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FAMILY FACTORS IN THE ECOLOGY OF JUVENILE DELINQUENCY

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It is generally assumed that the child is born into the world a physical organism with certain capacities to respond, reflexes and impulses. The reaction to his environment, the world into which he is born, becomes his behavior. Sometimes society calls this behavior delinquent, although the actual group in which the child is living, might not deem it so. Part of the social world, and during childhood perhaps the largest part, is the family. To what extent do certain family factors determine the behavior of the child? Are these factors causes for the child's responding in behavior which is delinquent? This study selected certain family factors in the lives of over 7,000 boys and girls, 10-16 years old, whose cases came before the Juvenile Court of Chicago, and who were thereby classed as delinquent. Those family factors are Family Relationship, Order of Birth, Previous Delinquency of Siblings, Number of Brothers and Sisters, Sex, and Race and Nativity.

The ecological processes of centralization, segregation, invasion, succession, and dominance, represent the changes which are constantly going on in the city. Out of the operation of these processes, the structure of the city is formed and reformed. The attributes of this structure are not accidental, therefore, but conform to definite patterns, depending upon the nature of the particular group of characteristics. One aspect of this patterning, which results from the operation of ecological processes, and is of interest in the study of delinquency, is the distribution of family types.

It would appear that there is, however, some causal connection between the six factors in the family background and the resultant delinquency in the children in certain community areas in Chicago. In each of the six factors there are some areas showing a preponderance of children becoming delinquent, in whose family background certain characteristics are outstanding. There are groupings of these communities in almost all categories of each factor. These

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"islands" are surrounded by areas in which that particular category seemingly played no part in causing the delinquency of the child.

For example, Communities 50, 51, 54, and 55 all lie around Lake Calumet. These communities all show a preponderance of children becoming delinquent where their parents were living together. That is, there is a positive critical ratio of 2.6-9.4, which indicates that this particular family relationship is significant in the delinquent behavior of the children in those particular communities.²

A recent study³ describes this section as one of high stability. It is characterized by single homes and two-flats with rentals of under \$50 a month. Indices, such as the infant death-rate, the restaurant rate, the percentage of homes owned, the educational rate and the radio-ownership rate show that this region is marked by great stability and security. This area of unbroken homes is an area of the lower and middle economic classes. It is composed of conventional, small town communities on the periphery of the city. In this region the proportion of delinquent children from families living together is larger than in the city as a whole and this means less domestic disorganization in this area. This is normally what would be expected. There is another "island" including communities 4 and 5 which is an apartment-house area showing nearly the same characteristics as the "island" mentioned above. Both

² The first objective of the statistical procedure used in this study was that of determining the number of delinquents coming from each of the seventy-five communities comprising Chicago. Conversion of these figures into percentages of the whole would then provide the basic relative number of each community with which to compare the percentages of cases in any category found in that community. If a certain proportion of objects possessing a given character differs more or less from the proportion which is expected, the question arises how the difference arose. It may be due to fluctuations of simple sampling only—errors of chance, or it may be indicative of a selective factor, or factors, which operates in the sample but not in the basic data from which the norm was obtained. In determining which of the above suppositions is indicated, a comparison of the percentage of cases within any category falling within a particular community was made with the percentage of all cases in that community. The standard deviation of this difference was then found. Account was taken only of those differences which equalled or exceeded 2.5757 standard errors. Thus in community 4 live .2 per cent of all the delinquents under consideration, but .3 per cent of the total delinquents coming from homes in which the parents are living together are found in this community. Accordingly in this community there is a preponderance of delinquents coming from homes where the parents are not living together. The difference between the two proportions in this instance is .1 per cent. The standard error of this difference is .03. If then, this difference is divided by its standard error (conveniently referred to as the critical ratio) the result is 3.3—well over the minimum 2.5757 standard error. This indicates that the probability of that association occurring by chance is once in over 400 times.

³ Faris and Dunham, "Mental Disorders in Urban Areas"—University of Chicago Press, 1939.

islands are surrounded by communities in which the fact that the parents of the delinquent children were living together was totally insignificant.

In areas marked by a predominance of children becoming delinquent from broken homes, it means there is a deficiency of parents living together. Here there is a reflection in part of the disorganized community pattern in those areas. This is also what would be normally expected. These are generally the negro areas and more centrally located areas.

Strength is given this argument that there is some correlation between certain community characteristics and certain family factors as significant in the lives of delinquent children by another "island," which includes communities 33 and 35. This section is a rooming-house area, and in several respects is the most unstable and deteriorated in the city. The median rental is low as are single homes and home-ownership rates. Infant mortality is high, and the educational rate is medium. We find here a high critical ratio, but in the opposite direction. If we find a positive relationship between family factors and certain community characteristics, we would expect to find a negative relationship between those same factors and the opposite community characteristics. This is precisely the situation we find in this particular section of Chicago and in a further study of this particular family factor. Why should the children in these "islands" respond in delinquent behavior merely because in their lives certain family characteristics were apparent? The answer we now can conclude involves a study of the families themselves and more particularly the communities in which they live—the aspects of the patterning mentioned above.

It is recognized that a preponderance of rates is significant only when there is no preponderance of population traits. Some preponderance is due to certain characteristics in the population distribution itself. Thus high critical ratios of communities showing only-child delinquents might reflect in part the distribution of only-children. Better statistical procedure would result if those factors could be taken into account, but data were not available to correct all the rates. The population distribution obviously would not explain a preponderance of the oldest and the youngest children becoming delinquent, however. In the section indicating the sex factor of the delinquent, communities were shown having a preponderance of boy delinquents and others indicating a preponderance of girl delinquents. Data were available which cor-

rected the possibility that these rates reflected population distribution. We find the familiar "islands" in these categories also. The race and nativity findings were also corrected in this manner, showing similar distributions of "islands" of high critical ratios, with surrounding areas where the family factor was not significant at all. It is safe to conclude therefore that while in some instances, the high rates may reflect characteristics of the population distribution, yet it does not explain the ecological patterning in general, nor the corrected preponderant rates.

With reference to the factor of Family Relationships, the number of cases of delinquency were counted whose parents were living together, whose parents were separated or deserted, whose parents were divorced or remarried, and whose parent or parents were dead. There were nineteen communities showing positive association where parents of the delinquents were living together. Five communities showed negative association in this respect, but positive association where the parents were separated or deserted. These communities were all adjacent to the negro areas.

Only seven areas show that the children become delinquent where their parents were divorced. Most of these areas are marked by a higher income group of people, with the exception of community 31, which is characterized by a large majority of the heads of the family being foreign born. This at once suggests a conflict of cultures, wherein the attitude toward divorce is different in different foreign groups, with resultant conflicts in the children. In four of these areas there is also observed a preponderance of delinquents where one or both of the parents have remarried. The fact that children in four areas only show a tendency to become delinquent when there are step-parents, suggests again the influence of other factors.

Six communities showed that the children in them become delinquent when one or both of the parents were dead. The fact that there were six only and these tending to be grouped indicates that the other factors besides having one parent or both parents dead must enter in also. It suggests a possible conflict with step-parents, lack of supervision, or inadequate attention. But the same thing holds true for all the communities in Chicago. Why should these particular communities show that the children in them become delinquent when their parents are dead? There is the possibility of the same lack of supervision and attention and the same conflict

possible in all communities, but in these six only do the children respond in delinquency.

The problem of the significance of family relationships as causal factors in the lives of delinquents was then approached in a different manner. For example an attempt was made to find out if there were association or relationship between the communities showing the per cent of delinquents coming from homes where the parents were living together and those communities showing the per cent of delinquents whose parent or parents were remarried. If a correlation of those two variables were made, would the result indicate that one factor of marital status had absolutely no association with another as a contributing cause of delinquency, that it had very close association and a very high degree of dependence with another or that with variation in one variable there would be a corresponding variation in the other, but in the opposite direction? A statement of the change in one variable which accompanies specified changes in another is known as a statement of a functional relation. The statistical methods of correlation analysis were used to study these functional relations. The coefficient of correlation measures the proportion of the variation of one variable, which is associated with another variable, and therefore is a measure of the relative importance of the concomitance of variation in the two factors. It must be remembered that the coefficient is an index of relationship, not a proof of causal dependence. It is computed for the purpose of clarifying our interpretation of these data.

The coefficient of correlation for the example given above (communities showing the per cent of delinquents coming from homes where the parents were living together and those communities showing the per cent of delinquents whose parent or parents were remarried) was $+.87 \pm .02$, indicating a high degree of association. This means that a variation in the one variable would be accompanied by a similar variation in the other. Stated differently this means that children in certain communities whose parents are living together are apt to become delinquent in about the same proportion as those children in the same areas whose parent or parents were remarried. A similar high coefficient was found ($+.79 \pm .04$) in correlating the communities showing the per cent of delinquents whose parents were living together and those showing the per cent of delinquents whose parents were divorced. Again, children of divorced parents tend to become delinquent in about the same ratio where children of parents are living together

become delinquent. Another correlation of communities showing the per cents of delinquents whose parents are living together with those communities where the delinquents' parents are separated or deserted reveals a similar high coefficient ($+.78 \pm .04$). Here again a variation of one of the factors is associated with a corresponding variation of the other factor, as a significant relationship of delinquent children in those communities.

The high degree of association between the marital factors of the parents of the delinquents, as indicated by the coefficients of correlation, means that if the per cent of delinquent children of one family category changes in Chicago communities, there will be an associated variation in the per cent of delinquent children of other family categories. These coefficients may be consistent with still other hypotheses, for they may mean that the two variables being correlated may be dependent upon a third factor, that of the cultural background for example. It would bear out our former contention that these categories of family relationship considered from the standpoint of their causal significance are insufficient in themselves. Further analysis of the community background is highly essential.

Additional correlations were made of the various categories of the Marital Status of the parents of the delinquent children and the median rental of the communities. Approximate zero correlations resulted in each instance; small coefficients in a positive direction in the various forms of broken homes, and a small negative coefficient where the parents were living together. There is consequently no relationship of the economic status of the family as indicated by the median rental and the marital status of the family in their causal significance of the delinquent behavior of the children. No longer can we assume that with an increase in the economic status of communities as indicated by increased median rentals divorce looms as a causal factor in the delinquency of the children.

In regard to the Order of Birth, oldest, youngest, in-between, and only children, become delinquent in certain areas. The findings in this study would seem to substantiate other findings in regard to the ordinal position of a child in a family, but it goes beyond by showing that these findings are inadequate to explain the fact that children become delinquent only in certain areas where the ordinal position plays a part. Seven communities show positive association where the child is the first born in his family, and five

communities show positive association where the child is the last born in his family. Communities 13 and 70 show a preponderance of delinquents who are the oldest in their families and communities 14 and 71 a preponderance of delinquents who are the youngest in their families. Communities 13 and 14 are adjacent to one another as are also 70 and 71. There is always the same number of oldest and youngest children in an area. Therefore the fact that one area shows that one category is significant and the adjacent area that the other category is significant in the lives of the children suggests again that there is some cultural feature in the background which tends to produce delinquency in the oldest children in one area, while this feature is lacking or another characteristic is present in the adjacent area.

Fifteen communities show positive association where the child has older and younger brothers and sisters. Again any causal significance is spurious when it is observed that these areas are grouped throughout the city, and when it is seen that there are many communities showing negative association. A study of the communities is needed to understand why these facts are contributing to delinquency in these communities and not in others. The ecological patterning showing the preponderance of in-between children becoming delinquent probably reflects the patterning of large and small families.

Why should some communities adjacent to negro communities have a preponderance of delinquents who are the only child in their families, and other communities show negative association? One explanation is that this patterning probably reflects community nationalities.

Categories of the Ordinal position of the delinquents were correlated. The communities indicating the per cent of delinquents who were the oldest in the family were correlated with the communities indicating the per cent of delinquents who were in-between in the family with a coefficient resulting of $+.91 \pm .02$. This very close association and very high degree of dependence between the variables was also found in the correlation between the communities showing the per cent of delinquents who were the oldest and the communities showing the per cent of the delinquents who were the youngest ($+.98 \pm .004$). In other words, the communities showing an increase or decrease in the per cents of delinquents who were the oldest child in the family would be associated with a similar increase or decrease in the per cents of delinquents

who were youngest and who were in-between in the family. Again, any theories as to the causal significance toward delinquency of certain categories of the ordinal position of the child in the family are spurious therefore. The subject must be treated ecologically; there must be analysis of the complete social, cultural and physical environment.

The same need is apparent when the tables for the three categories of "Previous Delinquency of Siblings" are studied. There are ten communities in which boys become delinquent if they have had brothers or sisters in court before, and eighteen communities where the girls become delinquent under the same circumstances. In some cases both boys and girls become delinquent. Why do not all communities show the same tendency? The answer lies in the community itself—its culture, its physical environment, its racial and nationality make-up, its commercial background, and not in the children, for if it were in the children, they would all respond similarly and throughout all the city. There are 29 communities in which boys and girls become delinquent if they have had no brothers or sisters in court before. This fact again casts doubt on any conclusions made about children becoming delinquent if they have had brothers or sisters in court.

The ecological background is shown to be more important than the number of brothers and sisters a child has in determining whether he will become delinquent or not, for in some areas children become delinquent when they have brothers and sisters, but in other areas they become delinquent if they have no brothers or sisters. Many communities show negative association with respect to this factor, and many show positive association. These areas all seem to be grouped in some manner in "islands."

Certain community areas contribute to the delinquency of the boys in those areas, but not to the girls. Others contribute to the delinquency of girls but not to boys. No community contributes to the delinquency of both boys and girls. All communities showing positive association for boys and those showing a similar association for girls are characterized by either a high degree of stability or on the fringe of areas of deterioration, but never the deteriorated areas themselves. Why should the ratio between boys and girls vary by communities? The answer here again lies in a further study of the community background to get at the reasons for the delinquency which are not revealed in the fact that the delinquent is a boy or a girl.

In regard to the Race and Nativity Factors, a correlation was made between the category of the communities showing the per cent of delinquents who were negro with those communities showing the per cent of delinquents who were born in America of American parentage. The coefficient was $-.07 \pm .11$, which indicates a probable error larger than the actual coefficient. This was eliminated by disregarding the extremes in the variables. Those communities showing over 28% of the delinquents being negro were disregarded. The total communities under consideration then were 69. This coefficient was $+.25 \pm .11$. This suggests a low degree of association and doubtful significance. The size of the probable error would indicate that the positive direction of the association, though small, is of some significance. In other words, if the communities show an increase in the per cent of negro delinquents there is association, though small, with the increase in per cent of white American delinquents of American parentage. Stated differently, if some communities would show an increase in the per cent of negro delinquents, why isn't there a corresponding increase in the per cent of white delinquents born in America of American parents? The answer lies not so much in the statement that a child is black or white of a particular parentage, but the fact that there is a small association with a large probable error would suggest that the reason lies in the communities themselves—a culture conflict perhaps.

Correlations were made between the race and nativity groupings and the median rentals. The coefficient of correlation between the communities showing the per cent of delinquents of native white of native parentage and the communities showing median rentals was $-.28 \pm .17$. There is apparently a low degree of association in a negative direction, but the large probable error suggests that there might be some significance to the relationship. In other words, the higher the median rentals, the lower the per cent of native white of native parentage delinquents, but this association is very small. The direction of the association is interesting, however. On the category of native white of foreign and mixed parentage we can establish a higher degree of association. There is apparently a moderate degree of association between the communities showing delinquents born in America of foreign and mixed parentage and median rental, for the coefficient is $-.48 \pm .08$. This suggests that the higher the median rental in communities, the lower the per cent of American delinquents of foreign and mixed

parentage. There seems to be some relationship here between the economic background of the family as portrayed by the rental they pay and the resulting delinquency in children born in America, of foreign and mixed parentage. But is this the whole picture? It would be very simple to say the economic background is associated with delinquency, but the other correlations do not bear out this relationship. The coefficient of correlation between communities showing the per cents of negro delinquents and the communities showing the median rental is $+.05 \pm .11$. The very low degree of association indicated is of no significance especially as the probable error is high. If there were causal significance to the economic background of the families as indicated by the rentals that the families pay, the negro children would become less delinquent as the rents went up, but the direction of this association would suggest that if there were any relationship at all it would be that as rents went up, the negro children became delinquent. This clearly suggests our former thesis that it is the cultural and social background, including the economic only as a phase. All phases must be taken into consideration in studying ecologically the subject of juvenile delinquency. The coefficient of correlation between communities showing per cents of foreign born whites and those communities showing median rentals is $-.10 \pm .11$. Here again there is a low degree of association in a negative direction with a large probable error. The direction here is significant possibly, for it suggests that with an increase in rentals, there is an associated decrease of delinquents who are foreign born white children. The relationship is very small however.

Certain questions arise with reference to these attributes of race and nativity. Why is it that negroes in white areas contribute an excess of delinquency? Why should white children in negro areas seem to become delinquent? Why should children of native white of native parentage tend to become delinquent when they live in communities in which there are high proportions of other race and nativity groupings? Why should the children in some communities become delinquent when they are native born of foreign or mixed parents, and not in others? Why should these areas where this association is positive be grouped about the central business area? Why do not all foreign born children become delinquent? Why is there not an equal percentage of foreign born children becoming delinquent in every community? Why do nine communities only show positive association in this respect?

The answer to all these questions lies, as has been indicated, in further study and research in the ecology of other factors in communal life—in the spatial relationship between communities with their peculiar and individual characteristics of people, activities, cultures, physical environment. One fact stands out clearly, however, with regards to the causation of juvenile delinquency. Juvenile delinquency is a function of the social environment, and not a matter of inheritance or of nationality or of race or of ordinal position as many of the earlier treatises assumed. Apparently there seems to be some relationship between the family factors under consideration, and delinquency in children in certain areas, but of their causal significance, there is none. Behavior classed as delinquent by the social group, is not always classed as delinquent by the particular group of which the delinquent is a part. The association between certain family variables and delinquency in communities shows wide fluctuations throughout the city. The communities in which certain factors seem significant as causal determinants tend to be grouped into "islands." Why these conclusions are so, this paper does not attempt to answer. It has merely discovered the questions. It has established the important conclusion, however, that certain factors in the family background are ecologically significant in a study of juvenile delinquency, and are no longer to be regarded as absolutes in their causal relationships. Other factors are always present; other phases constantly modify the factors of the family background, so that to say that any one of them is a determinant of delinquency is spurious.