-3 of Census documents.

^bFor gangs, the values given are those for the population of same race as the given gang; with one exception, see note c. below.

^cValues for bathrooms are given in the Census documents only for the Total Population (Table H-1), and not separately for non-whites (Table H-3). Hence the values for gangs are based upon the number of units without bathrooms or sharing for the entire population of a neighborhood, as a ratio of the total number of occupied housing units. The latter values generally are different from the values given in the first column of this table. Hence, values for city groups are bracketed as inaccurate.

^dValues for non-whites only are given in Census data. As has already been shown, however, Negroes usually comprise the vast majority of the non-white population of any tract.

major structural characteristics of housing. However there are sharp differences among the neighborhoods shown. For example, gang 05 occupies a neighborhood in which a large number of 1-4 unit structures exist without bathroom or with shared bathroom. By contrast gang 01 lives among numerous buildings having five or more units, relatively few of which are without their own bathroom.

Table 8
Housing in Gang Neighborhoods: Age, Condition, and Occupancy^a

Gang or Group	Per Cent(b) Structures Built 1950 to 1960	Per Cent Structures Built 1939 or Before	Per Cent(c) Units Deteriorating	Per Cent Units Dilapidated	Per Cent Units Renter Occupied	Median(d) Units Per Person	Median(e) Rooms Per Person
11	0.2	98.1	40.0	6.4	93.6	2.4	.71
01	0.8	98.2	36.1	10.5	89.1	3.9	.91
15	0.5	96.8	29.8	3.7	74.1	3.9	.83
05/06	2.1	94.0	66.3	14.8	95.0	2.8	.71
09	0.8	81.3	48.5	4.0	94.7	2.8	.91
10	99.7	0.3	0.0	0.0	99.5	5.0	1.25
20/21	50.9	48.6	21.5	3.9	91.7	4.4	1.00
23	59.9	23.6	11.6	2.7	96.4	4.4	1.00
City Non-white	7.1	88.4	25.3	7.0	84.3	3.0	.77
16	0.0	98.6	16.5	1.6	68.8	2.6	.53
13	10.9	86.8	6.6	1.5	35.7	2.4	.45
14	1.0	97.3	14.8	3.1	61.0	2.6	.56
22	0.8	98.7	23.0	5.4	82.8	2.3	.56
25	14.0	84.2	8.3	1.5	74.3	2.5	.59
18	0.2	99.0	23.4	2.0	76.6	2.4	.59
City White	9.9	76.9	10.3	1.6	61.0	2.5	.56

^aSource: U. S. Bureau of the Census; as for Table 3; data from Tables H-1 and H-3 of Census documents.

^bBase is total number of structures occupied by gang-appropriate race in given neighborhood.

^cBase is total occupied units for gang-appropriate race in given neighborhood.

^dThe values for Median Persons per Unit, provided in Tables H-1 and H-3 of the Census documents, differ from the values for Population per Household provided in Tables P-1 and P-4 of those documents. Values for Head of Household in the latter are equal to values for All Occupied Units in the former. Population per Household values are larger; presumably because they are means rather than medians, and the distribution is positively skewed.

^eComputed as the ratio: Median Persons Per Unit/Median Rooms per Unit.

Table 8 shows several differences. Disregarding the neighborhoods with housing-projects,^a (gangs 10, 20/21, and 23), 9 out of

6. The hand of government interferes with otherwise "natural" processes of city growth whenever "housing-projects" or similar massive reconstruction projects occur. Suddenly, in the middle of a slum, there is a block of brand new buildings with absolutely no deterioration and all modern conveniences. Laudable from society's viewpoint, it makes ecological analysis difficult at times. In the present instance it was decided to discard neighborhoods with housing-projects in evaluating variables associated with structural and similar characteristics of housing. The binomial table shows a split of 9-2 or better significant at the .066 level of probability or less, for a two-tailed test.

11 gang neighborhoods are below the race-appropriate city averages on Per Cent Structures Built 1950-1960, and 10 out of 11 are above the appropriate norms for Per Cent Structures Built 1939 or before. Thus, aside from the housing-project neighborhoods, the gang neighborhoods tend to be structurally older than city norms. Not only are the houses older; they are also more deteriorated. In 9 cases out of 11 the gang neighborhoods have higher values than their relevant norms for Per Cent Units Deteriorating (housing-projects are again excepted).

Taking the gang neighborhoods as a whole, they are more likely to be renter-occupied than the city at large. Excluding the housing-projects, the gang neighborhoods have a ratio of persons to rooms which is much like the rest of the city for each race respectively. Even including the housing-projects, there is no gang neighborhood having a ratio of 1.51 persons per room or more.⁷ It is doubtful whether the highest ratio in Table 8, namely 1.25 for gang 10 (the newest housing-project), may legitimately be

Table 9
Employment in Gang Neighborhoods: Unemployment Rates^a

Gang or Group	Males 14 yrs. & over	Per Cent (b) Males 14+ in Labor Force	Per Cent (c) Males Labor Force Unemployed	Females 14 yrs. & over	Per Cent Females 14+ in Labor Force	Per Cent Female Labor Force Unemployed
11	2742	67.8	14.0	3145	36.7	10.8
01	6435	78.3	10.4	7783	37.6	16.8
15	8312	81.1	10.0	9434	41.2	11.9
05/06	882	64.2	13.8	907	23.4	14.2
09	2922	65.9	14.9	3576	28.2	19.4
10	1269	64.3	14.1	1869	21.3	17.8
20/21	3001	75.1	9.1	3573	29.0	12.1
23	2329	71.9	9.7	3213	21.7	13.2
City Non-White	254153	77.7	10.8	288307	42.3	12.7
16	1805	78.2	5.7	2016	34.8	3.6
13	5040	77.7	2.9	5619	37.0	2.7
14	1972	76.7	4.0	2134	36.9	3.2
22	3903	79.9	4.9	3896	43.9	7.0
25	16023	83.3	4.0	17815	43.4	4.5
18	4445	82.7	3.9	4662	44.5	4.3
City White	1007304	80.7	3.8	1080285	42.2	4.1

^aSource: U.S. Bureau of the Census; as for Table 3; data from Tables P-1, P-3 and P-4 of Census documents. Note that all figures are those for the race of the respective gang.

^bReference is made strictly to the "civilian labor force" (excluding the Armed Services), which is composed of persons "employed" and "unemployed." The "employed" were either "(a) 'at work' . . . or (b) were 'with a job but not at work' . . ." (U.S. Bureau of the Census, *ibid.*, p. 4).

^cPersons "unemployed" were those who were "not 'at work' but looking for work." (U.S. Bureau of the Census, *ibid.*, p. 4).

7. Lander (*op. cit.*, p. 27) employed the ratio of 1.51:1 as the lower bound definition for "overcrowding".

interpreted as "overcrowding." It is concluded that gang neighborhoods in Chicago are not especially overcrowded.

Employment. Table 9, the first of four tables on employment, shows values for the labor force and for unemployment. Only the column for Per Cent Females 14+ in the Labor Force reveals a difference between gang neighborhoods and city averages, the former being lower.⁸ It is to be noted that gang neighborhoods do not differ from the city as a whole with respect to the unemployment rates for each race.

Table 10 gives the distributions of occupational statuses for males. As might be expected, the gang neighborhoods are under-

Table 10
Employment in Gang Neighborhoods: Occupational Status—Males Only^a

Gang or Group	Per Cent of Male Employed ^b									
	Prof	Mgrs	Cler	Sale	Craf	Oper	Priv	Serv	Labo	Notr
11	0.5	0.3	9.1	2.0	7.0	22.4	0.8	12.8	14.6	30.5
01	0.1	1.3	10.4	1.1	10.1	28.9	0.2	14.6	18.7	14.6
15	2.2	1.6	9.1	0.9	10.0	24.1	0.1	19.8	14.8	26.4
05/06	2.7	3.5	5.3	4.9	8.6	34.4	0.0	16.2	11.1	13.3
09	1.3	1.2	11.0	2.2	8.5	20.3	0.0	15.2	17.8	22.5
10	0.0	0.0	16.4	2.3	9.7	30.7	0.0	16.3	18.2	6.4
20/21	1.0	1.5	5.2	1.1	6.6	27.7	0.2	14.1	9.3	33.3
23	2.0	1.2	7.6	1.8	8.0	28.4	0.0	26.8	2.0	22.2
City Non-White	3.7	2.1	9.9	1.8	9.8	25.9	0.3	14.6	13.4	18.5
16	5.2	4.3	10.8	5.6	21.3	30.7	0.0	8.8	7.3	6.0
13	14.2	11.6	11.8	8.5	19.1	17.0	0.0	5.8	6.3	5.7
14	6.4	6.2	12.2	6.9	24.5	24.6	0.0	4.8	10.9	3.5
22	6.2	4.0	6.1	4.7	16.3	30.4	0.0	8.8	6.6	16.9
25	10.9	10.7	10.2	9.0	18.2	22.6	0.0	7.7	4.4	6.3
18	5.3	5.7	12.2	4.9	24.7	26.7	0.1	9.3	6.1	5.0
City White	9.9	9.1	10.6	7.4	21.4	21.2	0.3	4.8	8.1	7.2

^aSource: U.S. Bureau of the Census; as for Table 3; data from Tables P-3 and P-4 of the Census documents.

^bAbbreviations as follows:

- Prof = Professional, technical and kindred workers.
- Mgrs = Managers, officers and proprietors, including farm.
- Cler = Clerical and kindred workers.
- Sale = Sales workers.
- Craf = Craftsmen, foremen and kindred workers.
- Oper = Operatives and kindred workers.
- Priv = Private household workers.
- Serv = Service workers, except private household.
- Labo = Laborers, except mine.
- Notr = Occupation not reported.

8. It may be noted that there are just three gangs whose neighborhood values for percentage of females in the labor force exceed the respective city average: all North Side white. This fact could be interpreted to mean that systematic access factors are at work, introducing an opportunity variable into the analysis; or it could be interpreted as random contingency. The latter interpretation is preferred here.

represented in the professional and managerial positions. The mainly lower-class character of the gang neighborhoods is as evident in the occupational distribution as in the age and condition of housing.

The gang neighborhoods are also under-represented in the category of Private Household Workers. White gang neighborhoods are over-represented in the category of Service Workers.⁹

The third table in the series on employment, Table 11, shows the distributions of employment over selected industry groups. City averages for both white and nonwhite are not provided in the Census documents for these particular data, nor is there a differ-

Table 11
Employment in Gang Neighborhoods: Representation of Selected Industry Groups^a

Gang or Group	Per Cent of Total Employed ^b											
	Cons	Meta	Mach	Food	Text	Rail	Util	Whol	Eats	Oret	Educ	Puba
11	1.9	5.6	3.7	5.4	1.6	2.1	0.5	1.8	3.4	6.3	2.2	5.3
01	2.9	8.6	4.5	5.9	3.0	1.9	1.8	4.1	3.8	10.3	0.9	5.1
15	3.2	6.2	5.1	5.8	1.7	3.6	1.1	1.6	2.4	11.0	2.1	6.0
05/06	1.4	8.0	0.9	5.9	4.7	2.8	0.5	4.4	3.6	13.8	2.0	2.9
09	3.2	5.6	2.8	5.8	1.9	3.6	0.7	1.4	3.0	8.7	1.9	10.8
10	2.3	6.4	4.2	5.5	2.3	1.5	0.7	1.5	3.6	11.1	2.0	12.6
20/21	2.1	3.5	6.2	4.8	1.8	1.6	1.1	1.2	2.5	8.0	2.6	4.3
23	1.9	4.0	4.3	6.3	2.3	2.0	1.4	1.8	3.2	10.4	1.0	6.7
16	6.0	6.5	3.3	5.4	1.4	3.5	2.5	2.8	2.3	12.8	5.1	5.2
13	4.8	8.4	4.3	3.6	0.7	4.1	3.3	3.5	2.2	12.4	6.1	6.0
14	5.3	10.3	5.3	3.8	0.9	3.7	2.3	3.7	2.4	12.8	4.5	7.0
22	2.8	6.1	12.8	4.1	2.2	1.2	1.0	2.8	3.2	6.8	1.5	2.4
25	4.0	4.2	11.2	3.6	2.7	1.5	2.1	4.4	3.1	12.4	2.6	2.6
18	5.2	4.9	14.1	4.6	2.4	2.2	2.2	4.4	3.6	10.7	1.0	2.4
City	3.8	6.4	8.9	4.3	1.7	2.5	2.4	3.8	2.7	11.3	3.3	4.5

^aSource: U.S. Bureau of the Census; as for Table 3; data from Table P-3 of the Census documents.

^bAbbreviations as follows:

- Cons = Construction.
- Meta = Manufacturing in metal industries.
- Mach = Manufacturing in machinery.
- Food = Manufacturing in food and kindred products.
- Text = Manufacturing in textile and apparel products.
- Rail = Railroad and Railway Express service.
- Util = Community, utility and sanitary services.
- Whol = Wholesale trade.
- Eats = Eating and drinking places.
- Oret = Other retail trade.
- Educ = Educational services.
- Puba = Public administration.

9. Given that gang 14 ties with the city average, only five observations can be evaluated in the binomial test. A split of 5-0 has a probability value of .062. Chilton (*op. cit.*, p. 81) found PC Service Workers positively correlated with delinquency rates.

entiation between males and females. The gang neighborhoods are under-represented in three industry groups: Manufacturing Machinery; Community, Utility and Sanitary Services; and Educational Services. Inspection of the cases which go against the general trend, however, suggests that the results are mainly due to geographical access (Duncan, 1964). The three neighborhoods with above-average employment in Manufacturing Machinery, for instance, are all North Side white. Among Negro gang neighborhoods, employment is above average in Manufacturing of Food, etc., and Manufacturing of Textiles; it is below average in Construction and in Other Retail Trade. Conceivably these differences are due to or related to sex differences in occupational opportunity among Negroes.

The final table on employment concerns transportation to work. Table 12 shows that gang neighborhoods are over-represented in the extent to which persons travel to work by bus or streetcar. Negro gang neighborhoods are under-represented in the extent of travel by automobile or carpool.¹⁰

Economic position. From the foregoing data on housing and employment it may be expected that the economic position of the

Table 12
Employment in Gang Neighborhoods: Transportation to Work^a

Gang or Group	Per Cent of all Workers ^b			
	Auto	Elev	Buss	Walk
11	21.3	10.3	32.8	4.7
01	34.0	4.1	44.8	4.5
15	31.8	13.1	28.6	3.4
05/06	20.5	0.0	49.7	12.1
09	22.5	9.1	40.0	4.9
10	18.7	24.1	42.8	3.2
20/21	26.7	8.6	31.1	7.4
23	23.5	8.2	36.3	12.8
16	41.9	14.8	30.4	5.8
13	45.8	5.9	17.2	5.1
14	44.7	8.7	22.8	4.8
22	29.3	9.7	30.1	12.5
25	41.4	14.5	25.9	8.0
18	39.6	12.8	28.7	11.5
City	41.2	9.6	27.3	8.4

^aSource: U.S. Bureau of the Census; as for Table 3; data from Table P-3 of the Census documents.

^bAbbreviations as follows:

- Auto = Private automobile or carpool.
- Elev = Subway or elevated.
- Buss = Bus or streetcar.
- Walk = Walked to work.

10. Rails were omitted.

gang neighborhoods is generally below average, but not too far below, since the unemployment rates are no higher than respective city averages. In certain cases which go against the general trend it may be expected that the economic position will be slightly above the city average. Gang 13 is one such case, with its higher percentage of males employed in professional and managerial capacities.

Table 13
Economic Position of Gang Neighborhoods^a

Gang or Group	1959 (b) Median Family Income	Tax (c) Basis	Mean (d) Exemptions	1960 (e) Income Tax	Median (f) Gross Rent	Family (g) Net Disposable Income	1959 Net (h) Dollars Per Person	Media (i) School Years Complete
11	4189	TT	3.08	382	80	2727	885	8.3
01	4277	TT	4.33	250	94	2779	642	8.6
15	5231	TC	4.21	436	103	3439	817	9.4
5/06	3808	TT	3.66	250	74	2550	697	7.5
09	3602	TT	3.53	229	69	2425	687	8.7
10	2842	TT	4.98	1	66	1929	387	9.8
20/21	3728	TT	4.72	105	73	2627	556	8.6
23	3212	TT	4.66	34	65	2278	489	9.0
City Non-White	4742	TT	3.53	427	88	3139	889	9.3
16	6388	TC	3.20	766	89	4434	1386	9.4
13	7931	TC	3.23	1064	92	5643	1747	11.5
14	6467	TC	2.99	806	87	4497	1504	10.4
22	5685	TC	2.73	696	70	4029	1476	8.7
25	7026	TC	2.84	936	93	4954	1709	10.2
18	6673	TC	2.88	861	81	4720	1639	9.3
City White	7403	TC	2.98	1006	88	5221	1813	10.2

^aSources: For all basic data, except rent: U.S. Bureau of the Census; as for Table 3; data from Tables P-1 and P-3 of the Census documents; for calculation of tax, Treasury Department, *Your Federal Income Tax, 1960 Edition*.

^b"Total income" in the Census data refers to all ordinary income that would come under the "Adjusted Gross Income" for tax purposes, with the exceptions of profits and losses from sales and exchanges of property. Such income was that obtained by a family in the full calendar year of 1959, as reported in the enumeration period of 1960, April 1, 1960. Figures in dollars.

^cThe method of computing the tax for a given Median Family Income was that of the simple Tax Table for incomes under \$5,000; that of Tax Calculation for incomes over \$5,000. The former is coded as TT; the latter TC. Tables given on pages 14 and 6 of the document, *Your Federal Income Tax, 1960 Edition*.

^dMean number of exemptions was taken in preference to median in view of the fact that means are typically higher than medians, and taxpayers are encouraged to take every exemption they are entitled to. The values were taken as identical to those for Population per Household provided in the Census documents.

^eFor computing tax by the Tax Table, the table was entered under the appropriate row for the figure of Median Family Income taken as Adjusted Gross Income; and under the appropriate column for Number of Exemptions. In all cases the number of exemptions was fractional. Hence the appropriate tax was calculated as a weighted average of the two tax figures associated with the two bounding integral numbers for Number of Exemptions. For ex-

ample, for gang 11, the Number of Exemptions was 3.08. The tax for three exemptions was shown as \$392. The tax shown for four exemptions was \$272. Assuming only these two possible numbers of exemptions (3 and 4), the mean value of 3.08 may be accounted for by .92 probability of finding a family with three exemptions and a .08 probability of finding a family with four exemptions. To obtain the final weighted average, the value of \$392 was multiplied by a weight of 92; the value of \$272 was multiplied by a weight of 08; the two weighted values were added and divided by 100. The result is \$382, as shown in the column for Income Tax. (It is recognized that a more accurate estimate could be obtained from taking into account the full range of Numbers of Exemptions for a given neighborhood. The additional labor involved was felt unlikely to be justified by a very material increase in accuracy). For calculation of tax by the Tax Calculation method, the standard deduction of 10% of Adjusted Gross Income was taken in all cases. The value of \$600 was multiplied by the (non-integral) number of exemptions claimed, and the result subtracted from the balance of Adjusted Gross Income minus standard deductions, leaving "Taxable Income." The value for "Taxable Income" was entered into Schedule II (A) of table shown on page 6 of the document *Your Federal Income Tax, 1960 Edition*: "Married Taxpayers filing joint returns," and the appropriate tax computed.

^fMedian Gross Rent figures were obtained from the Census documents: Tables H-2 and H-3.

^gValues for Family Net Disposable Income were obtained in the following way:

minus Median Family Income,
Income Tax,
Social Security Tax (\$120),
Annual Median Gross Rent (Rent x 12),
equals Family Net Disposable Income.

As an example, for gang 11:

4189
minus 382
minus 120
minus 960
equals 2727.

^hFamily Net Disposable Income divided by Number of Persons per Household.

ⁱWhile not strictly an economic item, it appears to represent economic potential via earning power.

Table 13 documents the median family income figures for the year 1959, along with numerous subsequent calculations. The gang neighborhoods have a lower median income than respective city averages. The neighborhood of gang 13 does have higher income, however; also gang 15 neighborhood has higher income than average for nonwhite.

As has also been noted in the popular press, the figures for rent are equivalent for white and nonwhite. The gang neighborhoods as a whole do not differ from the city average.

With lesser median family income, the gang neighborhoods also paid less tax than average, as would be expected (in our society!). By subtracting tax, social security payments (\$120.00 in 1959), and the estimated annual rent, figures for Family Net Disposable Income were obtained. Again gang neighborhoods are below average. A further calculation provides figures on the average amount of money available for each person during the year 1959. As may be seen, not one gang neighborhood has a figure as high as its race-appropriate city average.

The final column of Table 13 gives figures for the average educational attainment in the neighborhoods. Gang neighborhoods do not differ as a whole from the respective city averages.

Family Structure. In Table 14 it may be seen that the gang neighborhoods as a whole have a lower male-female ratio than their respective city norms. In a society which emphasizes the prerogative of males to initiate actions for females,¹¹ a balance of

Table 14
Family Structure in Gang Neighborhoods: Marriage and Children^a

Gang or Group	Males (b)	Females	Ratio(c)	Sex(d)	Married(e)	Married (f)	Married(f)	Persons
	14 yrs. & over: Per Cent Married	14 yrs. & over: Per Cent Married	Males to Females 14 yrs+	Ratio for Married Persons	Persons Married Couples	Per Cent Married Under 6	Per Cent Married 6-17.99	under 18: Per Cent Living with Both Parents
11	61.2	56.2	.872	.949	70.9	24.2	14.1	56.2
01	67.5	64.1	.827	.871	79.4	45.7	17.0	56.7
15	65.4	65.1	.881	.914	86.3	40.5	19.3	67.4
05/06	54.8	60.7	.972	.876	71.2	34.0	11.4	51.0
09	61.0	59.0	.817	.844	75.9	40.0	16.0	52.2
10	67.7	65.2	.679	.705	79.1	74.5	14.8	57.2
20/21	70.3	71.7	.840	.824	84.7	65.7	13.3	68.7
23	75.0	66.7	.725	.814	80.5	72.8	11.1	65.0
City Non-White	65.4	62.8	.882	.919	81.0	37.8	17.0	62.2
16	68.8	60.3	.895	1.021	97.9	28.7	26.4	87.3
13	67.9	59.6	.897	1.021	97.3	27.6	23.5	91.7
14	65.6	57.9	.924	1.046	93.3	26.9	21.3	86.2
22	58.6	58.5	1.002	1.004	99.6	34.2	21.2	84.4
25	69.1	62.7	.899	.991	96.7	29.1	21.7	89.6
18	62.0	59.9	.953	.987	99.8	29.0	22.3	88.0
City White	65.2	60.6	.932	1.002	96.0	28.3	23.9	90.0

^aSource: U.S. Bureau of the Census; as for Table 3; data from Census document Tables P-1, P-2, P-4.

^bBase of Males 14 yrs. plus as shown in Table 9; also for Females 14 yrs. plus.

^cRatio calculated from data shown in Table 9.

^dRatio calculated directly from data shown in Table P-2 of Census documents.

^eThe base is male plus female married persons 14 yrs. plus; the numerator is twice the number of married couples, the latter defined for the 1960 Census as "... a husband and wife enumerated as members of the same household." (ibid. p. 4)

^fCensus reports give data for Married Couples with children under 6 and with children under 18 yrs. The former values were subtracted from the latter to obtain the values of Married Couples with children between 6 and 18.

11. Compare W. F. Whyte's (1949) discussion of the social structure of restaurants, in which he shows that wherever pantry boys must take orders directly from waitresses discontent is great and labor turnover is high. When a barrier such as a partition is placed between waitresses and pantry boys, and the waitresses must deliver their orders via a slip of paper, there is much less friction. The conditions affecting the amount of friction are interpreted by Whyte in the light of societal norms providing for males to initiate action for females rather than *vice versa*. The traveller who stops in Howard Johnson's and similar highway restaurants has ample opportunity to confirm Whyte's thesis. The implications for the national program of non-discrimination against women in employment may be vastly important.

Table 15
Family Structure in Gang Neighborhoods: Indices of Disorganization^a

Gang or Group	Per Cent Married Males			Per Cent Married Females			Sex ratios		
	Sepa-rated	Wid-owed	Divo-rced	Sepa-rated	Wid-owed	Divo-rced	Sepa-rated	Wid-owed	Divo-rced
11	23.7	17.6	6.9	28.4	39.5	10.2	.793	.423	.644
01	12.3	4.9	3.8	23.5	15.7	6.9	.459	.269	.482
15	8.4	8.8	4.6	16.2	18.7	7.8	.474	.431	.535
05/06	24.6	17.4	4.4	32.6	29.0	6.9	.661	.525	.553
09	15.2	9.0	5.3	29.5	25.8	9.4	.436	.301	.472
10	1.2	3.0	1.0	29.1	14.9	9.4	.028	.144	.079
20/21	5.2	4.2	1.6	21.9	13.6	4.5	.196	.252	.293
23	5.6	4.1	1.4	23.0	16.9	7.0	.196	.196	.160
City Non-White	12.3	8.1	5.4	19.9	20.7	8.4	.568	.359	.585
16	1.8	7.4	3.1	4.1	28.3	4.7	.440	.267	.684
13	1.6	7.5	2.8	1.9	25.6	5.2	.873	.299	.546
14	2.7	9.4	4.6	3.1	27.8	7.4	.921	.355	.641
22	3.9	8.5	6.6	4.6	25.1	8.1	.865	.342	.815
25	1.7	5.7	3.7	2.6	22.3	6.1	.648	.252	.599
18	2.3	7.4	5.0	3.4	23.4	5.7	.667	.511	.868
City White	2.1	6.9	4.2	2.4	23.7	5.7	.856	.291	.745

^aSource: U.S. Bureau of the Census; as for Table 3; data from Census document Table P-2.

the sexes in favor of females may perhaps raise the general level of threat to males.

Among Negroes only, the sex ratio for married persons is also lower in gang neighborhoods than in the city as a whole. Here an interesting observation may be made by comparing the column for Sex Ratio of Married Persons with the column for Married Persons: Per Cent Married Couples. For example, roughly 21 percent of married persons in the gang 10 neighborhood are not living as married couples. Hence the sex ratio of .705 must mean that a very large number of married females are not living with their spouses, which suggests that a relatively large number of "female-based households"¹² exists in the neighborhood of gang 10.

It may also be seen that relatively few married couples have children between the ages of 6 and 18 in the gang neighborhoods.

Table 15 is the second in the series on family structure. There are two overall differences between gang neighborhoods and city

12. See W. B. Miller (1958). The "female-based household" is "... a nuclear kin unit in which a male parent is either absent from the household, present only sporadically, or, when present, only minimally or inconsistently involved in the support and rearing of children. This unit usually consists of one or more females of child-bearing age and their offspring. The females are frequently related to one another by blood or marriage ties, and the unit often includes two or more generations of women, e.g., the mother and/or aunt of the principal child-bearing female."

norms. First, the percentages of separated females are higher than city norms. Second, the sex ratios for divorced persons are lower than average.

Comparison of the figures for separated males with those for separated females shows that the percentage of separated females is higher in every neighborhood. A similar relation holds for percentages of divorced and for percentages of widowed persons. These relations hold also for city averages. The imbalance is reflected also in the sex ratios for separated, widowed and divorced persons, all below 1.00, many sharply so.

It might be thought that differential mortality rates of the two sexes can explain these results. They probably cannot, for white males died in proportion of 1.382 to white females during

Table 16
Residential Mobility in Gang Neighborhoods^a

Gang or Group	Persons 5 Years Old and Over, 1960	Per Cent Residing 1960 in Same House as 1955	Per Cent Who Lived Elsewhere. in Chicago City in 1955	Per Cent Who Lived Outside Chicago SMSA in 1955	Per Cent ^b Who Lived in the South of U.S. in '55	Per Cent Who Lived Abroad in 1955
11	6978	41.6	37.5	4.3	3.2	0.0
01	20100	30.1	54.1	10.5	8.7	0.0
15	23602	20.7	56.8	7.8	5.1*	0.1
05/06	2515	48.8	39.2	8.1	4.9	0.0
09	9299	42.3	41.0	8.7	7.5*	0.1
10	5715	0.9	94.9	2.3	1.9	0.0
20/21	10740	13.4	65.7	8.6	5.0*	0.1
23	9369	11.6	74.7	6.2	3.3*	0.2
City Non-White	707054	31.8	51.3	7.8	3.4*	0.5
16	4761	47.0	42.3	6.3	2.7*	1.7
13	12795	54.8	37.0	3.9	1.6*	1.0
14	4893	50.2	42.6	3.1	1.9*	1.4
22	9293	42.1	33.2	8.4	5.1	8.2
25	39453	45.6	39.8	5.9	1.9*	4.4
18	10772	46.4	37.7	7.0	10.8	16.8
City White	2462632	50.9	36.9	5.2	2.3*	2.3

^aSource: U.S. Bureau of the Census; as for Table 3; data for Tables P-1 and P-4 of the Census documents.

^bStarred items were estimated values; the Census document Table P-4 does not give figures for non-whites who lived in the South in 1955; Table P-1 does give figures for total persons who lived in the South in 1955. In all cases the estimated figure here was arrived at by calculating the White and Non-white proportions of the total persons who lived outside the Chicago SMSA but in the U.S. in 1955. The appropriate proportion value was then multiplied by the figure for total persons who lived in the South in order to reach the estimates shown in the above table. In some cases, all tracts for a neighborhood had fewer than 400 Non-white persons; hence were not included in Census Table P-4; it was assumed all persons were white, as in the neighborhood of Gang 22. In other cases, the total persons from outside the Chicago SMSA was equal to the Non-white persons; again no estimate was needed, as for Gang 11.

1960 in the city of Chicago, whereas the proportion calculated from the figures for widows and widowers is 3.437. (Similar results are obtained for nonwhites). This means that a mortality sex ratio as estimated from figures for widowed persons is sharply in excess of the true mortality sex ratio for the city.¹³ It follows that, for the sex ratios among widowed persons, a good part of the explanation must be that the males leave town after the crisis. It is suggested that the same is true in regard to separations and divorces: following a family crisis the males leave.

The very extreme sex ratios for gang neighborhoods 10, 20/21 and 23 probably reflect both the leaving of males and the arrival into a housing-project home of wives and mothers without husbands, arriving from other parts of the city, as will be seen in Table 16.

Table 17
Individual Psychopathology in Community Areas of Gang Neighborhoods^a

Gang or Group	Community Area	Age-adjusted Admission Rates to Mental Institutions ^b				
		All Diagnoses	Schizophrenia	Alcoholism	Psycho-neurotic etc.	Chronic Brain Disorder ^d
11	38	284.0	95.4	47.1	22.4	48.3
01	29	226.9	99.4	36.8	19.5	20.4
15	68	307.2	108.1	83.6	37.8	28.3
05/06	28	851.1	137.9	496.2	50.2	63.8
09	36	316.0	123.2	69.5	26.9	53.4
10	35	324.4	91.5	74.0	50.0	41.5
20/21/23	8	571.6	133.1	198.2	102.5	44.9
16	68	307.2	108.1	83.6	37.8	28.3
13/14	69	196.1	74.5	25.7	25.7	29.0
22	7	336.4	80.4	84.1	75.0	37.0
25	e	297.2	75.5	42.8	66.3	32.7
18	6	287.5	74.5	44.9	89.4	22.7
City White	--	297.6	78.6	66.7	64.6	29.2

^aSource: Kitagawa, Evelyn, M., and Taeuber, K. E., (Eds.) *Local Community Fact Book: Chicago Metropolitan Area, 1960*. Chicago, Univ. of Chicago, 1963, Pp. 331-332.

^bRates for the specific diagnoses are calculated from the figures given by Kitagawa and Taeuber, *ibid.*, who give the overall admission rates and then the percentages contributed by each diagnosis. For the present Table 17, these percentages were felt to provide an unsuitable picture of the true between-area comparisons. Accordingly each percentage was multiplied by its appropriate total-admissions rate. The rates are given for a base of 100,000 population, adjusted for age by the method of direct standardization, using the age-composition of the 1960 population of Chicago as the standard (see *ibid.*, p. 332).

^cIncludes "Psychophysiologic, psychoneurotic, and personality disorders."

^dIncludes "Chronic brain disorders associated with senility or arteriosclerosis."

^eMedian values for the seven Community Areas involved: 4, 7, 7, 8, 16, 23, and 24.

13. The assumption is made that the sex ratio of mortality rates is relatively constant over the decade or so during which the bulk of present widows and widowers attained that status.

Residential mobility. Table 16 gives data on residential mobility for the gang neighborhoods, which do not differ as a whole from respective city averages. Among Negro neighborhoods, however, fewer persons lived abroad in 1955 than average for city nonwhite.

Individual psychopathology. The evidence available on psychopathology is quite indirect, namely that of admissions to mental institutions for various disorders. The data are community area figures, given in Table 17. Gang neighborhoods as a whole do not differ from the city at large. However, the areas containing Negro gang neighborhoods have higher rates for schizophrenia and lower rates for psychoneurosis and related disorders.

Table 18
Juvenile Delinquency in Community Areas of Gang Neighborhoods^a

Gang or Group	Delinquency ^b Rate for Males
11	30.3
01	28.1
15	20.8
05/06	24.3
09	23.2
10	22.3
20/21/23	25.0
16	20.8
13/14	14.8
22	14.3
25	11.6
18	11.9
City Total	11.4

^aSource: Kitagawa and Taeuber, as for Table 17, *ibid.*, p. 333.

^bRate means "... numbers of male individuals brought before the Family Court of Cook County on delinquency petitions during the years 1958-61 ... per 100 "... male population 12-16 years of age in 1960" (*ibid.*, p. 333).

Delinquency. Table 18 shows the delinquency rates for the community areas containing gang neighborhoods. As might be expected all these areas have delinquency rates higher than the city average. Areas containing Negro gangs have higher rates than areas containing white gangs.

SUMMARY OF DIFFERENCES BETWEEN GANG NEIGHBORHOODS AND OTHERS

Population. Each gang resides in a neighborhood for which its own race is in the numerical majority. The population of gang neighborhoods is younger and specifically over-represented in proportion of children under ten, under-represented in the mature adult age ranges. The implication of weakened adult control relative to the teenagers and young adults is shown also by the fact

that the ratio of mature male adults (35-49) to male youngsters (10-24) is below unity in all gang neighborhoods but one, and is significantly below the comparable ratio for city norms.

There appears to be little ethnic preponderance in gang neighborhoods, outside of the white-or-nonwhite division.

Housing. Setting aside the three housing-project areas as atypical in respect of many housing characteristics, the gang neighborhoods are found to have older housing than city averages and more deteriorated housing. With housing-projects included (and also significantly without the housing-projects), the gang neighborhoods have a higher proportion of homes renter-occupied than city norms.

Employment. Gang neighborhoods have a lower percentage of females in the labor force; fewer males employed in professional and managerial positions, and fewer employed as private household workers. Due probably to constraint of geographical access, the gang neighborhoods are also under-represented in persons employed in manufacturing machinery and in community and educational services. Workers in gang neighborhoods travel to work more often by bus or streetcar.

Economic position. Gang neighborhood families had lower median income in 1959, hence lower tax, lower net disposable income for the family as a whole and a definitely lower net disposable income per person. By contrast, the rents paid in gang neighborhoods are not different from city norms, and the educational level attained is similar to that of the city averages. It is possible that relatively younger populations and higher ratios of females account in part for these discrepancies. At the same time there is a suggestion of possible injustice when equal levels of education are found together with inferior family incomes followed by equal levels of rent to be paid.

Family structure. Sex ratios are lower in gang neighborhoods. There is a lower percentage of married couples with children between the ages of six and eighteen. The percentages of separated females are higher than for city norms, and there are lower sex ratios among divorced persons in the gang neighborhoods. The evidence for female-based households is substantial; and it appears that following a family crisis the males leave. While this is true of the city as a whole, it seems to hit the gang neighborhoods harder.

Delinquency. The gang neighborhoods are located in community areas which have higher delinquency rates than city norms.

RELATION TO PREVIOUS FINDINGS ON DELINQUENCY

There is clearly a mixture of results in the present study when comparison is made with the associations previously found for delinquency rates. For example, like higher delinquency rates, gang neighborhoods are found associated with more substandard

housing, more renter-occupied homes, and lower incomes. By contrast, whereas it has previously been found that higher delinquency rates are associated with lower rent, lesser educational attainment, more residential mobility and more overcrowding, such associations are not found with gang neighborhoods in the present study.

The question as to whether gang neighborhoods are geographically distributed in ways similar to the distribution of delinquency rates may be answered from Table 18. Ordering the 75 community areas of the city of Chicago on the basis of their delinquency rates, with the highest receiving a rank of one, it is found that the ranks obtained by the community areas of the gang neighborhoods shown in Table 18 are as follows: 2,3,4,7,8,10+,12,15,16,22,24. Thus the gang neighborhoods are distributed over some of the most severely delinquent community areas.

ECOLOGICAL VARIABLES AND GANG BEHAVIORS

Professors Edgar F. Borgatta and Jeffrey K. Hadden have kindly made available pre-publication findings on a set of factorial analyses of census tract data from the 1960 census (Borgatta and Hadden, 1965).

Having found through preliminary analyses that the variations of tract variables are independent of variations in the city variables (Hadden and Borgatta, 1965) for cities containing the tracts, the authors posed the following basic question of analysis: "What is the structure of variables that underlies the distribution of tracts, independently of the cities within which they occur?" Separate analyses were carried out for regions: Northeast region, 48 cities, with a total of 8,616 tracts; Northcentral region, 48 cities, with a total of 6,069 tracts; South region, 57 cities, with a total of 3,773 tracts; West region, 24 cities, with a total of 4,245 tracts. All cities represented the 177 Standard Metropolitan Statistical Areas for which the Bureau of the Census provides tract data. In addition, comparable analyses were carried out on each of two 20 percent samples of all tracts in the United States.

Principal components factor analysis with R^2 values in the main diagonal was followed by Varimax rotation in each of the six separate studies. The authors state (Borgatta and Hadden, 1965, p. 26): "From the point of view of interpretation, which is granted to be intuitive here rather than by some mechanical formula, the number of factors varies by region, with eight interpretable for the West region, seven for the other regions, and only six for the 20 per cent samples." Nevertheless, five factors appeared to be parallel, within limits, in all sets of data, although some variations of structure were found even within these factors, and the grouping with Factor V was particularly tenuous.

Borgatta and Hadden point out (1965, p. 1) that if more inclusive concepts of "zones" or "areas" are used, they must be com-

posed of tracts or other smaller units. The same is obviously true of the concept of "neighborhood" developed here. It seemed that the first four most stable factors derived from the Borgatta-Hadden analyses would provide fundamental measures of considerable generality for the analysis of the present set of neighborhoods. Indeed some of the neighborhoods have only one tract (gang 10, for example). It was decided that the results for the Northcentral region would be most appropriate (in case of variation over separate studies), since they include Chicago. Hence factor scores were computed on the present neighborhoods using the first four factors for the Northcentral region.

The procedure for computing factor scores was that of simply adding standard scores on salient variables for a given factor. In a useful paper, Horn (1965) has recently discussed the properties and studied the interrelations among several common methods of estimating factor scores. The method used here is one of what Horn calls the "incomplete" methods, i.e., methods which do not employ least-squares procedures and may not use all the information in the factor coefficient matrix. By avoiding the least-squares solution, these methods also are less susceptible to shrinkage in cross-validation. In a study of 18 factors estimated by each of three incomplete methods and one complete method, Horn found the simple sum of standard scores of marker variables to correlate between .70 and .99 with estimates by the other methods, with the lower values (.70-.89) holding for correlations with the complete method (linear multiple regression technique).

Since there was considerable but incomplete overlap between the 32 variables used in the Borgatta-Hadden studies and the present set of census tract variables, it was decided to select the best four common variables on each factor, where "best" means "highest loading markers."

Ecology Factor I. Factor I is called *Socio-Economic Status*, and is defined by these variables: % Families \$10,000 income +, % College graduates, Med income of families, PC Males prof & managerial, Med school years completed, Med monthly rent, Med value owner occupied units. All of these variables had loadings of .69 or better in the Northcentral study, and altogether 10 variables had loadings of .40 or better. Nine other variables had loadings of .20 or better. Thus the factor is quite pervasive. The four variables employed here to estimate factor scores are shown, together with their loadings in the Borgatta-Hadden analysis, in Table 19, along with other materials to be discussed below.

Ecology Factor II. Factor II is called the *Suburb Factor*, which includes both family type indicators and also housing and geographical indicators of suburban characteristics. Thus defining variables include *Population per household*, *Med age*, % Females under 5 years, *Fertility ratio*, all positive except age, indicating the presence of large numbers of children. Negative loadings on *Male divorce rate* and *Male widower rate* suggest low proportions of

Table 19
Variables and Transformations Used in Scoring Ecology Factors

Factor	Variable	Loading ^a	Lower Limit	City Value	Upper Limit	Transformation	Lower Limit	City Value	Upper Limit	Estimated Stan. Dev.
I. Socio-Economic Status	Med. Family Income	.82	245 ^b	6738	11437	None	-	-	-	1496
	Med. School Years	.72	5.6 ^b	10.0	16.0 ^b	Root	2.37	3.16	4.00	.21 ^k
	Med. Monthly Rent	.69	.49 ^c	.88	1.40	Root	7.00	9.38	11.83	.80
	% Males Prof. & Mgrs	.80	0.0 ^d	18.4	47.7	2 _p = sin ² φ ^h	0.0	37.4	77.7	13.0
II. Suburb Factor	Population Per Hsd	.88	1.1	3.0	5.0	None	-	-	-	.65
	% Families 14+ Lab. Frce	-.67	21.3 ^d	42.3	61.3 ^e	None	-	-	-	6.7
	% Units Built 1950+	.57	0.0 ^f	10.2	99.7 ^d	√ _p = sin ² φ	0.00	10.29	18.39	3.06
	% Single Dwelling Unit	.60	0.0 ^d	24.1	97.8	Root	0.00	4.91	9.89	1.65
III. Stable Family	% Married Males	.82	45.0	65.2	79.0	Probit ¹ (p+10.0)	5.13	5.68	6.23	.18
	% Units Sound	.50	18.9	86.0	100.0 ^d	" (p-0.1)	4.11	6.08	8.09	.66
	% Units Owner-occup'd	.48	0.5 ^d	32.7	95.1	"	2.42	4.55	6.65	.71
	% Same House 1960, 1955	.40	0.9 ^d	46.6	65.7	" (p+32.0)	4.56	5.79	7.00	.41
IV. Disorganization & Deprivation	% Negroes	.79	0.0	22.9	99.8 ^d	Logit ^j	-4.20	-0.61	3.11	1.22
	Male Separation Rate	.77	0.3	4.2	28.1 ^g	√ _p = sin ² φ	3.12	8.20	13.29	1.69
	% Male Labor Unemployed	.63	1.1	5.2	17.8	Probit	2.71	3.37	4.08	.23
	Widower Rate	.54	1.6	7.1	28.2 ^e	Probit(√ _p)	2.77	2.77	3.38	.10

^aDecimals omitted in loadings, which are taken from the North Central values provided by Borgatta and Hadden (1965).

^bInformation was already ordered in U.S. Dept. Labor: *Income, Education, and Unemployment; Chicago, Illinois, 1963*, for certain variables by tracts. Highest and lowest values were obtained as given, unless the relevant tract contained less than 2,000 persons; in such case successive tract values up to a population of 2,000 minimum were averaged to obtain the estimated upper or lower limit.

^cData from Tract 497.

^dThe extreme value is found in Gang 10 neighborhood.

^eValue taken from Tract 440.

^fExtreme value from Gang 16 neighborhood.

^gValue taken from Tract 440.

^hFisher and Yates, 1953, Table XII.

ⁱ*Ibid.*, Table IX.

^j*Ibid.*, p. 14.

^kImproved value obtained from the 3 S.D. range of the 6.6 centile to 93.4 centile in the ordered data given in U.S. Dept. Labor. *op cit.*

broken families. The variable % Females 14+ in labor force is negatively loaded, indicating that the positive pole of the factor is associated with low proportions of women working, which is itself traditionally associated with young families, as pointed out by the authors. Both % Single dwelling units and Central city vs Urban ring (scored positively on Urban ring) are positively loaded, giving the housing and geographical location characteristics of suburbia. The four variables chosen for factor score estimates are shown in Table 19.

Ecology Factor III. This factor is actually number IIIa of the Borgatta-Hadden study, being unique for the Northcentral region. It is called a *Stable Family* factor. It has one very high loading by the variable *PC Married males*, and loadings of .40 or better on: % Females under 5 years, % Units sound, % Owner occupied units, and % in same house 1960 as 1955. A loading of .30 is found for % Units built 1950 or later, and this adds to an expanded interpretation as a factor defined by tracts in which (Borgatta and Hadden, 1965, p. 15): "... construction occurred after 1950, but probably before 1955, in which there are large proportions of completed families." It should be added that the families appear resi-

dentally stable over at least five years. The four variables employed in estimating factor scores are shown in Table 19.

Ecology Factor IV. This factor is called the *Disorganization-Deprivation Factor*. The defining variables are: % Negroes, Male separation rate, % Families under \$3,000 income, % Completed less than 5 years school, % Male labor force unemployed, and Male widower rate, all with loadings of .54 or better. Thus illiteracy, unemployment, low income and family dissolution are all reflected in this factor in association with the percentage of Negroes in the community. The variables employed in factor scoring are shown in Table 19.

Transformations of variables. The production of standard scores posed a number of problems. It was decided to center on Chicago city values, thus calculating deviations from those values. The entities over which standard deviations could be calculated, however, could not so easily be chosen. In some ways tracts were seen as appropriate entities, since the factors were taken over tracts. But not all neighborhoods had only one tract. In fact some neighborhoods had as many tracts as some community areas. Ideally a procedure would be found for establishing a breakdown of all tracts in Chicago into a smaller set of neighborhoods having properties similar to the set of gang neighborhoods. Such labor seemed prohibitive, however; hence, the standard deviations were estimated by taking the range of values for community areas and dividing by 6, unless values for the extremes of the community areas were exceeded by values among the gang neighborhoods. In this case an alternative extreme (either upper or lower limit) was sought among tract data. Given the upper and lower limits as well as the city value for central tendency, it could readily be seen whether distributions would be skewed. If so an appropriate transformation was sought which would at least make the distribution symmetric and if possible also make it tend toward normality. The initial limits and city values, the transformations employed, and the transformed limits and city values, as well as the estimated standard deviations, are shown in Table 19.

Factor scores for ecology factors. The estimated factor scores for the four ecology factors are shown in Table 20. They were obtained by adding the standard scores on relevant variables for each neighborhood and dividing by 4.

Although the main purpose of computing factor scores is to relate ecology factors to behavior factors, the opportunity to summarize salient distinctions of gang neighborhoods may be taken in passing. The *t*-values for differences between means of this sample of gang neighborhoods and the city averages (zero) are based upon unbiased estimates of the standard error of a mean. It is apparent that gangs reside in neighborhoods low in the Socio-Economic Status Factor, low in the Stable Family Factor, and somewhat high in the Disorganization-Deprivation factor (though obviously this reflects the presence of Negro neighborhoods). Strangely, the

Table 20
Ecology Factor Scores for Gang Neighborhoods

Gang Neighborhood	Borgatta-Hadden Factors			
	Socio-Economic Status	Suburb Factor	Stable Family	Disorganization and Deprivation
11	-1.46	-0.85	-1.02	2.41
01	-1.12	-0.28	-0.84	1.07
15	-0.53	-0.10	-0.87	1.01
05/06	-1.56	0.88	-1.53	2.09
09	-1.58	0.32	-1.11	1.78
19	-1.80	1.46	-0.63	0.58
20/21	-1.51	1.30	-0.81	0.51
23	-1.61	2.12	-0.56	0.45
16	-0.37	-0.61	0.10	-0.51
13	0.70	0.73	0.73	-0.59
14	-0.13	-0.06	0.10	-0.08
22	-0.94	-1.05	-0.73	-0.31
25	0.24	-0.33	0.05	-0.68
18	-0.44	-1.08	-0.53	-1.03
Means	-0.87	0.18	-0.55	0.46
\bar{t}	5.59	1.33	4.91	2.50

"empire of the gang" does not appear to be low on the Suburb Factor, not central in the city. But this is erroneous, as clearly seen from the original data themselves. There it is obvious that the three housing-project neighborhoods are high scorers on the *Suburb Factor*, and for good reason, since they share most all of the suburban characteristics except Urban ring location. The anomalies presented by the housing-project areas so far as concomitant variation of census tract variables is concerned may be summed up by saying that housing-project neighborhoods are inner-city suburbs.

BEHAVIOR FACTORS

The behavior factors employed in the present study are those obtained by Short, Tennyson and Howard (1963) from judgments made by Detached Workers as described above. For 37 behaviors rated on 598 gang members of 16 gangs, the correlation matrix was factored using the principal axis method with highest off-diagonal values inserted in the main diagonal. Five factors were extracted and rotated using Varimax.

Behavior Factor I. This factor is called *Conflict*, and its factor scores (produced by adding standard scores weighted by the factor loading for each item, a procedure correlating on the average .97 with the unweighted summation method in Horn's 1965 study) involved the following behaviors: *Individual fighting, Group fight-*

ing, Carrying concealed weapons, and Assault. Loadings for these variables ranged from .67 to .79. Other variables loaded on the factor with values of .40 or better included: *Robbery, Theft, Public Nuisance, and Statutory rape.* An expanded interpretation of the factor is offered by the authors (1963, p. 417): "... as consisting of conflict offenses, both acquisitive and destructive."

Behavior Factor II. This factor is called *Stable Corner Activities*, and is scored by weighted sums for these variables: *Individual sports, Team sports, Social activities, and Gambling.* Other variables with loadings of .40 or better were: *Hanging on the street corner, Truancy, and Joy riding.* The interpretation of stable corner-boy behavior, with a slight admixture of mildly delinquent escapades, as suggested by the authors (1963, p. 420), seems apt.

Behavior Factor III. Though with some hesitation, the authors called this factor *Stable Sex Pattern.* It was scored as follows: *Sexual intercourse, Petting, Signifying, and Work experience;* all of which had loadings of .53 or better except the last variable which loaded .36. The authors describe "signifying" as (1963, p. 415): "... a form of systematic exchange of insults, ordinarily carried out in the presence of an audience. It serves as a social control mechanism and a device for displaying verbal virtuosity." Other variables loading better than .40 on the factor were: *Statutory rape, and Hanging; Use of alcohol* had a .39 loading. The anomalous loading of *Work experience* was regarded as (1963, p. 420): "... a further indication of a type of relatively adaptive behavior which is represented by the factor."

Behavior Factor IV. Identified by the authors as a *Retreatist* factor, the variables used to score this one were as follows: *Narcotics, Pot, Homosexuality, Common law marriage, Attempted suicide, and Pimping.* The two last variables had loadings of .36 and .27 respectively; the others ranged from .48 to .56. Other variables with comparable loadings were: *Alcohol (.26), Robbery (.35), Gang bang (.28), and Illegitimate child (.50).* The pattern of behaviors here certainly matches that described by Merton (1938) for his Type IV Adaptation, *Retreatism;* here both culturally defined goals and institutionalized means have been assimilated by the individual, legitimated and endowed with reward-value by him; but the legitimate procedures for goal attainment are not available to the individual. The conflict for such individuals is seen to revolve around pressures toward goal-attainment but away from the only available means, namely illegitimate ones. The adaptation is one of resignation and escape, as manifested in mental disorder, vagrancy, alcoholism and drug-addiction.

Behavior Factor V. This factor was called *Authority Protest,* and was scored by these variables: *Auto theft, Driving without a license, and Runaway.* Loadings were .69, .65 and .44 respectively. Other variables loading this factor were: *Public nuisance (.58), Theft (.53), Alcohol (.49), Robbery (.33), Narcotics (.32), Truancy (.39), Joy riding (.41), Gang bang (.32), Forgery (.30),*

Bribery (.29). The authors note the similarity of the behaviors collected together on this factor to the behaviors posited by Cohen (1955) as part of the contents of the delinquent subculture. The latter include (Cohen, 1955, pp. 25-30): malicious, negativistic and nonutilitarian versions of stealing, fighting, terrorizing, mischief, vandalism, trespass, truancy, and sundry property offenses other than stealing. Cohen also stresses the *versatility* of the "spirit" of the delinquent subculture; and it is this versatility characterizing the collection of behaviors in Factor V that especially marked the similarity for Short, Tennyson and Howard. However, in retrospect, it seems that there is a considerable amount of "major crime" reflected in the loadings for *Auto theft, Theft, Robbery, Narcotics, Forgery* and *Bribery*. The name "authority protest" may imply a meaning somewhat milder than justified. However it will be retained here.

Factor scores for behavior factors. Table 21 shows the mean factor scores for behavior factors. Each value in the body of the table is the mean score over the members of the given gang. The means shown beneath the body of the table are taken over the twelve gangs. (It will be recalled that behavior data were not available on four of the gangs treated in the present study). Since the scores are centered on the whole group of 598 boys studied by Short, Tennyson and Howard (1963), it is appropriate to test whether there are significant differences between the present subsample and the original population by using the row of mean values over gangs as numerators. Using unbiased estimates of standard errors of means, *t*-tests were calculated for the difference between each mean and zero. These are shown in Table 21. It is clear that the subsample does not differ from the original population.

Table 21
Behavior Factor Scores for Gangs

Gang	Short-Tennyson-Howard Factors ^a				
	Conflict	Corner-Boy Activity	Stable Sex Maturity	Retreatist	Authority Protest
11	-1.08	-0.52	-0.28	-0.57	0.25
01	-0.38	-0.65	-0.72	-0.32	-0.55
15	1.10	0.32	0.72	-0.12	0.84
05	0.19	-0.40	0.47	0.00	-0.39
09	0.14	0.71	0.74	0.76	-0.15
10	-0.80	0.08	0.45	-0.54	-0.73
20	0.23	0.76	-0.03	0.61	0.29
21	-0.51	0.63	-1.00	-0.37	-0.55
23	-0.28	1.20	-0.99	-0.11	-0.21
13	-0.25	0.43	0.02	-0.50	0.44
22	-0.43	-0.41	-0.21	-0.04	0.13
18	-0.24	-0.61	-0.28	-0.27	0.47
Means	-0.19	0.13	-0.09	-0.12	-0.01
<i>t</i>	1.12	.68	.49	.95	.07

^aBasic data from Short, Tennyson and Howard (1963).

RELATION OF ECOLOGY FACTORS TO BEHAVIOR FACTORS

The data available to the present investigators offer an unusual opportunity to take area research beyond the stages of geographical delineation and association between ecological variables and delinquency rates. The Borgatta-Hadden factors span a very substantial proportion of the common variance of ecology variables in urban environments; and the Short-Tennyson-Howard behavior factors span a substantial proportion of the variance in rated behaviors relevant to different *types* of delinquency. This permits precisely the kind of further enquiry intended by Shaw and McKay.

It is recognized that the *N* is very small. However, with proper attention to bias, and given that the entities involved are on the one hand entire neighborhoods and on the other hand gangs (with membership ranging between 16 and 69, which figures are the *N*'s upon which the behavior score means for gangs are based), it is felt that examination of relations between ecology factor scores and behavior factor scores is fully justified.

Table 22 gives the pertinent information. In the top part of the table are shown the zero-order product-moment correlations between the four ecology factors on the left and the five behavior factors across the top. Two of these correlations are significant: the *Suburb Factor* predicts the *Stable Corner-Boy Factor*; and the *Socio-Economic Status Factor* predicts the *Authority Protest Factor*. Both relationships are positive.

Table 22
Relations Between Ecology Factor Scores and Behavior Factor Scores

Ecology Factors	Behavior Factors				
	Conflict	Corner-Boy Activities	Stable Sex Maturity	Retreatist	Authority Protest
I. Socio-Economic	.22	-.14	.08	-.30	.64**
II. Suburb Factor	.07	.77***	-.11	.13	-.46
III. Stable Family	-.16	.22	-.18	-.38	.31
IV. Disorganization	.02	-.10	.31	.16	-.26
	Beta weights				
I.	.84			-.01	.55
II.		.75			-.26
III.	-.80	.15	.05	-.37	
IV.			.34		
	Multiple Correlations				
R	.56	.78**	.31	.38	.69*

**p* < .06

***p* < .05

****p* < .01

In the lower part of Table 22 are shown standard partial regression coefficients for the two predictor variables (ecology

factors) having highest zero-order correlation with a given criterion variable (behavior factor). The final row shows the multiple correlations between each pair of predictors and their criterion.

For the *Stable Corner-Boy* criterion, its prediction using the additional variance from the *Stable Family Factor* is not improved over the zero-order correlation. The same is true of the Authority Protest criterion in regard to the addition of *Suburb Factor* variance. The situation is quite different with the Conflict Factor criterion, however. The multiple R, though failing to reach an acceptable significance level, is much larger than the zero-order coefficients.

Neither *Stable Sex Maturity* nor *Retreatist* behavior factors are predicted by the present ecology factors. The *Disorganization-Deprivation* ecology factor provides no prediction of the criteria, either alone or in combination with another predictor.

The pattern of results obtained in Table 22 permits the statement of some tentative conclusions on the relationship between ecological factors and gang delinquency. The conclusions are felt to be solid as descriptions of the present data for Chicago, and generalizable to the city of Chicago as probable hypotheses subject to later substantiation.

Socio-Economic Status. It will be recalled that the range of *Socio-Economic Factor* scores in the present data for gang neighborhoods extends from the bottom part of the distribution to slightly above the mean for the city as a whole. Thus the relationships found with *Socio-Economic Status* are limited to the lower half of the distribution. From the present data nothing can be known about the fate of relationships involving the upper half of the *Socio-Economic Status* distribution; the relation might continue linearly; it might disintegrate into a random bivariate distribution; or it might continue in reverse direction linearly, thus presenting a curvilinear picture overall.

Socio-Economic Status predicts the *Authority Protest* criterion. Since so small a part is played by the *Suburb Factor* in the multiple correlation, it will be disregarded here, and attention will center on the zero-order correlation between predictor and criterion. One assumption will facilitate a straightforward interpretation of this relation: the better-off the neighborhood with respect to *Socio-Economic Status* factor scores, the more that neighborhood approaches a "middle-class" community standing. Given this assumption (which in fact seems eminently reasonable within the range of *Socio-Economic Factor* scores here at issue), then the present finding locks particularly neatly into Cohen's theory concerning the delinquent subculture. Cohen states (1955, p. 129): "The hallmark of the delinquent subculture is the explicit and wholesale repudiation of middle-class standards and the adoption of their very antithesis." The position suggested here is that the more the middle-class standards are in evidence in a gang neighborhood,

the more likely it is that the gang will exhibit behaviors forming the content of the delinquent subculture as described by Cohen.

Suburb Factor. The strong relationship between the *Suburb Factor* and the *Stable Corner-Boy* behavior factor seems best interpreted in accord with another part of Cohen's formulations. In consideration of the problem faced by working-class children whose status is low in middle-class terms and who care about that status, Cohen suggests several alternative solutions that the boys might attempt. One of these is the delinquent solution. Another is the stable corner-boy response. Cohen states (1955, p. 128): "It represents an acceptance of the corner-boy way of life and an effort to make the best of a situation . . . it does not resolve the dilemmas . . . inherent in the corner-boy position in a largely middle-class world, although these dilemmas may be mitigated by an effort to disengage oneself from dependence upon middle-class status-sources and by withdrawing, as far as possible, into a sheltering community of like-minded working-class children."

It has already been seen that housing-project neighborhoods have high scores on the *Suburb Factor*. Borgatta and Hadden (1965, p. 12) point out that a striking characteristic of the *Suburb Factor* is its relative independence from socio-economic indicators. They write: "Thus, suburban types of living, implying single dwelling units and the raising of new families, can occur at the highest to the lowest socio-economic levels." Not all housing-projects have single-family dwelling units, of course, and the somewhat lower score of gang 10 neighborhood on the *Suburb Factor* reflects the fact of multiple-dwelling units in that particular project. Apart from the suburban character of the housing-projects, however, another aspect is particularly important in the present context. The population that is allowed to inhabit a public housing-project is in general homogeneously working-class. Thus the conditions would be right for a corner-boy solution. It is suggested that the neighborhoods high on the *Suburb Factor* are high also on the conditions facilitating adoption of the stable corner-boy response, namely the provision of a homogeneous "sheltering community of like-minded working-class children."

SOME CAUTIONS

An important caution should be borne in mind when evaluating the foregoing results and interpretations. Since no data in the present study bear directly upon the families of the gang members, the question can be raised: Do the gang members' families share the characteristics of their neighborhoods? If so, then the question is one of deciding what is accounting for the variance: characteristics of neighborhoods or characteristics of families.¹⁴

Ecological correlations are subject to several entirely different bases of explanation: (a) ecology produces the response phenome-

14. The authors are indebted to Professors S. B. Sells and Edgar F. Borgatta for critical readings of this paper, and to the latter particularly for bringing to the authors' attention the very crucial problems of interpretation discussed in this and subsequent paragraphs.

na by either shaping or by selection; (b) individuals of specified characteristics move into a suitable ecologic niche (the "drift" hypothesis); (c) individuals produce an ecologic circumstance suitable to their characteristics (even as spiders will turn a temporarily deserted home into a place suitable for spiders); (d) interactions among some or all the above processes.

In the present context there is a Third Estate of influence: the "portable" environment of the family. Let characteristics of the ecology be called Set E; of the responses of children Set R; of the family Set F. Correlations between Set E variables and Set R variables could reflect simply that Set F influenced Set R and also drifted to or produced Set E as a suitable habitat.

In the present data it is assumed that families of gang members all have a "working-class" socio-economic position. This assumption is based upon non-systematic reports from Detached Workers (Gordon *et al.*, 1963). For the covariation between the *Socio-Economic Status Factor* and the *Authority Protest Factor*, it was assumed that the provocation toward delinquent subcultural behavior is directly associated with the degree to which the environmenting neighborhood is middle-class, by contrast with the families of gang members. For the covariation between the *Suburb Factor* and the *Stable Corner-Boy Factor*, it was assumed that the facilitation of the latter response is directly proportional to the degree to which the environmenting neighborhood is working-class, in *similarity* to the families of gang members.

If data bearing directly upon the socio-economic position of the gang members' families were available, and if it were found that such family status covaried positively with the neighborhood status to a substantial degree, then the proffered explanation of a contrast between the two statuses as provocative of the delinquent subcultural response would be patently incorrect. At the same time, the explanation put forward to account for the relationship between the *Suburb Factor* and the *Stable Corner-Boy Factor* would have to face the difficulty of evaluating whether the neighborhood or the family provided the crucial facilitation. And if in this case Set F were judged productive of Set R, then the present explanation in terms of a solution to a status dilemma would be at least incomplete.

SUMMARY

In continuity with delinquency area research, the present study has investigated gang areas. The unit of observation was a gang "neighborhood", defined as "that set of census tracts containing the residences of at least 70 percent of the gang's members so far as known." A number of specific questions were asked, and answers were obtained from census tract data, from community area data, from ecological factor scores on the neighborhoods, and from behavior factor scores on the gangs resident in those neighborhoods.

Gang neighborhoods were found to differ from the city as a whole in very many ways: younger population, lower income, working-class occupational predominance, more family disorganization, and others. However, although the gang neighborhoods were found in community areas with the highest delinquency rates (and therefore are coextensive with high delinquency areas), and although there was an overall and significantly lower socio-economic status among the gang neighborhoods, nevertheless those neighborhoods were by no means confined to the "poverty belt", as Thrasher had found some 40 years previously. Indeed severely delinquent gangs (and all of the gangs reached by the YMCA Detached Workers Program and hence included in this study were delinquent gangs) were found in all five concentric two-mile zones of the city of Chicago.

In many cases the variables previously found associated with delinquency rates in delinquency area researches were also found associated with gang neighborhoods in the present research. Where there were exceptions they did not go in the opposite direction of relationship, but simply failed to show any significant relationship at all. Variables of the former kind included: more substandard housing, more renter-occupied homes, and lower incomes. Variables of the latter kind included: rent, educational attainment, residential mobility, and overcrowding.

Using Borgatta-Hadden factors of census tract data as ecological factors, and Short-Tennyson-Howard factors of rated behaviors for the behavior factors associated with particular gangs, the relations between ecological factors and behavior factors were investigated using correlation and multiple-correlation. It was found that two of the behavior factor scores were significantly predictable from ecology factor scores.

Stable Corner-Boy Activity was found predictable from Suburb Factor scores, a result that was interpreted in the light of Cohen's hypotheses concerning the stable corner-boy response to status dilemmas.

Authority Protest, a behavior factor which seemed possibly in need of re-naming to capture both the versatility and the severity of the acts involved, was found related positively to Socio-Economic Status. This result was interpreted in the light of Cohen's hypotheses concerning the delinquent subculture, under the assumption that, within the range of socio-economic levels represented here, the higher levels would be more middle-class in character and therefore more provocative of the "delinquent subculture" response among local disadvantaged youth.

Some crucial problems of methodology and of the interpretation of ecological correlations were briefly examined.

REFERENCES

- Barker, R. G. Explorations in ecological psychology. *American Psychologist*, 1965, 20, 1-14.
Bordua, D. J. Juvenile delinquency and "anomie": an attempt at replication. *Social Problems*, 1958, 6, 230-238.

- Borgatta, E. F., & Hadden, J. K. An analysis of tract data by regions. Univ. Wisc. Department of Sociology, 1965. (Mimeo)
- Brunswick, E. Organismic achievement and environmental probability. *Psychological Review*, 1943, 50, 255-272.
- Burgess, E. W. A short history of urban research at the University of Chicago before 1946. In: E. W. Burgess and D. J. Bogue (Eds.), *Contributions to Urban Sociology*. Chicago: Univer. Chicago Press, 1964, Pp. 2-13.
- Burgess, E. W., & Bogue, D. J. (Eds.) *Contributions to Urban Sociology*. Chicago: Univer. Chicago Press, 1964.
- Burt, Sir Cyril. *The Young Delinquent*. London: Univer. London Press, 1925.
- Cartwright, D. S., & Howard, K. I. Personality assessment of street-corner youth. Univ. Chicago, Youth Studies Program, 1962. (Mimeo).
- Cattell, R. B. The dimensions of culture patterns by factorization of national characters. *Journal of Abnormal and Social Psychology*, 1949, 44, 443-469.
- Cattell, R. B., & Adelson, M. The dimensions of social change in the U.S.A. as determined by P-technique. *Social Forces*, 1951, 30, 190-201.
- Cattell, R. B. *Personality and Social Psychology*. San Diego, California. Robert R. Knapp, 1964.
- Chilton, R. J. Continuity in delinquency area research: a comparison of studies for Baltimore, Detroit, and Indianapolis. *American Sociological Review*, 1964, 29, 71-83.
- Cloward, R. A., & Ohlin, L. E. *Delinquency and Opportunity*. Glencoe, Ill.: Free Press, 1960.
- Cohen, A. K. *Delinquent Boys*. N. Y.: Free Press, 1955.
- Drake, St. Clair, & Cayton, H. R. *Black Metropolis*. N. Y.: Harcourt Brace, 1945.
- Duncan, B. Variables in urban morphology. In: E. W. Burgess & D. J. Bogue (Eds.) *Contributions to Urban Sociology*. Chicago, Univer. Chicago Press, 1964.
- Faris, R. E., & Dunham, H. W. *Mental Disorders in Urban Areas*. Chicago: Univer. of Chicago Press, 1939.
- Fisher, R. A., & Yates, F. *Statistical Tables for Biological, Agricultural, and Medical Research*. N. Y.: Hafner, 1953.
- Gordon, R. A., Short, J. F., Cartwright, D. S., & Strodtbeck, F. L. Values and gang delinquency: a study of street-corner groups. *American Journal of Sociology*, 1963, 69, 109-128.
- Guilford, J. P. *Fundamental Statistics in Psychology and Education*. N. Y.: McGraw Hill, 1956.
- Hadden, J. K., & Borgatta, E. F. *American Cities: Their Social Characteristics*. Chicago: Rand McNally, 1965.
- Hebb, D. O. *The Organization of Behavior*. N. Y.: John Wiley, 1949.
- Hollingshead, A. B. *Elmtown's Youth*. N. Y.: John Wiley, 1949.
- Horn, J. L. An empirical comparison of methods for estimating factor scores. *Educational and Psychological Measurement*, 1965, 25, 313-322.
- Hunt, J. McV. *Intelligence and Experience*. N. Y.: Ronald, 1961.
- Kitagawa, E. M., & Taeuber, K. E. *Local Community Fact Book: Chicago Metropolitan Area, 1960*. Chicago: Chicago Community Inventory, Univer. of Chicago, 1963.
- Lander, B. *Towards an Understanding of Juvenile Delinquency: A Study of 8,464 Cases of Juvenile Delinquency in Baltimore*. N. Y.: Columbia Univer. Press, 1954.
- Merton, R. K. Social structure and anomie. *American Sociological Review*, 1938, 3, 672-682.
- Merton, R. K. *Social Theory and Social Structure*. Glencoe, Ill.: Free Press, 1957.
- Miller, W. B. Lower class culture as a generating milieu of gang delinquency. *Journal of Social Issues*, 1958, 14, 5-19.
- Park, R. E. The city: suggestions for the investigation of human behavior in the urban environment. *American Journal of Sociology*, 1916, 21.
- Park, R. E. Human behavior in urban environment. In: R. E. Park, E. W. Burgess, & R. D. McKenzie (Eds.), *The City*. Chicago: Univer. of Chicago Press, 1925.
- Park, R. E. The urban community as a spatial pattern and a moral order. In: E. W. Burgess (Ed.), *The Urban Community*. Chicago: Univer. of Chicago Press, 1926.
- Riesen, A. H. Plasticity of behavior: psychological aspects. In: H. F. Harlow & C. N. Woolsey (Eds.), *Biological and Biochemical Bases of Behavior*. Madison: Univer. Wisc. Press, 1958. Pp. 425-450.
- Sells, S. B. (Ed.) *Stimulus Determinants of Behavior*. N.Y.: Ronald, 1963.
- Sells, S. B. Ecology and the science of psychology. *Multivariate Behavioral Research*, 1966, 1, 131 ff.
- Sells, S. B. and Findikyan, N. Dimensions of organizational structure. A factor-analytic reevaluation of the Hemphill Group Dimensions Description Questionnaire. Texas Christian University, Institute of Behavioral Research. ONR Contract No. Nonr 3436(00), Technical Rept. No. 7, November, 1965 (mimeo).
- Shaw, C. R., Zorbaugh, H. W., McKay, H. D., & Cottrell, L. S. *Delinquency Areas*. Chicago: Univer. Chicago Press, 1929.
- Shaw, C. R., & McKay, H. D. *Juvenile Delinquency and Urban Areas*. Chicago: Univer. Chicago Press, 1942.
- Short, J. F. Jr., Tennyson, R. A., & Howard, K. I. Behavior dimensions of gang delinquency. *American Sociological Review*, 1963, 28, 411-428.
- Short, J. F. Jr., Rivera, R., & Tennyson, R. A. Opportunities, gang membership, and delinquency. *American Sociological Review*, 1965, 30, 56-67.
- Short, J. F. Jr., & Strodtbeck, F. L. *Group Process and Gang Delinquency*. Chicago: Univer. Chicago Press, 1965.
- Siegel, S. *Nonparametric Statistics for the Behavioral Sciences*. N. Y.: McGraw-Hill, 1956.
- Srole, L., Langner, T. S., Michael, S. T., Opler, M. K., & Rennie, T. A. C. *Mental Health in the Metropolis: The Midtown Manhattan Study*. N. Y.: McGraw-Hill, 1962.
- Thrasher, F. M. *The Gang: A Study of 1,313 Gangs in Chicago*. Chicago: Univer. Chicago Press, 1927.
- Thrasher, F. M. *The Gang: A Study of 1,313 Gangs in Chicago*. Abridged with a new introduction by J. F. Short Jr. Chicago: Univer. of Chicago Press, 1963.
- Toby, J. *Contemporary Society: Social Process and Social Structure in Urban Industrial Societies*. N. Y.: John Wiley, 1964.
- Treasury Department. *Your Federal Income Tax*. 1960.
- Tryon, R. C. *Identification of Social Areas by Cluster Analysis*. Berkeley, California: Univer. of California Press, 1955.
- U. S. Bureau of the Census. *U. S. Censuses of Population and Housing: 1960. Census Tracts. Final Report PHC (1)-26*. U. S. Government Printing Office, Washington, D. C., 1962.
- U. S. Department of Labor. *Income, Education, and Unemployment in Neighborhoods: Chicago, Illinois*. 1963.
- Warner, W. L., & Lunt, P. S. *The Social Life of a Modern Community*. New Haven Conn.: Yale Univer. Press, 1941.
- Whyte, W. F. The social structure of the restaurant. *American Journal of Sociology*, 1949, 54, 302-310.
- Whyte, W. F. On "Street Corner Society". In: E. W. Burgess & D. J. Bogue (Eds.) *Contributions to Urban Sociology*. Chicago: Univer. Chicago Press, 1964.
- Wirth, L. *The Ghetto*. Chicago: Univer. Chicago Press, 1928.
- Yablonsky, L. *The Violent Gang*. N. Y.: MacMillan, 1962.
- Zorbaugh, H. W. *The Gold Coast and the Slum*. Chicago: Univer. Chicago Press, 1929.

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