A Study of Completed Suicide and Attempted Suicide in the Standard Metropolitan Statistical Area of Flint: Michigan, 1960

Wenz

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A STUDY OF
COMPLETED SUICIDE AND ATTEMPTED SUICIDE
IN THE STANDARD METROPOLITAN STATISTICAL AREA
OF FLINT: MICHIGAN, 1960

by

Friedrich V. Wenz

A Thesis
Submitted to the
Faculty of the School of Graduate
Studies in partial fulfillment
of the
Degree of Master of Arts

Western Michigan University
Kalamazoo, Michigan
April 1969

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ACKNOWLEDGEMENTS

This thesis has been a labor of love, un-financed by research grants, stimulated by my affection for suicide, and completed under the warm encouragement and valued advice from Professors Milton J. Braw'r and William Bennett, who said all the right things in the right way, a very difficult task.

Also, I wish to thank my understanding wife for her patience and for volunteering to be a widow during this project.

It has been a joy writing this thesis and I have learned a great deal while doing it. I hope it is just as informative and as much fun to read.

Friedrich Voker Wenz
WENZ, Friedrich Volker
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ATTEMPTED SUICIDE IN THE STANDARD
METROPOLITAN STATISTICAL AREA OF

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THEORIES OF SUICIDE

CHAPTER I

Introduction

I have written a thesis on completed and attempted suicide in Flint, Michigan, let there be no pretense about it. I am not apologetic for what I have done. On the other hand, I have also a firm conviction that every aspiring sociologist should be familiar with a number of substance areas, if for no other reason than to have academic gymnasia.

It is my conviction that this study is in some small way a service to suicide and attempted suicide research, and to a lesser degree to social theory. The objective of this investigation is to relate Durkheimian and post-Durkheimian suicide theory and research; test hypotheses in a research project of my own; investigate two different, but overlapping types of behaviors--completed and attempted suicide--in the light of past suicide and attempted suicide theory and research; and, finally to discuss the findings in the framework of social area analysis.

In retrospect, this study describes and analyzes the relationships of selected social and ecological variables with completed and attempted suicide in Flint.
for the periods 1955 to 1965 for completed suicide, and 1960 to 1965 for attempted suicide.

In addition, this study seeks to determine whether high completed suicide areas conform to high attempted suicide areas in Flint, and conform to similar spatial patterns in other cities. Moreover, an effort will be made to determine whether areas with high completed and attempted suicide rates in Flint have social characteristics similar to those found in high completed and attempted suicide areas in other cities.

Variables of age, sex, marital status, race and nativity will be presented and analyzed in relation to the incidence of completed and attempted suicide.

Finally, the urban typology developed by Shevky and Bell¹ will be related to completed and attempted suicide rates in Flint in order to test the usefulness of this technique as a predictor of completed and attempted suicide.

Statement of the Problem

In our society there are few occasions or circumstances in which suicide or attempted suicide is approved. Religion, law and other codes of human conduct do not sanction suicide or attempted suicide. Since these

aspects of social control emphasize the obligation of each individual not to commit or attempt suicide, it is theorized that in those areas where the incidence of completed and attempted suicide is high, social control is least effective. Thus, weakness of social control is assumed to be associated with social disorganization.

Many studies of suicide owe their inception to Durkheim's work and his contention that the suicide rate of areas vary to the extent the inhabitants are identified with the social groups that control and define their activities. Working within the general theoretical framework provided by Durkheim, this study is designed to (1) ascertain the patterns of relationships between a number of fundamental variables, i.e., sex, age, race, marital status, nationality, completed suicide and attempted suicide; and (2) to ascertain the degree of relationship between completed suicide rates, attempted suicide rates and the Shevky-Bell variables of economic status, family cohesion and ethnic status.

Census data and various kinds of other social data enable us to make statements regarding the population composition and social relationships that are characteristic of urban sub-areas. These social characteristics

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of urban sub-areas serve to differentiate them from one another. One recent attempt at urban analysis of this type is that of Shevky and Bell who are primarily concerned with the description and measurement of social differentiation in terms of continua of economic status, family cohesion and ethnic status. The characteristics of census tracts, as defined by these indices, may be compared with the completed and attempted suicide rates of the individual census tracts. Such a comparison provides a mean for assessing the extent to which completed and attempted suicide rates vary with differences in the economic status index, family cohesion index and ethnic status index.

Thus, the decision emerged to investigate the effects of economic status, family cohesion and ethnic status on completed and attempted suicide in Flint. In order to investigate empirically the complex of notions surrounding the nature of completed and attempted suicide, the urban typology will be used in the examination of the internal differentiation of urban populations. In that the urban typology allows any census tract population to be treated in three different arrays by means of three indices, i.e., economic status, family cohesion and ethnic status, are assumed to indicate corollary differences in behavior. In short, differences in economic status, family cohesion and ethnic status for
census tract populations should indicate variations in completed and attempted suicide.

It is my hypothesis that census tract populations having different configurations of scores with respect to the urban typology indices of economic status, family cohesion and ethnic status will have different rates of completed and attempted suicide. It must be pointed out, however, that the geographical distribution of completed and attempted suicide is not of primary interest in this study. But, the relationships between completed and attempted suicide rates and the type of community or census tract populations as to economic status, family cohesion and ethnic status is of primary importance, i.e., rates as they are related to the social character of the tract populations as measured by economic, family and ethnic characteristics.

Furthermore, among the factors held to be causally related to completed and attempted suicide, i.e., economic status, family cohesion and ethnic status, particular attention will be given to the index of family cohesion, which is believed by many investigators to be especially important.³

³See review of the literature on family cohesion and marital status.
In retrospect, the problem of this investigation is to examine three basic questions:

1. How are selected social roles, i.e., sex, age, marital status, race and nativity related to completed and attempted suicide?

2. What urban typology indices influence the completed and attempted suicide rates the most?

3. Do variations in completed suicide rates by census tracts conform to variations in attempted suicide rates?

Review of the Literature

The sociological literature on completed and attempted suicide could be described as ample. For the purpose of this review, one can divide studies done on the subject of completed and attempted suicide into six major groupings: sex, age, marital status, family cohesion, economic status and ethnic status.

Completed suicide: sex.

Probably the most striking and obvious fact in the consideration of suicide is that men kill themselves more often than do women. Studies\(^1\) that have been made in Western Europe and the United States substantiate

this observation. In practically all European countries, as in the United States, the proportion being about two or three males for every female who commit suicide, with Norway and Finland showing even greater sex differences. In Austria, Finland, Hungary and Switzerland the male suicide rate exceeds the female rate by over 20 per 100,000 persons, while in the Netherlands, Iceland and Costa Rica the differences are under five per 100,000 population.\(^5\) However, Dublin found that in Japan, since the end of World War II, the suicide rate has risen rapidly, especially among young women.\(^6\) In fact, young women kill themselves twice as often as young men in Japan during the time specified.

Durkheim found roughly three times as many male suicides as female suicides in all age groups, and concluded that suicide is essentially a male phenomenon.\(^7\)

Ca\(\text{\textordmasculine}\)an presented evidence that male-female suicide differentials are not necessarily related to the biological phenomenon of a man or a woman, since in some countries, e.g., Japan and India, females kill themselves


\(^6\)Dublin, Louis I., op. cit., p. 25.

\(^7\)Durkheim, Emile, op. cit., pp. 72 and 166.
more often than men. Cavan attributed the higher male suicide rate in Chicago to either or both the greater number of crises experienced by men or their relative inability to adjust to crises. For instance, Henry and Short have shown that male suicide rates are more highly correlated with fluctuations in the business cycle than are female suicide rates. Given the predominately passive role of women in the twentieth century United States, they have less occasion to lose involvement in group-life, and they are still less active vocationally in the labor market than men. The male (white male in particular) is still defined as the bread-winner in the American family. His vocational aspirations make him more vulnerable to failure and the resultant is social and personal isolation. In general, the trend in recent years has been to reduce the disparity between the sexes, but suicide still is called a masculine type of behavior.

Completed suicide: sex and race.

Labovitz noted that in each region of the United States, males have a higher suicide rate than females

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8 Cavan, Ruth S., op. cit., p. 306.


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among whites and nonwhites; but, there are considerable variations in the rates of both sexes, i.e., white females in the West have higher rates than nonwhite males in the South.  

Dublin presents evidence that suicide decreases in frequency from white males to nonwhite males, white females and nonwhite females, regardless of age, with suicide virtually absent among the 5 to 14 age group for all races. Henry and Short found that the nonwhite female suicide was more highly correlated with changes in the business cycle than was the nonwhite male suicide. For the United States in 1960, the nonwhite male suicide rate at most age periods was from three to five times as high as for nonwhite females.

Completed suicide: age.

All studies of suicide have shown that the incidence of suicide consistently increases with the advancement of age. Although from study to study the frequency of suicide

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12 Henry and Short, op. cit., p. 87.

may vary somewhat in the specific ages, and especially in the later years, it is nonetheless a well substantiated fact that as age increases so does the suicide rate. This trend is more apparent for men than it is for women.

Two basic patterns appear in suicide rates by age. The most uncommon pattern is found in Japan, where the rate for both sexes reaches a high level in the age group 20-24 and then declines substantially, but at age 40 the rate again begins to increase with advancing years.¹⁴ The more common pattern is a consistent increase in the rate throughout all ages, or at least up to some point in the age scale past 65. This pattern is found in Denmark and Israel for both sexes.¹⁵

Generally, in the United States only the white male suicide rate consistently increases with age; white female and nonwhite female rates do not conform to a well-established pattern. Nonwhite females have an almost constant rate from ages 20 to 75, while that of the nonwhite males peaks at 60 to 64 and then declines gradually.¹⁶


¹⁵ Gibbs, Jack P., Suicide, op. cit., p. 65.

¹⁶ loc. cit., p. 67.
Durkheim concluded that suicide is very rare during childhood and reaches its peak in old age.

For the period 1938 to 1942 in Seattle, Schmid has shown that there is a tendency for the incidence of suicide to increase with age, but "... the female sex manifests no such tendency, although there are many pronounced fluctuations from one period to another".

Dublin and Bunzel commented on the suicide rate for males and females for the age-group 15 to 19, by stating that:

This is the only age division in which the female rate has, for any period of years run higher than the male rate. From 1911 to 1923 suicide in adolescence was more common among girls than among boys, only one year, 1921, the exception. During the eight years following 1923, however, in this age-group, as in all others, suicide has been predominantly a masculine phenomenon. Only in 1927-28 were higher rates recorded for girls.

The above studies, among others, clearly indicate that suicide is a phenomenon of adulthood, i.e., suicide is rare in two categories—the extremely young (below 10) and the extremely old (above 85).

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Faris\textsuperscript{20} has made the observation that the intentional ending of one's life is in our society subject to moral disapproval and can therefore be regarded as an indication of social disorganization. This is not an inappropriate view, since social organization contains elaborate mechanisms to prevent suicide and to instill in its members the will and the sense of obligation to live out the natural span of life. Suicide then reflects some kind of failure of that social mechanism and occurs only among persons who are in some way detached from the full influence of social control.

Faris\textsuperscript{21} also noted that:

The probable meaning of the higher rates for old persons lies in their increasing detachment from social responsibilities; and, after their children reach adulthood, the family responsibilities of the parents decline. Later, on retirement from occupational activity, other responsibilities diminish. With increasing years it happens also that the friends of elderly persons die or move away, so that there is more of a sense of desertion of loved ones to prevent a contemplated suicide.... Other factors that may be involved in the high suicide rate for old persons are the increase of illness, increase of economic failure, and perhaps a weary sense of personal absolescences in a changing world.


\textsuperscript{21} loc. cit., pp. 202-204.
In our society it is, however, the male that is more likely to be led to suicide as a result of such experiences. Occupational retirement signifies not only a change in one's job status, but also a change in the material basis for one's self-conception. It marks a transition from independence to dependence of the aged, even though the deprivation is relative. The majority of women, however, never experience deprivation.

One explanation postulates that an individual as he becomes older is less able to make an acceptable adjustment to the crises with which he is faced. Another explanation may be that with the advancement of age, the occurrence of crisis after crises may be more than an individual considers himself capable of solving. It may be that men are confronted with more crises than women. On the other hand, authorities have suggested that females have a greater ability to cope with life's problems. This writer is of the opinion that a feeling of belonging seems to be important in making the will to live paramount. The decision to end one's life is frequently the result of the mounting crisis upon crises, rather than the encountering of a single crises. Thus, in the life experiences of a person who takes his own life, frequently there has been the occurrence of one disappointment, frustration, or failure upon another.
Completed suicide: marital status.

Marriage, with its personal relationships, seems to be one of the best protectors against the desire to commit or attempt suicide. Students of the subject have long been unanimous in the opinion that suicide is less common among married persons, especially those with children, than among those who have never been married or whose marriage has been broken by divorce or death.

Research studies from time to time have called special attention to the relationship between "conjugal" status and the incidence of suicide. The family group, because it exerts a socializing and integrative influence upon its members, makes it difficult for a member to break the functional inter-relationships within the group. This relationship in the family group is perhaps the reason for lower suicide rates among the married. It has been pointed out that the relatively high suicide rate among the widowed and divorced is the result at least in part of the severance of these group relationships. The unmarried, not faced with this crises, has the second lowest suicide rate. In that the family has an important relationship to suicidal behavior is also the fact that suicide is greater among couples without children than
among couples with children.  

Suicide among the married and single: In Durkheim's discussion of marital status and suicide, he claims that: (1) too early marriages have an aggravating influence on suicide, especially as regards men; (2) from 20 years, married persons of both sexes enjoy a coefficient of preservation in comparison with the unmarried persons; (3) the coefficient of preservation of married persons varies with the sexes; and (4) widowhood diminishes the coefficient of married persons of each sex, but it rarely eliminates it entirely.  

For European countries, Miner adequately summarizes his findings as well as those of Morselli, Halbwach, Durkheim, among others, by stating "... in both sexes and all ages the rates for the married are lower than those for single, widowed or divorced."

In the United States, married persons generally have lower rates of completed suicide than the single,  

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23 Durkheim, Emile, op. cit., pp. 178 and 216. The "coefficient of preservation" is the number showing how many times less frequent suicide is in one group than in another group at the same age.


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divorced or widowed persons. However, there are instances where the married persons have not had the lowest rate, e.g., the age group 15-19, where the married tend to have a higher rate than that of the single; and the age group 75 and above, where it has been known to exceed the suicide rate for widowed. When age is taken into account, generally in each age-grouping over 25 the suicide rate tends to be lower for married persons than for single persons in the same age groups.

Suicide among the divorced and widowed: In the United States three times as many divorced males take their life as do married males. There may be, however, a greater difference among married and divorced males in the extreme age categories. As a general conclusion, within a given age group the suicide rates of the divorced, separated and widowed are regularly higher than the married.

For instance, in Seattle, Schmid found that the suicide rate during the years 1914 to 1925 per 100,000

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25Gibbs, Jack P., Suicide, op. cit., p. 66.


population 15 years of age and over, was 35.6 for single males, 31.0 for married males, 95.3 and 94.9 for widowed and divorced males, respectively. Females, Schmid pointed out, had rates of 14.0, 12.5, 16.2 and 58.2 for the single, married, widowed and divorced, respectively.

Cavan showed similar results for Chicago during the years 1919 to 1921.

Simpson also noted that suicide and marital status are to some extent interrelated. Divorced men have a higher rate than married men; divorced women have a higher suicide rate than married women, but lower than divorced men.

Completed suicide: family cohesion.

There seems to be a general agreement among several studies that familism is negatively related to suicide. Durkheim writes:

...Just as the family is a powerful safeguard against suicide, so the more strongly it is constituted, the greater its protection.


Gibbs and Martin, in their work on suicide, add:

Family integration is only one aspect of status integration, although an important one, but when it is combined with other statuses that are highly correlated, e.g., age, occupation, sex and religion, it is a powerful deterrent to suicide.

One of the most detailed and descriptive studies of the social characteristics in a city is provided by Cavan. In her Chicago study, she isolated four areas which tended to have higher suicide rates than the rest of the city. People living in these areas for the most part were not married, and if they were living with a husband or wife, they did not have children. Men and women, even when married, often both worked, and tended to have higher suicide rates. Her study also pointed out that divorce rates in the suicide areas had been high because of the lack of family life in them.

Wendling and Polk supply data which seems to support Cavan's findings:


33 Cavan, Ruth S., op. cit.

34 loc. cit., p. 90.

The variable of family status is the only one consistently related to suicide, having significant negative correlations. The suicide rates were highest in areas where fertility was low, many women working and there were many single-family dwellings.

**Completed suicide and broken homes:** A number of studies have shown that loss of one or both parents through divorce, desertion, separation or death is common among suicide victims. One investigation indicated that 50 percent of suicide victims came from a disturbed family background, while a study of attempters reported 60 percent. Comparable figures for the general population showed 17 percent for completed suicides and 33 percent for attempted suicides. Dorpat-Ripley-Jackson concluded that parental loss by death is particularly common among suicides, possibly as high as 45 percent. The comparable figure for the general population is about 20 percent. In another

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study, Dorpat and Ripley\textsuperscript{40} reported that 27 percent of
the suicides had lost a family member a short time prior
to their suicidal act.

**Completed suicide and social isolation:** A number
of studies clearly suggest that social isolation and
disrupted social relations are related to suicide.
Two studies disclose that 28 and 20 percent of suicide
victims live alone in comparison to less than 10 percent
of the general population.\textsuperscript{41} Gibbs\textsuperscript{42} noted that there
is also considerable evidence that the actual or antici­
pated loss of significant social relations tend to pre­
cede suicide.

**Completed suicide and economic factors.**

The data on the relationship between economic
factors and suicide tends to be somewhat contradictory.
Schmid\textsuperscript{43} states that in general, "blue collar" workers

\textsuperscript{40}Dorpat, T.H. and H.S. Ripley, "A Study of Suicide
in the Seattle Area", Comprehensive Psychiatry, I (De­

\textsuperscript{41}Sainsbury, Peter, Suicide in London, London:
Chapman and Hill, 1955, chapter III; and Farberow, N.L.
and E. S. Shneidman, The Cry For Help, New York: McGraw­

\textsuperscript{42}Gibbs, Martin (ed.), Suicide, op. cit., p. 100.

\textsuperscript{43}Schmid, Calvin F. and Thomas van Arsdol, "Com­
pleted and Attempted Suicide", American Sociological
tend to have higher rates of suicide than do "white collar" workers. This is consistent with his previous findings for Seattle and Minneapolis. 44

Henry and Short 45 report that persons of high status will tend to commit suicide with greater frequency than will persons of lower status. Opposed to either of these studies (Schmid and Henry and Short) is the finding by Wendling and Polk 46 who concluded that there is no apparent relationship between occupation, education and suicide.

Cavan 47 also was unable to establish a relationship between either occupation or education and suicide.

Wendling and Polk 48 noted:

On the basis of a number of studies of suicide we would expect to find an inverse relationship between economic status and suicide.


45 Henry and Short, op. cit., p. 93.

46 Wendling and Polk, op. cit., p. 51.

47 Cavan, Ruth S., op. cit., p. 78.

48 Wendling and Polk, op. cit., p. 50.
Gibbs summarizes suicide and occupational differences as follows:

Extremely high suicide rates generally prevail in occupations at the extremes—those with either very high income and prestige or very low income and prestige. High rates are often found in both the professional-managerial categories and the category of unskilled laborers, with occupations ranking midway between these two in status having lower rates. The high rates that typically prevail among the unemployed and retired appears to fit the low income-low-prestige pattern.

Sainsbury found that low income does not lead to a high suicide rate in London. In addition, he suggested that in studies as Cavan's in Chicago, which showed high suicide rates in the disorganized and poor sections of the city, the high rates may reflect instability rather than low economic status.

Breed points out that when the occupational level of the suicide and his father are compared, considerable mobility—mostly downward—appears. In his own words:


50 Sainsbury, Peter, op. cit., p. 37.

There is recent evidence, however, that work-life mobility experienced by the individual during his own career is relevant among the suicides, considerable downward mobility is found and relatively little upward mobility.  

Porterfield and Gibbs\textsuperscript{53} came to the conclusion that the vertical mobility of suicides in New Zealand is largely downward. They write:

The climbers were confronted with loss of economic status more often than were the sliders or the non-mobile group. Both climbers and sliders were confronted with a disruption of close personal ties, however, in more instances disruptions were more frequent among the non-mobile, with the sliders slightly exceeding the climbers in this respect.

Dublin and Bunzel\textsuperscript{54} noted that while high suicide rates occurred among those at the upper end of the social and economic scale, among the laboring class it was those nearest the poverty line who most frequently committed suicide. Although high suicide rates were found for the richer in London boroughs by Sainsbury,\textsuperscript{55} among the suicides in these boroughs many were actually living in poverty.

\textsuperscript{52} Ibid.  
\textsuperscript{53} Porterfield, Austin L. and Jack P. Gibbs, "Occupational Mobility and Prestige of Suicides in New Zealand", \textit{The American Journal of Sociology}, 57 (January 1952), pp. 149-160.  
\textsuperscript{54} Dublin, L. I. and B. Bunzel, \textit{op. cit.}, p. 96.  
\textsuperscript{55} Sainsbury, P., \textit{op. cit.}, p. 72.
Durkheim provided very little information relating suicide to social class. He was unclear about who was involved in such categories as "the liberal profession", "public officials", and "industrial occupations".\(^5^6\)

McMahon and Pugh\(^5^7\) analyzed suicide rates for the past forty years, and found that unemployment was a major factor. Among white American men over forty-five, i.e., a segment of the population subject to unemployment, the suicide rate reached a peak of more than 60 per 100,000 population per year during the depression year of 1933, dropped to a low for the past forty years during the full employment of World War II, rose again at the end of the war, fell once more during the Korean crisis. Since then it has risen and fallen only with the fluctuation of the unemployment rate.

Powell\(^5^8\) supports the view that there is an ecological component to suicide. In his Tulsa study,

\(^5^6\) Durkheim, Emile, *op. cit.*, pp. 161, 166 and 257.

\(^5^7\) McMahon, Brian and Thomas F. Pugh, "Jobless Suicides", *Scientific American*, 209 (July 1963), p. 68.

...when stable residential areas are compared, the wealthier sections appear to have more suicide than the low income neighborhoods. Over the entire twenty-year period it appears that both extremes of the vocational hierarchy generate a high suicide rate, while the middle groups maintain a fairly constant and low rate.  

For cities, Porterfield found rates much lower in Southern cities than for non-Southern cities. The author argues

... since the Northern cities tend to be higher in socio-economic status and the Southern cities relatively low it turns out that higher suicide rates appear in cities with higher, not lower status. Characteristics of census tracts in Fort Worth showed that areas with high suicide rates are high in social status and high in the residence of native whites and executives.  

In retrospect, the fact that seems to emerge from the review on economic status and suicide is that there is no simple causal relationship between economic factors and suicide.

59 ibid., p. 135  


61 ibid., p. 345.
Completed suicide and ethnic status

Durkheim, in his examination of the influence of race upon suicide, concluded that "... the obscure operation of race..." need not be introduced. 62

The studies by Henry and Short, Cavan, Wendling and Polk all seem to agree that whites have higher rates of suicide than nonwhites. To quote Wendling and Polk:

If Negroes are the predominant group we would expect a very lowe suicide rate, but if the population were mostly Orientals the rate would be moderately high. It should follow then that when the population includes all of the above ethnic groups the relationship between ethnic status and suicide would range from very high to very low depending upon the group that dominates the social area. 63

On racial differences and suicide, Gibbs 64 stated that the evidence only permits one general conclusion: The immunity of any race to suicide is extremely variable.

Simpson 65 found that the suicide rate among Negroes is very low compared to whites in our society, and that Negro women have rates closer to white women than Negro

62 Durkheim, Emile, op. cit., pp. 82-103.

63 Wendling and Polk, op. cit., p. 51.

64 Gibbs, Jack P., "Suicide", in Contemporary Social Problems, op. cit., chapter V.

65 Simpson, George, op. cit., p. 660.
men to white men.

Dublin and Bunzel\(^{66}\) reported that the ethnic groups in this country exhibit suicide rates that differed from one country of birth to another, and from that of the native-born segment of the population. Furthermore, they disclosed that the difference in rates which existed between the foreign-born populations were in general the same as those which existed between suicide rates in their respective homelands. In general, these authors agreed that national and racial tendencies toward suicide were the result of the social rather than the biological heritage of the individual. In support of this conclusion, Dublin duplicated his earlier study, and found that the suicide rates of foreign-born males were twice as high as those for all United States males, and for females about 75 percent higher; in both sexes the excess was primarily at the older ages.\(^{67}\) This last statement is significant, because of the concentration of the foreign-born at the higher ages of life.

In their study of suicides in Michigan, Schroeder and Beegle\(^{68}\) found that foreign-born segments of the popu-

\(^{66}\)Dublin and Bunzel, *op. cit.*, pp. 32-38.


lation exhibited higher suicide rates than corresponding native-born groups. Also, their data supported the hypothesis that Negroes committed suicide less frequently than did whites.

Schroeder and Beegle proposed two theories for the explanation of these differences between the white-nonwhite suicide rates. The first theory suggested that the foreign-born persons who migrated to Michigan were "maladjusted" and were economically unsuccessful in their homeland and, therefore, were more susceptible to suicidal tendencies. The second theory suggested that the migrant has to make a greater number of adjustments than the native-born person.

Dublin and Porterfield observed that the suicide rate for nonwhites is uniformly lower in the Southern and South-Central states, than in the North and North-Eastern states. In the Southern states the nonwhite population is almost entirely Negro and is still largely rural. This may account for some of the discrepancies between the two geographical regions, according to Dublin and Porterfield.

Strauss and Strauss\textsuperscript{70} support the view that the group with the "weakest" social ties among the Ceylon population, i.e., the Europeans, was the group with the highest suicide rate. This conclusion was strengthened by the fact that the suicide rate for Europeans in Ceylon was much higher than that for any of the European countries.

On the subject of suicide for ethnic groups, Schmid\textsuperscript{71} writes:

... with the foreign-born, there appears consistent agreement that the foreign-born whites have higher suicide rates than do the native-born whites.

\section*{Attempted suicide: sex}

Some of the most important characteristics of attempted suicide are those associated with sex. During the five-year period, 1948 to 1952, Schmid and van Arsdol\textsuperscript{72} found that 75 percent of the completed suicides in Seattle were males and 25 percent were females, while


\textsuperscript{71} Schmid, Calvin F., \textit{The Social Trends in Seattle}, \textit{op. cit.}, p. 209.

\textsuperscript{72} Schmid, Calvin F. and Thomas, van Arsdol, \textit{op. cit.}, p. 76.
only 39 percent of the attempted suicides were males and 61 percent were females. The total number of male completed suicides was approximately equal to the total number of female completed plus attempted suicides.

While completed suicides are largely a masculine phenomenon, the reverse is true for the attempts: more men than women kill themselves, but more women than men attempt suicide. Furthermore, Dublin noted that sex is one of the most striking differences between completed and attempted suicides. Whereas three times as many males as females succeed in self-destruction, the situation is reversed among attempters.

Piker noted that though more white females attempt suicide than did white males, the difference is not large. Among Negroes, however, the variation between the sexes is more considerable.

**Attempted suicide: age**

Dublin found that only 30 percent of the completed suicides occur before age 30, but two-thirds of the un-

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74 Dublin, Louis I., *op. cit.*, p. 11.


successful attempts occur at these younger ages.

Piker, in Cincinnati found the average age of attempted suicides to be 33 years. This was less for the white population, 35 years, and higher for Negroes, 26 years; however, white males had the highest and Negro females the lowest average age, 40.5 years for white males and 25 years for Negro females. Males reached their peak rate in the 25-29 age division, and thereafter the rate declined steadily through the male life-span. The period of greatest incidence among the females occurred in the 20-24 year division, with a sharp decline in the ensuing years.

Schmid and van Arsdol for Seattle concluded that both completed and attempted suicide are associated with adulthood. For males, completed suicide increased with age, while attempted suicide increased to a high in the early twenties and maintained a more or less constant rate until middle-age. On the other hand, for females attempted suicide was most frequent between the ages of 20 and 39, with rates as high as 123 per 100,000 population. However, after age 40, the rates for females


showed a sharp decline.

Dublin\textsuperscript{79} noted a similar contrast in the male-female age distribution. The majority of the unsuccessful suicides of both sexes are young people under age 35, while the majority of the completed suicide cases are older.

**Attempted suicide: marital status.**

Data on attempted suicide and marital status is scanty. Nevertheless, attempted suicide rates should also vary substantially among marital status groups by age and sex. The few studies on the subject do reveal some fairly consistent patterns among attempters and marital status groups.\textsuperscript{80} These studies have shown that the highest rates by marital status groups are for the divorced, single, followed by widowed and married. However, these observations change when rates are controlled for sex, age and race.

Within a given age group, the attempted suicide rates of the single, divorced and widowed are regularly

\textsuperscript{79} Dublin, L.I., \textit{op. cit.}, p. 12.

\textsuperscript{80} Stengel, Erwin, "Research into Suicide and Attempted Suicide", \textit{British Medical Journal}, No. 5122, (March 1959), pp. 599-603; and Schmid and van Arsdol, \textit{op. cit.}, p. 279.
higher than those of the married. Piker noted that among the white males, the incidence of attempted suicide for the single and married cases was about the same. This predominance was reversed (married over single) for both the male and female Negroes. Moreover, the suicidal activity among the divorced was uniformly greater than in any other of the three marital status groups.

Similarly, Schmid and van Arsdol found that the highest completed and attempted suicide rates by marital status are for the divorced. In Seattle, married people have the lowest rates for completed suicide, but the widowed have the lowest rates of attempted suicide. Completed suicide rates by marital status and sex varied from 4.1 per 100,000 population for single females to 102.3 for divorced males, while attempted suicide rates varied from 19.2 for single males to 118.2 for divorced females. For each category of marital status, male completed suicide rates were higher than female rates, and

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82 Piker, Phillip, op. cit., p. 108.

83 Schmid and van Arsdol, op. cit., p. 280.
female rates for attempted suicide were higher than male rates.

In retrospect, the majority of the previous studies agree that one of the major factors in the differential attempted suicide rate by marital status are extremely variable: No marital status group generates a constant attempted suicide rate in all populations.

**Attempted suicide: economic factors**

Studies on attempted suicide by American investigators have been few during the last thirty years therefore, little information regarding occupation, education and social class is available. Piker\(^4\) found that women occupied in personal services and housewives contributed heavily to the female group who attempted suicide, while the skilled trades and common laborers were most highest for the males.

In Seattle, Schmid and van Arsdol\(^5\) concluded that the lowest attempted suicide rate was for managers, officials and proprietors, while members of the "white collar" occupations and professions had lower rates

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\(^4\) Piker, Phillip, *op. cit.*, p. 103.

than those in the "blue collar" occupations. Nonetheless, "... because of the incompleteness of the data on occupation and education additional comparisons and conclusions are not warranted". 86

Attempted suicide: family cohesion

On the basis of a very few studies one would expect to find an important relationship between attempted suicide and family cohesion. Again, Schmid and van Arsdol 87 noted that the highest attempted suicide rates by marital status was for the divorced, and the lowest for the widowed.

Piker 88 found that among the white males the incidence, for the single and married was identical, whereas the divorced showed a uniformly higher rate than any of the other marital status groups, i.e., widowed, single and married.

Attempted suicide: broken homes

Loss of one or both parents through divorce, desertion, or death is common among attempted suicide victims. Figures for attempted suicides and broken homes show percentages

86 ibid.
87 ibid.
88 Piker, Phillip, op. cit., p. 110.
which range from 42 to 77 percent,\(^{89}\) while comparable figures for the general population and broken homes range from 17 to 33 percent.\(^{90}\)

**Attempted suicide: social isolation**

Research findings clearly suggest that social isolation and disrupted social relations are related to attempted suicide. Two studies of attempters reported that 16 and 60 percent had experienced disruptions of significant relationships through death,\(^{91}\) and one study reported disruptions of 25 percent from a variety of causes.\(^{92}\)

**Attempted suicide: ethnic status**

In Seattle, Schmid found that Negroes and Indians had the highest rates of attempted suicide, while Chinese


\(^{92}\)Robins and Schmidt, *op. cit.*, p. 725.
had the lowest rates. Female attempted suicide rates were higher than male rates for all races, except the Japanese and Chinese.\textsuperscript{93}

In the Piker study, more white females than white males attempted suicide, but the difference was not large. Among the Negroes, however, the variation between the sexes was marked. Piker\textsuperscript{94} writes:

\ldots Indeed, the extraordinary high incidence of suicidal attempts among Negresses, when compared to any of the other sections of the population, is so striking that considerable weighing of the situation is in order.

As these studies indicate, the ethnic and racial factors, especially between whites and nonwhites, is important in attempted suicide.

**Summary**

The result of this lengthy review on selected correlates of completed and attempted suicide indicates the etiological significance of disruptive social relationships, particularly within the context of the family. The findings taken together lead to a generalization: When significant social support disappears or threatens to do so, the probability of suiciding increases, and

\textsuperscript{93} Schmid and van Arsdol, \textit{op. cit.}, p. 279.

\textsuperscript{94} Piker, Phillip, \textit{op. cit.}, p. 100.
the interpersonal elements, particularly disruptive social relations are crucial etiological factors in the phenomena of completed and attempted suicide.

Post-Durkheimian Theories of Suicide: A Summary

Post-Durkheimian suicide research can best be summarized under five general trends. First, there is the expansion of the psycho-analytic study of suicide, exemplified by Freud and Menninger. Menninger's work, *Man Against Himself*, played a critical role in the application of the frustration-aggression hypothesis to suicide research. The author sees suicide as a self-directed aggression deriving from frustration.

A second post-Durkheimian trend, the socio-cultural, has been characterized by the works of Henry and Short, Cavan, Powell, among others. For Cavan, suicide is a

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98 Cavan, Ruth S., *op. cit.*

reaction to crisis resulting from personal and social disorganization. Social disorganization is the loss of control of the mores over the individual or the group. Henry and Short's work, *Suicide and Homicide*, may be interpreted as a refinement and extension of Durkheim's central theses on anomic suicide, since Henry and Short primarily are interested in testing the influence of economic change on the suicide rate.

Third, since Durkheim there has been a large amount of descriptive statistics on suicide collected by governmental and private sources. For example, Dublin's work on suicide in urban areas of the United States and the World has provided empirical data for refined and new theoretical approaches to the problem of suicide. This trend may be called the descriptive-statistical approach.

Fourth, recently there has been the beginning of a trend towards the theoretical modification of Durkheim's theory of suicide. Gibbs and Martin attempted to operationalize Durkheim's concept of social integration,

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100 Dublin, Louis I., *op. cit.*

i.e., to link suicide with a lack of status integration.

The fifth post-Durkheimian perspective is an effort to associate suicide with the symbolic interaction tradition. Breed\textsuperscript{102} and Gold\textsuperscript{103} would argue that the response of others is the crucial variable in suicide. The individual acts, others assess his actions, and he in turn evaluates himself through the "looking glass" self.

Conclusion

In this chapter, having surveyed the sociological literature on suicidal behavior and some of its theoretical frameworks, a number of repetitive themes can be ascertained. "Social isolation", "anomie", "social disorganization", "strength of external restraint", "status congruence", etc., all focus on interpersonal elements, particularly on "disruptive" social relations as crucial etiological factors in suiciding. This central theme is especially true for the theories

\textsuperscript{102} Breed, Warren, "Occupational Mobility and Suicide Among White Males", \textit{American Sociological Review}, 28 (1963), pp. 179-88.

proposed by Durkheim, Gibbs and Martin, Henry and Short, Powell, Breed among others.

Nonetheless, little general theory has been developed or synthesized from the numerous theories and research findings on suicidal behavior, primarily because many of these theories deal with different aspects of the phenomena. As a result, the application of any theory of suicide to fit all of the facts of completed and attempted suicide constitutes frequently an inadequate explanation of the behavior. What is desperately needed is the synthesis of alternative theories with empirical findings which will explain and predict all variations in the patterns among social (and psychological) variables of completed and attempted suicide rates as well as all individual cases.
CHAPTER II

SOURCE AND SCOPE OF DATA: COMPLETED SUICIDE AND ATTEMPTED SUICIDE

The completed suicide population of Flint consisted of 205 persons who had been classified as "Suicides" for the eleven year period, 1955 to 1965, by the Department of Police and by the Medical Examiner as recorded on the Death Certificate of the suicidee. This number, 205, consisted of all the officially recorded suicides in the Standard Metropolitan Statistical Area of Flint, from 1955 through 1965.

I chose Flint for a number of reasons. It includes the city of Flint, the third largest city in Michigan in 1960, which increases the likelihood of being able to do something with ethnicity and race, considered to be important variables in the phenomena of suicidal behavior. Second, Flint was tracted by the United States Bureau of the Census in 1950 and 1960. Finally, of no small consideration is the fact that no studies of completed and attempted suicide have been done on a small sized city (less than 200,000) such as Flint. Almost all of the studies performed on completed and attempted suicide have been done in such cities as Chicago, Seattle, St. Louis, San Francisco, etc. I hope to be able to say something about completed and attempted suicide in a small city.
The completed suicides included in this study are those committed within the Standard Metropolitan Statistical Area of Flint, which includes the central city. All those suicides occurring outside the SMSA were eliminated even though they were included in the police records and in the computation of the official suicide rate. Therefore, the total rates presented in this study are not the same as those reported by the Department of Health and other official reports; they are comparable, however, to other studies that have similarly defined the boundaries of their investigation, i.e., the corporate city limit and the SMSA.

Death certificates and records of the police department were the major sources of the basic data on committed and attempted suicide used in this study. The eleven-year period, 1955 to 1965 inclusive, for completed suicide and the six-year period, 1960 to 1965 inclusive, for attempted suicide was studied. The data were first gathered from the police records on specially printed data sheets, and then each suicide case was checked with the death certificates in the Department of Health. This latter check was essential to the accuracy of the study, because often death certificates provide more complete and accurate information regarding sex, age, occupation, residence, race, marital status, etc.

Attempted suicide cases will be treated in this study as those cases which have come to the attention of
the Flint police and were recorded as "Attempts" by the Bureau of Statistics. Thus, an attempt is a person ten years of age and over who resided at least six months in the SMSA before or during the six-year period from 1960 to 1965. No data were available on attempted suicide prior to 1960.

The attempted suicide data were gathered from the records of the police on the same printed data sheets for completed suicide; however, this data could not be checked with any other source in order to determine its accuracy. The records provided information regarding age, sex, residence, marital status, occupation (sometimes), race, nationality (sometimes), and a number of other variables which were recorded on an irregular basis. The data were coded and transferred to Hollerith tabulation cards. All work was checked and rechecked many times.

Ideally, the representativeness of the Flint data should be checked against other comparable total "samples," e.g., suicide and attempted suicide in Detroit, New York, Paris, and cities of similar size, demographic and social characteristics. The tendency among some statisticians is to assume that "tests of significance" are not necessary in dealing with populations, since you already have the entire universe. But, of course, tests of significance are relevant between universes.
Even though I am in sympathy with the procedure of testing for significant differences between my population and others, I felt that to embark on such a project in the depth necessary to be meaningful would take me beyond the scope of this thesis. Fortunately, some materials that already have been published can be of help here. Data by Durkheim, Cavan, Schmid, Dublin and others is interwoven throughout my thesis in an attempt to check my population against other populations. However, most of my own investigation centers on intra-population comparisons.

Of the 205 suicides, 71 percent were male, 29 percent female; 94 percent white and 6 percent non-white. The age distribution showed 8 percent under 25 years of age, 35 percent between 25 and 44, 31 percent between 45 and 59, and 26 percent between 65 years of age and older. The distribution of marital status showed 12 percent single, 56 percent married, 17 percent widowed and 15 percent divorced. Flint's suicide rate of 9.6 per 100,000 population 10 years old and over is lower than the national rate of 10.6 and for the state of Michigan, which was 10.2 in 1960.

The attempted suicide population consisted of 1127 persons who had been classified as "attempts". Of the 1127, 25 percent were male, 75 percent female; 79 percent were white and 21 percent non-white. The age distribution showed 41 percent under 25 years of age, 43 percent between
25 and 44, 9 percent between 45 and 54, and 7 percent 55 years old and over. The distribution by marital status showed 35 percent single, 52 percent married, 8 percent widowed, and 5 percent divorced. The attempted suicide rate for Flint was 95.5 per 100,000 persons 10 years old and over.

The research tools employed in this study are primarily simple rates. The suicide rate and attempted suicide rate are the dependent variables. Major independent variables are economic status, family cohesion, ethnic status, census tracts, and the variables of occupation, education, fertility, women in the labor force, single family dwelling units, marital status, age, sex, nativity and race.

One of the problems that arose was which population figures to use for the computation of rates. For instance, if the 1960 population figures were multiplied by eleven this would allow the computation of completed suicide rates over the eleven-year period. The advantage of this approach is that it would increase the accuracy of the rates in cells where the number of cases otherwise would be small. That is, as the number of cases increases, the suicide rate (or attempted suicide rate) is less likely to be biased.

The major disadvantage of this approach is that it ignores possible variations in the population in the non-
1960 years. For instance, can I safely assume that the suicide or attempted suicide rate for non-whites would not be biased, given the increase in the proportion of Negroes in Flint before and since 1960? One obvious solution to this dilemma is to rely on 1960 data only; the mid-point of the suicide population under consideration. In computing the rates, population figures from the 1960 census have been used, which provide the most accurate population base.

A second approach in computing completed and attempted suicide rates that could have been used in this study would be to attempt to specify the amount of error in the various social rates by studying trends in population growth by comparing population sizes in previous census years. A third alternative would be to compute rates for the total population in Flint for all eleven years and six years in order to determine the variability of the completed and attempted suicide rates. A fourth alternative would be to avoid rates altogether and to use only percentages of the yearly completed and attempted suicide totals.

Another approach would be to compare the eleven year and six year rates with the rates of other researchers who, in the years being considered, knew the size of the populations. However, I elected to go ahead and divided the total suicide population by eleven
and the total attempted suicide population by six and divided the quotient by the 1960 population of Flint.

On the Definition of Completed and Attempted Suicide.

The objective of an apparently suicidal act is not always death. Many people use attempted suicide and/or completed suicide acts as gestures for very different ends. Suicide generally is intended to terminate life, whereas the suicide attempt may be intended to improve one's life.⁴

For many decades the prevailing view was that attempted suicide was a kind of bungled or unsuccessful suicidal act, quantitatively different but fundamentally representing the same behavior. More recently, the view has emerged that attempted suicide is mostly a different class of behavior than suicide.² This view has been most clearly stated by Stengel and Cook.³ They find that those who commit suicide are two different, though overlapping populations. A suicide attempt is seen as a social behavior pattern which cannot be understood fully unless seen in

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¹It is generally believed that most if not all people who commit suicidal acts are clearly determined to die. One source noted that this is not the case in attempts. See, Stengel, E., Suicide and Attempted Suicide, Baltimore: Penguin Books, 1965, p. 71.


relation to the social environment, i.e., it usually has widespread social effects. Jackson has pointed out that suicide attempts are often intended to manipulate, force, or get revenge.\(^4\) Some students of the suicide problem consider that the attempters as a class differ essentially in personality and motivations from those who completed their suicidal act.\(^5\)

The typical (modal) suicide attempter is a female, Caucasian, in her twenties or thirties, either married or single, a housewife, native-born who attempted suicide by barbiturates and gives as a "reason" marital difficulties or depression. In contrast, the typical person who actually commits suicide is a male, Caucasian, in his forties or older, married, a skilled or unskilled worker, native-born who committed suicide by gunshot wounds, hanging, poisoning and gave as a "reason" ill health, depression, or marital difficulties.\(^6\)


\(^5\)Stengel, Erwin, *Suicide and Attempted Suicide*, op. cit., Chapter 7.

CHAPTER III

RELATIONSHIP OF SOCIAL ROLES TO COMPLETED SUICIDE, ATTEMPTED SUICIDE AND SOME BASIC VARIABLES: SEX, MARITAL STATUS, AGE, RACE AND NATIONALITY

Sex, age, race, nationality and marital status are important characteristics in any quantitative analysis for completed and attempted suicide. These are basic variables in that they indicate fundamental, and in most cases highly visible, human variations. For example, people are divided into male and female, young and old, black and white, foreign-born and native-born, married and unmarried. Furthermore, these variables are important variables because they almost always are highly associated with pronounced variation in human behavior and attitudes. Suicide rates and attempted suicide rates are no exception.

True, Durkheim discovered important differences in suicide rates by sex, age and marital status; however, he did not consider race a social factor. To the degree that sex and age are regarded as biological phenomena, they, too, according to Durkheim, fall outside the realm of the "Social". Race, sex and age are considered in this thesis to be variables which have social aspects and behavioral consequences.
Completed Suicide, Attempted Suicide and Sex

**Findings and Discussion.**

Some of the most important characteristics of suicidal behavior are associated with sex. The sex of persons involved in completed and attempted suicide is presented in Table III-1.

**Table III-1**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Suicide Rate</th>
<th>Suicide N</th>
<th>Attempts Rate</th>
<th>Attempts N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>13.5</td>
<td>146</td>
<td>47.6</td>
<td>275</td>
</tr>
<tr>
<td>Females</td>
<td>5.4</td>
<td>59</td>
<td>141.5</td>
<td>852</td>
</tr>
<tr>
<td>Total</td>
<td>9.6</td>
<td>205</td>
<td>95.5</td>
<td>1127</td>
</tr>
</tbody>
</table>

Table III-1 discloses that completed suicide is more common among males than females, the proportion being approximately three males for every female. In percentages, 71.3 percent of the males compared to 28.7 percent of females committed suicide. This finding is in support of Durkheim and others.

In the same Table, more women than men attempted suicide, the proportion being about three females for every male, or 24.1 percent of the males in contrast to 75.9 percent of females attempted suicide.
Comparing committed and attempted suicide by sex, the data shows that three-and-one-half times as many males and eighteen times as many females attempt suicide than complete suicide.

Data summarized in Table III-l supports findings reached by Dublin, Durkheim, Schmid, among others, that completed suicide is a masculine type of behavior and attempted suicide is a feminine type of behavior. For example, in the United States in 1960, nearly three times as many men as women committed suicide, and three to four times as many females as males attempted suicide.¹ Although males predominate among completed suicides and females are more frequent in attempting suicide, total suicidal behavior is equally characteristic of both sexes. In other words, completed suicide plus attempted suicide for males tends to equal completed suicide plus attempted suicide among females.

Completed and Attempted Suicide by Specific Age-Groups

Findings and Discussion.

The age of the suicides ranged from 14 to 89 years and for attempted suicide from 11 to 83 years. Among the suicides, 27.9 percent were under 40 years of age; among the attempted suicides, 77.6 percent were under

40 years of age. The age distribution of persons involved in attempted and completed suicide is presented in Table III-2.

**TABLE III-2**

AGE-SPECIFIC RATES OF COMPLETED AND ATTEMPTED SUICIDES

<table>
<thead>
<tr>
<th>Age-Groups</th>
<th>Suicides</th>
<th>Attempts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate N</td>
<td>Rate N</td>
</tr>
<tr>
<td>10-14</td>
<td>-- --</td>
<td>16.8 36</td>
</tr>
<tr>
<td>15-19</td>
<td>2.9 4</td>
<td>143.5 213</td>
</tr>
<tr>
<td>20-24</td>
<td>8.6 12</td>
<td>156.2 214</td>
</tr>
<tr>
<td>25-29</td>
<td>8.4 13</td>
<td>107.9 173</td>
</tr>
<tr>
<td>30-34</td>
<td>9.8 14</td>
<td>102.7 143</td>
</tr>
<tr>
<td>35-44</td>
<td>12.2 43</td>
<td>61.7 179</td>
</tr>
<tr>
<td>45-54</td>
<td>14.6 43</td>
<td>46.9 108</td>
</tr>
<tr>
<td>55-64</td>
<td>23.8 46</td>
<td>18.9 32</td>
</tr>
<tr>
<td>65-over</td>
<td>27.3 30</td>
<td>20.7 29</td>
</tr>
<tr>
<td>Total</td>
<td>9.6 205</td>
<td>95.5 1127</td>
</tr>
</tbody>
</table>

Reference to Table III-2 will indicate that the suicide rate increases with advancing years: the older a person is, the more likely he is to take his own life. This likelihood progresses steadily with each age category. For instance, the suicide rate for those between the ages of 30-34 is three times as great as for those between the ages 15-19.

The age distribution for attempted suicide is quite different from completed suicide, involving relatively few individuals over 35 years of age and many more in
the younger age groups. Apart from somewhat regular increases or decreases in the attempted suicide rate with advancing years, completed suicide is rare among the extremely young while attempted suicide is a mode of behavior among the young and adolescent.

Rates in Table III-2 disclose that the peak age for suicides lies in the 65 and over age group, and for attempted suicide between the 15-24 ages. The proportion of attempted to completed suicide, for instance, in the 15-19 age group is 48:1, while in the 55-64 age group it is almost the same. In general, attempted suicide tends to be more prevalent during the younger years of life, with the peak rate in the 20-24 age group, while completed suicide is more characteristic in the older age groups. Nevertheless, total suicidal behavior is equally characteristic of all age groups over ten.

Completed and Attempted Suicide by Age-Groups and Sex

Findings and Discussion.

Other variations can be seen in suicidal action upon comparison of rates by age categories and sex. The median age of suicides was 49.9 years for males and 46.6 for females, while for attempted suicide the median age was 32.7 years for males and 26.3 years for
females. Table III-3 presents the age and sex distribution of completed and attempted suicide rates.

Data in Table III-3 substantiates Durkheim's hypothesis that suicide is extremely uncommon among both males and females age 14 and under, but not that suicide reaches its peak in old age. The latter hypothesis is true for males, but not for females. The female suicide rate peaks at the 45-54 age category and then it drops, whereas the males show a progressive increase in almost all age groups to a peak of 24.5 in the 65 and over age bracket.

Durkheim found roughly three times as many male suicides as female suicides in all age brackets. My data shows increasing disparities between the male and female suicide rates, starting with a male-female ratio of one-two to one in the younger ages and culminating in a ratio of five-to-one in the 65 and over age group.

An examination of Table III-3 indicates a clear tendency for the suicide rate to increase with age, particularly among males. There are, however, important differences among the sexes. The males bear out the generalization that authorities have made regarding the suicide rate and the increase in age: the older the age group, the higher the suicide rate. With the exception of the slight drop in the 20-24 age group, the suicide rate for the males does increase with age. Moreover,
### Table III-3

**Completed and Attempted Suicide Rates by Age-Groupings and Sex**

<table>
<thead>
<tr>
<th>Age-Groupings</th>
<th>Completed Suicide</th>
<th></th>
<th></th>
<th>Attempted Suicide</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males Rate N</td>
<td>Females Rate N</td>
<td>Rate N</td>
<td>Males Rate N</td>
<td>Females Rate N</td>
<td>Rate N</td>
</tr>
<tr>
<td>10--14</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>8.3</td>
</tr>
<tr>
<td>15--19</td>
<td>5.2 4</td>
<td>--</td>
<td>--</td>
<td>47.5 36</td>
<td>233.7</td>
<td>177</td>
</tr>
<tr>
<td>20--24</td>
<td>4.8 6</td>
<td>4.7 6</td>
<td>84.6 52</td>
<td>215.1</td>
<td>162</td>
<td></td>
</tr>
<tr>
<td>25--29</td>
<td>5.9 13</td>
<td>--</td>
<td>--</td>
<td>50.9 40</td>
<td>163.9</td>
<td>133</td>
</tr>
<tr>
<td>30--34</td>
<td>9.2 7</td>
<td>5.1 7</td>
<td>39.5 34</td>
<td>131.5</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>35--44</td>
<td>9.9 26</td>
<td>6.6 17</td>
<td>32.5 46</td>
<td>91.5</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>45--54</td>
<td>13.8 30</td>
<td>7.9 13</td>
<td>27.6 32</td>
<td>66.1</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>55--64</td>
<td>23.6 36</td>
<td>6.3 10</td>
<td>18.7 16</td>
<td>19.7</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>65+</td>
<td>24.5 24</td>
<td>4.8 6</td>
<td>15.8 10</td>
<td>25.5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13.5 146</td>
<td>5.4 59</td>
<td>47.6 275</td>
<td>141.5</td>
<td>852</td>
<td></td>
</tr>
</tbody>
</table>
after age 45 the completed suicide rate increases rapidly until the age of 64, at which point it is approximately five times as great as the suicide rate for females.

The females, on the other hand, show no indication of such a trend. While the male suicide rate tends to increase with age, the female suicide rate tends to increase only slightly to age 54, and then decline. No data is available to make comparisons between males and females in the younger ages, 10 to 19. The highest rate for the females is reached in the 45-54 age group. From this high, the rate shows a continuous decline. Schmid² stated that there is a tendency for the incidence of suicide to increase with age, but that the female sex manifests no such tendency, although there are many pronounced fluctuations from one period to another.

The greatest frequency for the females is reached in the 45-54 age group, while for the males the highest frequency of completed suicide is reached in the 65 and over ages, with three times more male than female completing suicide in their respective peak ages. Still comparing males-females in their respective peak age groups, one finds ratios of approximately two males to

one female in the 45-54 age group and five males to one female in the 65 and over ages in favor of completed suicide.

These findings substantiate the fact that suicide is a phenomenon of adulthood for both sexes. My data also confirms the fact that children practically never commit suicide, and only occasionally are there suicides between the ages of 10 and 15. Before moving on to attempted suicide, I would like to comment briefly on why almost no children under the age of 15 commit suicide.

Children (and pre-adolescents) would seem to have fewer objective circumstances conducive to the generation of suicides than adults. Being very young, children are less likely to perceive death as an immediate, threatening event. Death is not as likely to be conceived by children as a solution to their daily problems. Finally, it may be that the youngest in the age scale tend to direct their hostility and frustration toward their parents and other children, rather than towards themselves.

The sex and age composition of the attempted suicide population in Flint differs markedly from that of the completed suicide group, as shown in Table III-3. More men than women take their life, but more women than men attempt suicide: More men wish to terminate
their life, but more women wish to improve their life-
situations.

The sexes differ not only from each other in the
frequency of attempting suicide, but also from age group
to age group. The attempted suicide rate for both sexes
shows a steady decline from age 24 for males and age 19
for females. Of course, the highest rate for male at-
tempters lies in the 20-24 age group and in the 15-19
age group for females, with the lowest rates for both
sexes registered in the extreme age groups. Of interest
is also the fact that the attempted suicide rate for
women is almost identical in the extreme ages, 25.7 to
25.5, whereas the rate for male attempters is almost
twice as high in the 65 and over ages, 15.8, in con­
trast to 8.3 in the 10-14 age bracket.

Data in the same table indicates that the total
attempted suicide rate continuously decreases after a
certain age for both sexes, 20-24 age group for males
and the 15-19 age group for females. Males and females
support the generalization that authorities have made
regarding the propensity for the attempted suicide rate
to decline with the increase of age, generally after
age thirty. In my data, the most pronounced declines
in the attempted suicide rate is found for males and
females in the 20-29 age division, and again in the
45-64 ages--two important periods regarding a person's
life and status in society.

Among men in all age groups, the suicide rate among the males is markedly higher than among the females; however, among women in all age groups, the attempted suicide rates are much higher than among males. For instance, the ratio of female to male attempters in the 15-19 age group is almost five-to-one in contrast to a one-to-one ratio in the 55-64 ages, while for completed suicides in the 55-64 age group the ratio is approximately four to one for males. However, comparing completed and attempted suicide rates in the same age groups by sex, one finds that in the 15-19 age bracket, the ratio of male attempters to male completed suicides is nine to one, (for females no data) and in the 55-64 ages almost as many males attempt suicide as complete the act, while three times more females wish to improve their life instead of terminating life.

Summary.

This discussion has analyzed two of the most conspicuous aspects of completed and attempted suicide, that of age and sex. In general, this study found that completed suicide increases with each advancing age period of life, whereas attempted suicide decreases in life—after age thirty.

Males commit suicide approximately three times as often as do females: females attempt suicide three times
as often as do males. However, there is a great deal of variability in the completed and attempted suicide rates among the age-groupings.

For attempted suicide, the sex ratio reflects a similar pattern for completed suicide. No instance is recorded in which the attempted suicide rate for males exceeds that of females. Similarly, in all age groups the completed suicide rate for females does exceed that of the males.

Findings on age, sex, completed and attempted suicide support a number of conclusions reached by others: First, suicide is more frequent among males than females; attempted suicide is high among females and low among males. Second, no age and sex category (except the extreme young) is completely immune to both types of suicidal actions. Finally, the constant difference between rates for both sexes and age groupings can be explained more adequately by cultural and social conditions, than by innate differences—a point to be examined in the next section.

Completed and Attempted Suicide by Race, Nationality, Sex and Age

Completed and attempted suicide by race: findings.

Durkheim has dismissed any argument for suicide on purely racial grounds. According to Durkheim, there is

\[\text{Durkheim, Emile, op. cit., pp. 54-81.}\]
no evidence that a tendency to commit suicide is an innate racial or ethnic characteristic. Furthermore, Durkheim ignores the possibility that "non-social" phenomenon, i.e., race, can have vast social ramifications by virtue of being defined as social. Ethnocentrism is a striking example of this possibility. In short, it would appear that Durkheim is being reductionistic and inconsistent when he claims that race is non-social.

It has become common in post-Durkheimian suicide literature to regard race as a social phenomenon. Table III-4 presents data on completed and attempted suicide and race.

<table>
<thead>
<tr>
<th>Race</th>
<th>Suicide Rate</th>
<th>Suicide N</th>
<th>Attempt Rate</th>
<th>Attempt N</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>10.9</td>
<td>194</td>
<td>93.8</td>
<td>909</td>
</tr>
<tr>
<td>Nonwhite</td>
<td>2.1</td>
<td>11</td>
<td>105.3</td>
<td>218</td>
</tr>
<tr>
<td>N</td>
<td>205</td>
<td></td>
<td>1127</td>
<td></td>
</tr>
</tbody>
</table>

White persons in the United States generally have a higher suicide rate than nonwhite persons, but nonwhites tend to have higher attempted suicide rates than whites.4

Lendrum has shown that attempted suicide is approximately twice as common among Negroes as among whites.

Table III-4 discloses that the completed suicide rate is five times as common among whites than nonwhites, while the attempted suicide rate is only slightly larger for nonwhite than white. Comparing completed with attempted suicides by race, the ratio of attempts to committed suicides for whites is approximately nine to one and for nonwhites fifty to one. In general, the nonwhite person is more likely to attempt suicide and the white person is more likely to complete suicide.

One probable explanation for the difference between white and nonwhite suicide rates is the rural background and tradition of nonwhites, even city-dwellers. That the Negro suicide rate may be expected to increase as Negroes experience greater equality and urbanization is indicated by the fact that the northern Negro suicide rate is higher than that of the southern Negro. Another explanation would point to the solidarity of the negro community having strong integration in both family and neighborhood structure serving as a preventive check against suicide. This view, however, seems to be a stereotype of the Negro family and community.

Completed and attempted suicide by race and sex: findings and discussion.

The two races, i.e., white and nonwhite, differ from each other in the incidence of completed and attempted suicide by sex, as Table III-5 clearly shows.

**TABLE III-5**

**COMPLETED AND ATTEMPTED SUICIDE BY WHITE AND NONWHITE AND SEX**

<table>
<thead>
<tr>
<th>Sex</th>
<th>White</th>
<th></th>
<th>Nonwhite</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suicide Rate</td>
<td>N</td>
<td>Suicide Rate</td>
<td>N</td>
</tr>
<tr>
<td>Male</td>
<td>17.1</td>
<td>139</td>
<td>47.4</td>
<td>226</td>
</tr>
<tr>
<td>Female</td>
<td>6.1</td>
<td>55</td>
<td>137.5</td>
<td>683</td>
</tr>
<tr>
<td>Total</td>
<td>10.9</td>
<td>194</td>
<td>93.8</td>
<td>909</td>
</tr>
</tbody>
</table>

Among suicides, the rate for white males is approximately three times greater than for white females; but, the nonwhite male rate is about three times lower than the nonwhite female rate. This finding may suggest that these are two different "types" of suicides.

The suicide rate for white females is approximately one-third higher than for nonwhite females, whereas the white male suicide rate is eleven times greater than the nonwhite male suicide rate.

Among attempted suicides, for both races the female rate is greater than for the males; about three times greater for white females; and two-and-one-half times
greater for nonwhite females. In general, the nonwhite male and female is less likely to commit suicide than the white male and female, but the nonwhite female and male is more likely to attempt suicide.

Comparing white and nonwhite completed and attempted suicide rates by sex, Table III-5 shows that for white males the ratio of attempted to committed suicide is approximately three to one, while for nonwhite males the ratio is thirty-three to one. In other words, the ratio of attempted to completed suicide in comparison to white and nonwhite males is eleven times as common as completed suicide among nonwhite males as to white males.

On the other hand, for females the ratio of attempted to completed suicide among white females is twenty-three to one, while for nonwhite females the ratio is thirty-nine to one. I. e., nonwhite women prefer attempted suicide roughly one-third as much as white women.

The evidence in Tables III-4 and 5 suggest that the nonwhites manifest little suicidal behavior is not true. The data in these tables point to the conclusion that the nonwhite population in Flint attempt suicide with greater frequency than whites, while more whites complete suicide than nonwhites.
In summary, analysis of the data disclosed that while the completed suicide rate for Negro males is low, that for Negro women is high; for white males is high and for white women low. In addition, it was shown that the completed suicide rate for nonwhite women is greater than for nonwhite males, while the reverse is true for whites. Attempted suicide is high for nonwhite females, low for nonwhite males, high for white females and low for white males, i.e., similar sex patterns for both racial groups.

Completed and attempted suicide by age, sex and race: findings and discussion.

Interesting differences between the races appear when rates by each sex and the various divisions of age are compared. Table III-6 discloses the completed and attempted suicide rates for white and nonwhite persons by age and sex in Flint.

Table III-6 shows that suicide decreases in frequency in the order from white males to white females, and nonwhite females to nonwhite males, regardless of age. Attempted suicide decreases in frequency from nonwhite females to white females, nonwhite males to white males, regardless of age.

Completed suicide is virtually absent among the 10-14 age group for white and nonwhite. Suicide of white females outnumber those of nonwhite females in
<table>
<thead>
<tr>
<th>Age-Groups</th>
<th>Males</th>
<th></th>
<th></th>
<th></th>
<th>Females</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>White</td>
<td>Nonwhite</td>
<td></td>
<td></td>
<td>White</td>
<td>Nonwhite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S*</td>
<td>AS*</td>
<td>S</td>
<td>AS</td>
<td>S</td>
<td>AS</td>
<td>S</td>
</tr>
<tr>
<td>10-14</td>
<td>--</td>
<td>9.1</td>
<td>--</td>
<td>1.5</td>
<td>--</td>
<td>28.9</td>
<td>--</td>
</tr>
<tr>
<td>15-19</td>
<td>6.4</td>
<td>53.7</td>
<td>0.5</td>
<td>78.1</td>
<td>--</td>
<td>210.7</td>
<td>--</td>
</tr>
<tr>
<td>20-24</td>
<td>8.3</td>
<td>95.3</td>
<td>1.9</td>
<td>113.2</td>
<td>3.6</td>
<td>225.1</td>
<td>2.5</td>
</tr>
<tr>
<td>25-29</td>
<td>9.7</td>
<td>56.7</td>
<td>2.8</td>
<td>43.5</td>
<td>--</td>
<td>151.9</td>
<td>--</td>
</tr>
<tr>
<td>30-34</td>
<td>12.8</td>
<td>39.8</td>
<td>5.4</td>
<td>34.4</td>
<td>4.2</td>
<td>130.1</td>
<td>4.7</td>
</tr>
<tr>
<td>35-44</td>
<td>14.1</td>
<td>34.2</td>
<td>1.0</td>
<td>15.1</td>
<td>7.8</td>
<td>74.3</td>
<td>3.6</td>
</tr>
<tr>
<td>45-54</td>
<td>15.3</td>
<td>29.8</td>
<td>--</td>
<td>5.7</td>
<td>9.7</td>
<td>53.2</td>
<td>--</td>
</tr>
<tr>
<td>55-64</td>
<td>25.8</td>
<td>20.7</td>
<td>--</td>
<td>--</td>
<td>5.8</td>
<td>23.8</td>
<td>--</td>
</tr>
<tr>
<td>65+</td>
<td>29.7</td>
<td>17.3</td>
<td>--</td>
<td>--</td>
<td>5.4</td>
<td>32.7</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>17.1</td>
<td>47.4</td>
<td>1.6</td>
<td>48.5</td>
<td>6.1</td>
<td>137.4</td>
<td>4.2</td>
</tr>
</tbody>
</table>

*Suicide Rate
**Attempted Suicide Rate
all age groups, while suicide of white males outnumber those of nonwhite males in all age brackets. In none of the age groups are the figures for the males in the two groups similar. Only at ages 20-24 and 30-34 are the rates for the females among white and nonwhite similar.

Unlike completed suicide, attempted suicide is more prevalent among white and nonwhite persons in all age divisions. Whereas completed suicide is absent in the extreme young ages, attempted suicide is frequent in the 10-14 ages among both sexes and races.

Among suicides, white males show a constant increase in all age groups; for the nonwhite males up to the age of 34, followed by a sudden drop in the 35-44 ages. White females indicate a similar trend with a gradual increase in the ages 20-54, and then followed by leveling off in the over 55 years. Nonwhite females reflect a small increase between the ages 20-34, followed by a decline in the 35 and above ages. No consistent patterns can be established in the completed suicide rates for any of the age divisions among nonwhite males and females. There is one exception, however, the 30-34 age group, which shows the highest completed suicide rate for nonwhite males and females.

For attempted suicide, the white male rate increases from age 10-24, to a high of 95.3, then gradually declines to a low of 17.9 in the 65 and above ages.
The nonwhite male attempted suicide rate follows a similar trend, with a high of 113.2 in the 20-24 age group, followed by a continuous decline to a low of only 5.6 in the 45-54 ages. For both races, the rates reach their peak in the 20-24 age bracket, with the rates for the nonwhite male being considerably higher than the rates for the white male.

Female attempters, on the other hand, show similar patterns as males for white and nonwhite persons: high rates in the younger years of life; low rates after age 35. Nonwhite females reach their peak earlier than white females. Of interest is that the distribution of female attempted suicide rates for the white and nonwhite is almost identical in the 10-14 ages, but not so for males.

Moreover, nonwhite female attempted suicide rates are considerably higher in the 15-24 ages than they are for white females, showing that attempted suicide is more characteristic of young nonwhite females than of young white females. However, both races and sexes bear out the generalization regarding attempted suicide and the increase in age: the older the age group, the lower the attempted suicide rate.

In general, completed suicide is more prevalent among white males and females in all age divisions than it is for nonwhites. Attempted suicide is more common in certain age groups for nonwhite males and females.
than for white males and females. Differences are not uniform, with higher nonwhite female rates among the young, and higher rates among white females in the older ages.

For completed suicide, nonwhite females decline early in life in their completed suicidal acts; nonwhite males repeat the same trend. White females and males tend to commit suicide later in life. Contrary to the pattern of the white male-female suicides, nonwhite suicides are concentrated in the 15-44 ages, the apex of life in terms of health and independence. These are puzzling patterns which demand some explanation.

Henry and Short found that nonwhite female suicide was more highly correlated with fluctuations in the business cycle than was nonwhite male suicide. This may suggest that the nonwhite female's role is more like that of the white suicides in the 20-34 age divisions and the concentration of white suicides in the 45 and above ages makes me believe that there are two basically different "types" of suicide in the nonwhite and white group, i.e., egoistic and anomic suicide.

White suicides appear to be primarily of the egoistic variety. In other words, as a man becomes

---

older he will also become more socially isolated. More of his friends and relatives will die, the groups which were important to him will dissolve, his children will grow up and leave the home. In short, he will become more "excessively individuated".

Failing physical and mental health seems to be also associated with both age and the suicide rate. In general, the older one is the more likely he is to be physically (and mentally) ill. Thus, the more ill (physically) a person is, the more likely he is to take his life.

Of interest is the fact that only the white males display a marked, but consistent increase of suicide with advancing years. This would not be quite as disturbing if it were exclusively a male attribute. But nonwhite males follow the pattern of white and nonwhite females. One explanation of the white female suicide rate is that women use ineffective means in their suicidal attempt. If one can assume that white men and women have the same motivation to kill themselves, women still kill themselves less often as men. But, the difference between the white and nonwhite male suicide pattern is puzzling when it is noted that suicide is essentially a male phenomena.
Completed Suicide by Native-Born White, Foreign-Born White and Sex

Findings and Discussion.

Table III-7 shows that while the suicide rate for native-born white is low, that for the foreign-born white is high—more than twice as high as for the native-born white population. Thus, with regard to nativity of whites, suicide rates are not similar.

**TABLE III-7**

<table>
<thead>
<tr>
<th>Act</th>
<th>Native-Born</th>
<th>Foreign-Born</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate N</td>
<td>Rate N</td>
</tr>
<tr>
<td>Suicide</td>
<td>8.1 166</td>
<td>17.5 28</td>
</tr>
</tbody>
</table>

*Data for attempted suicide not available.

Suicide rates in Table III-8 show that foreign-born males are more than twice as likely to commit suicide than native-born white males, and foreign-born white females are approximately three times more prone to commit suicide than native-born white females.

Among native-born whites, males are six times more likely to take their own life as females, whereas foreign-born males are nearly four times more frequent in terminating their life as foreign-born females.
### TABLE III-6

**COMPLETED SUICIDE BY NATIVE AND FOREIGN-BORN WHITE AND SEX**

<table>
<thead>
<tr>
<th>Act</th>
<th>Native-White</th>
<th>Foreign-White</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>Suicide</td>
<td>13.3</td>
<td>119</td>
</tr>
</tbody>
</table>

**Completed suicide among ethnic groups: findings.**

A recent study of the foreign-born for the United States as a whole, showed that the German-born population was contributing more than its share to the total number of suicides in the United States—six times that of the native-born population.\(^7\) On the other hand, persons of Italian birth contributed the least to the United States suicide rate.

Figures in Table III-9 show that the completed suicide rate of the foreign-born in Flint differs from one another and from that of the foreign-born in the United States. Thirteen percent of the suicides in Flint were of foreign-birth. Germans and Russians show the lowest rates while the Austro/Hungarians, Polish and Czechoslovakians reflect the highest rates among the foreign-born in Flint.

---

\(^7\) *Dublin, Louis I., Suicide, New York: The Ronald Press, 1963, Chapter V.*
TABLE III-9

SUICIDE RATES AMONG FOREIGN-BORN POPULATIONS IN FLINT

<table>
<thead>
<tr>
<th>Country of Birth</th>
<th>Flint Rate</th>
<th>N</th>
<th>United States Rate</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria/Hungary</td>
<td>40.4</td>
<td>5</td>
<td>-**</td>
<td>--</td>
</tr>
<tr>
<td>Canada</td>
<td>19.9</td>
<td>10</td>
<td>32.5</td>
<td>--</td>
</tr>
<tr>
<td>Czechoslovakia</td>
<td>24.9</td>
<td>2</td>
<td>31.-</td>
<td>--</td>
</tr>
<tr>
<td>Germany</td>
<td>8.8</td>
<td>1</td>
<td>41.5</td>
<td>--</td>
</tr>
<tr>
<td>Holland</td>
<td>21.9</td>
<td>3</td>
<td>25.7</td>
<td>--</td>
</tr>
<tr>
<td>Latvia</td>
<td>19.3</td>
<td>1</td>
<td>25.7</td>
<td>--</td>
</tr>
<tr>
<td>Russia</td>
<td>12.1</td>
<td>2</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Poland</td>
<td>33.5</td>
<td>3</td>
<td>30.2</td>
<td>--</td>
</tr>
<tr>
<td>Other</td>
<td>3.2</td>
<td>1</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>**N</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Not available.


Summary

Comparison of data on race and ethnicity has shown that the completed suicide rate among the foreign-born is markedly higher than either the rates for the native-born white and nonwhite. Furthermore, the suicide rates for the individual foreign-born groups in Flint are higher than the rates for native-born white and nonwhite. In Flint, the total foreign-born suicide rate is two times greater than for native white and eight times greater than for nonwhite. In addition, it was disclosed that the nonwhite is less likely to commit suicide, but more likely to attempt suicide than the
white. Of further interest was the finding that non-white males tend to follow the pattern of white and nonwhite females.

The data on race, and place of birth of whites, strongly suggests that there exist important differences in suiciding for people of different ethnic backgrounds. These differences do not suggest that the tendency to completed and attempted suicide is a biological trait. It seems more likely that the ethnic and racial proclivities toward suicidal action are the result of cultural and social conditions. Certainly, the social immunity of any group against suiciding is extremely complex. The strength of the ties binding individuals to his group and to the larger society may well determine whether attempted or completed suicide will follow.

Completed Suicide, Attempted Suicide, Marital Status, Race, Sex and Age

Completed suicide, attempted suicide and marital status: findings and discussion.

Most previous studies have pointed to the prophylactic effect of married life on completed and attempted suicide, because with few exceptions, married people have had the lowest rates. Reference to Table III-10 reveals a marked similarity to the trends found in other
studies between completed and attempted suicide and marital status groups.

TABLE III-10

COMPLETED SUICIDE, ATTEMPTED SUICIDE BY MARITAL STATUS

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Completed Suicide</th>
<th>Attempted Suicide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate*</td>
<td>N</td>
</tr>
<tr>
<td>Single</td>
<td>6.6</td>
<td>24</td>
</tr>
<tr>
<td>Married</td>
<td>5.7</td>
<td>115</td>
</tr>
<tr>
<td>Divorced</td>
<td>42.5</td>
<td>35</td>
</tr>
<tr>
<td>Widowed</td>
<td>20.4</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>9.6</td>
<td>205</td>
</tr>
</tbody>
</table>

*All rates for completed and attempted suicide in this section based on 100,000 population 14 years old and over.

Table III-10 shows that the highest completed suicide rate is for the divorced, followed by widowed, single and married, respectively. The difference in the rates between the married and single is only one suicide per 100,000 persons, but the ratio between the divorced and married is approximately eight to one, and between widowed and married almost four to one.

For attempted suicide, the highest rates are for the divorced, single, widowed and married, respectively. The ratio between the single and married is approximately three to one, and for the widowed and married 1.3 to one.
Figures in the same table support findings reached by others in that the highest rates of completed and attempted suicide are for the divorced, and the lowest rates among the married. However, these observations may change when rates for marital status groups are controlled for race, sex and age.

Furthermore, marital status comparisons of completed and attempted suicide rates helps to assess the importance of family life as a causal factor in suiciding. The relatively high rates found among the divorced and widowed seems to suggest that married life itself is a defense against some contingencies that may lead to self-destruction.

Completed suicide, attempted suicide and marital status by white and nonwhite: findings and discussion.

Rates in Table III-10 have shown that completed and attempted suicide is more common among divorced and widowed, and generally low among married persons. However, if race is controlled, will the same patterns be true for completed and attempted suicide? Table III-11 has been prepared in order to shed some light on this question.

Table III-11 shows the record for white completed and attempted suicides by marital status groups does not follow similar patterns as those in Table III-10. Among whites, the suicide rate is lowest for the married, then single, widowed and divorced; among attempts, low rates
are found for the married, then widowed, divorced and single, respectively. However, for nonwhite the picture is different, both for completed and attempted suicide.

TABLE III-11

COMPLETED SUICIDE, ATTEMPTED SUICIDE AND MARITAL STATUS BY WHITE AND NONWHITE

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>White</th>
<th>Nonwhite</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S%</td>
<td>N</td>
</tr>
<tr>
<td>Single</td>
<td>13.2</td>
<td>22</td>
</tr>
<tr>
<td>Married</td>
<td>8.0</td>
<td>113</td>
</tr>
<tr>
<td>Divorced</td>
<td>56.3</td>
<td>31</td>
</tr>
<tr>
<td>Widowed</td>
<td>29.7</td>
<td>28</td>
</tr>
<tr>
<td>N</td>
<td>194</td>
<td>909</td>
</tr>
</tbody>
</table>

*Suicide  **Attempted Suicide

Among nonwhite, completed suicide rates are four times higher for the married than for the single, followed by the divorced and widowed. Moreover, the nonwhite suicide rate for the divorced is approximately two times lower than for the divorced white, while for the nonwhite widowed the suicide rate is one-and-one-half times greater than for the white widowed.

Findings for the nonwhite attempted suicides show that the rates also differ from those of whites: Low rates for married and single, and exceptionally high rates for divorced and widowed.
I can offer some informal guesses as to the discrepancies between completed and attempted suicide rates and the white-nonwhite marital status groups. It would seem that the rates of the married, divorced and widowed nonwhite in a rapidly changing urban-industrial environment might have something to do with the high number of attempted and completed suicides in Flint. It may be, on the other hand, that figures in Table III-11 reflect different "types" of completed and attempted suicides among white and nonwhite, particularly among the nonwhite married, divorced and widowed. Nonetheless, the high rates of attempted suicide among the nonwhite widowed and divorced, and completed suicide among the nonwhite widowed suggests that economic and other demographic factors are at work.

Further evaluation of the data shows that the single white person is ten times more likely to complete suicide than the nonwhite single person, and the married white person is almost twice as likely to complete suicide as the nonwhite married person.

More single white persons and more divorced nonwhite persons attempt suicide, and approximately two-and-one-half times more divorced and two-and-one-half times more widowed nonwhite than divorced and widowed white attempt suicide.
As a general conclusion, more divorced, widowed and married nonwhites are attempters; more single, married and divorced whites completed suicide.

Completed and attempted suicide by marital status and sex: findings and discussion.

Evaluation of the relationship between marital status, completed and attempted suicide must also recognize differences in the rates by sex. Table III-12 presents completed and attempted suicide rates by marital status and sex.

**TABLE III-12**

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Males</th>
<th></th>
<th></th>
<th></th>
<th>Females</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suicide Attempts</td>
<td></td>
<td></td>
<td></td>
<td>Suicide Attempts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>N</td>
<td>R</td>
<td>N</td>
<td>R</td>
<td>N</td>
<td>R</td>
<td>N</td>
</tr>
<tr>
<td>Single</td>
<td>7.2</td>
<td>20</td>
<td>57.1</td>
<td>84</td>
<td>2.9</td>
<td>4</td>
<td>263.2</td>
<td>313</td>
</tr>
<tr>
<td>Married</td>
<td>8.3</td>
<td>81</td>
<td>26.5</td>
<td>142</td>
<td>4.4</td>
<td>34</td>
<td>81.3</td>
<td>447</td>
</tr>
<tr>
<td>Divorced</td>
<td>62.8</td>
<td>24</td>
<td>126.1</td>
<td>27</td>
<td>26.9</td>
<td>11</td>
<td>257.0</td>
<td>61</td>
</tr>
<tr>
<td>Widowed</td>
<td>57.8</td>
<td>21</td>
<td>114.2</td>
<td>22</td>
<td>8.2</td>
<td>10</td>
<td>46.3</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>10.8</td>
<td>146</td>
<td>37.6</td>
<td>275</td>
<td>6.3</td>
<td>59</td>
<td>112.4</td>
<td>852</td>
</tr>
</tbody>
</table>

Schmid found the suicide rate of 16.4 per 100,000 population, 15 years of age and over, for married females and 7.2 for single females in Minneapolis, while for a...
comparable period in Seattle, Schmid found the suicide rate to be 10.0 for single and 16.2 for married females.

Similarly, Cavan⁹ in Chicago found a lower suicide rate for the single as compared to the married males and females. The rates per 100,000 of 11.5 and 17.4 for single and married males, and 9.5 and 14.5 for single and married females indicates a similar pattern found by Schmid. These findings in Minneapolis, Seattle and Chicago are quite high than the findings in Flint, i.e., 2.9 for single females and 7.2 for males, and 4.4 for married females and 8.3 for married males, although the male-female relationships are similar.

The reader may come to the conclusion that most authors have been inclined to generalize beyond the scope of their data the prevalence of a low suicide rate for the married population as compared to the rates for the single. Schmid was aware of this danger when he stated: "...it usually happens that suicidal frequency is higher for the single than for the married, but exceptions to this rate do occur, especially in the case of females."¹⁰ This has been demonstrated with my data in Flint. It would appear that on the basis


of these findings the generalization with regard to the deterrent affect of marriage on suicide and attempted suicide would have to be qualified.

Table III-12 shows suicide to be less common among single than married women, but markedly higher among divorced and widowed. Rates for divorced women run approximately six times as high as those for married women, ten times for single, and three times for widowed females.

Committed suicide, on the other hand, is lowest among single males, then married, widowed and divorced, respectively. Rates for divorced and widowed men run between seven and eight times higher as for married men. Both sexes indicate that the married have a higher suicide rate than single, but the difference for the males is negligible. Married males commit suicide approximately three times as often as married females, divorced males complete suicide between two-and-one-half times as often as divorced females, and widowed males take their life seven times more often as divorced females.

Table III-12 also discloses the record for men and women who attempt suicide by marital status groups. Figures show that married males and females have a higher completed suicide rate than the single; but, for attempted suicide this relationship is reversed: higher rates for the single males and females. The proportion of married
to single males being slightly more than two to one, and for females more than three to one.

Particularly among males, marriage appears to be one of the best protections against attempted suicide. The attempted suicide rate for married men is three times lower than for married women, while the suicide rate for the same group is almost twice as high than for married females. Perhaps, there are some advantages which the married status affords against completed suicide for females; and some advantages which married life affords the male against attempted suicide.

Of interest is the finding that single and divorced female attempters possess almost identical rates. This is not the case for single and divorced males, where the ratio of single to married is about two to one.

For female attempters, three-and-one-half times as many single and divorced as married attempt suicide, but almost twice as many married as widowed women attempt suicide. In the group as a whole, divorced and widowed males are more prone to attempt suicide, while single and divorced women practice attempted suicide more often.

Divorced and widowed males show the highest rates of completed and attempted suicide. Among females, the divorced share the highest rate of completed suicide, while single compose the highest group of attempters.
Observations on completed and attempted suicide by marital status and sex suggest these conclusions: For each marital status category, male completed suicide rates are higher than female rates; and, female attempted suicide rates are higher than male rates, with the exception of the widowed, where the male attempted suicide rate is more than twice as high as that of the widowed females.

Marital status of male and female completed and attempted suicides by age groupings: findings and discussion.

Another important way of handling suicide and attempted suicide data by marital status is to derive age-specific rates. When observation is made to the age-specific rates one has more representative data. For instance, in the case of completed suicide rates for the single and married, some authors have found that the total rate for the single are in some cases lower than that of the married, but the single have higher rates for almost every age group. Thus, age-specific rates are more representative than total rates. Specific-age rates for the same data discussed in the previous section have been calculated, and the results are presented in Table III-13.

Consulting Table III-13, it becomes evident that for completed and attempted suicides 20 years of age
<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Single</th>
<th>Married</th>
<th>Divorced</th>
<th>Widowed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suicide Rate</td>
<td>Attem. Suicide Rate</td>
<td>Suicide Rate</td>
<td>Attem. Suicide Rate</td>
</tr>
<tr>
<td>15--19</td>
<td>1.2</td>
<td>140.5</td>
<td>3.4</td>
<td>112.9</td>
</tr>
<tr>
<td>20--24</td>
<td>6.6</td>
<td>207.4</td>
<td>2.9</td>
<td>122.4</td>
</tr>
<tr>
<td>25--29</td>
<td>24.4</td>
<td>161.3</td>
<td>1.9</td>
<td>100.0</td>
</tr>
<tr>
<td>30--34</td>
<td>11.2</td>
<td>184.2</td>
<td>2.8</td>
<td>70.5</td>
</tr>
<tr>
<td>35--44</td>
<td>9.0</td>
<td>146.8</td>
<td>6.8</td>
<td>51.5</td>
</tr>
<tr>
<td>45--54</td>
<td>12.5</td>
<td>151.1</td>
<td>7.9</td>
<td>28.9</td>
</tr>
<tr>
<td>55--64</td>
<td>16.8</td>
<td>75.5</td>
<td>12.3</td>
<td>4.3</td>
</tr>
<tr>
<td>65--+</td>
<td>27.3</td>
<td>115.0</td>
<td>3.3</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>6.6</td>
<td>152.2</td>
<td>5.8</td>
<td>54.3</td>
</tr>
</tbody>
</table>
and over, the rates are higher for the single than for the married. The suicide rate of 5.8 for the married is not appreciably lower than for the single with a rate of 6.6 per 100,000 population 14 years of age and over.

For suicides, the divorced and widowed have higher rates than single and married in almost all age groups, with the exception of the widowed in the 65 and over age division, where the rate is almost twice as low as for the single. Among the single one finds two peaks in the suicide rate. The first peak is reached in the 25-29 ages with a rate of 24.4, then the rate declines to a low of 9.0 in the 35-44 ages, followed by a steady increase to a high of 27.3 in the 65 and above ages.

For the married, the suicide rate shows a gradual decline in the 15-29 ages to a low of 1.9 per 100,000 married persons, then it increases to a high of 12.3 in the 55-64 ages, followed by a decline in old age.

Rates for the divorced achieve a plateau in the 25-34 years, followed by a sharp decline, and then increases sharply in the over 45 ages to a high of 157.1. However, suicide rates are lower for the widowed than for the single or divorced in the extreme age brackets. The overall trend for the widowed is from a high of 105.8 in the 30-34 ages, followed by a sudden drop until the age of 54 where the suicide rate tends to increase until age 64, and once more declines gradually in the
In all age groups, but the youngest, the suicide rate is lowest for the married, followed by the single, widowed and divorced, respectively. However, all ages indicate great variations among the marital status groups. For instance, in the 30-34 ages, the suicide rates are 11.2 for the single; 2.8 for the married; 42.2 for the divorced; and 105.8 for the widowed.

When attempted suicide rates are compared with the completed suicide rates by marital status groups, one notices that attempted suicide rates for every age group and marital status group is markedly larger than the respective suicide rates. Attempted rates tend to be highest in the 20-24 ages for the single, married, divorced and widowed, whereas completed suicide rates show the reverse, i.e., high rates for the single, married and divorce, in the 45 and above ages.

Among the single, the attempted suicide rate reaches its peak of 207.4 early in life, 20-24 ages, then drops in the next age division, increases to a second peak of 184.2 in the 30-34 ages; however, from then on it gradually declines to a low of 75.5 in the 55-64 ages, followed by a sudden increase in the 65 and above years.

For the married, the peak is reached in the 20-24 ages, also the peak for the single, then the rate shows a continuous decline to a low of only 4.3 in the 55-64 ages.
years. Attempted suicide rates for divorced show a small fluctuation in the 20-29 ages, rises to a high of almost 400 per 100,000 in the 30-34 years, followed by a decline to a low of 109.2 in the 55-64 years. Among the widowed, the attempted suicide rate reaches its peak of 166.6 in the 35-44 ages and gradually declines to a low of 43.9 in the 65 and above years.

For both types of behaviors in Flint, divorced and widowed have higher rates than married and single in all age groups, in particular the middle ages and 65 and over years of life.

In summary, attempted suicide is more frequent than completed suicide in all age groups, except the 55-64 ages for the married. From one age group to another, the completed and attempted suicide rates show variations for each of the marital status groups. I.e., the proportion of attempted to completed suicide in the 25-29 age bracket, for example, are approximately seven to one for the single; fifty to one for the married; and seven to one for the divorced.

Completed and attempted suicide, marital status, age-groups and sex: findings and discussion.

Most studies have pointed to the protective effect of married life on suiciding, because, with few exceptions, married people have had the lowest rates, when controlled for age. Frenay, in his study of suicide in Ohio found
that the single males had a lower suicide rate than the married males; but, when the rates were controlled for age, the age groups 20 years and above showed that married males had a slightly higher rate than single males.\textsuperscript{11} This finding is not supported from data in Table-III-14, as will be demonstrated later.

Durkheim claimed that: (1) too early marriages have an aggravating influence on suicide, especially as regards men; (2) from age 20 years, married persons of both sexes enjoy a "coefficient of preservation" in comparison with unmarried persons; (3) the coefficient of preservation of married persons varies with the sexes; and (4) widowed persons kill themselves i.e.s often than unmarried persons.\textsuperscript{12}

I find support for Durkheim's first hypothesis in Table III-14. Among males and females ages 15-19, suicide rates (and attempted suicide rates) for the married are higher than those of the single. Dublin's work gives further support to this conclusion: The suicide rates for the married versus the single males and females in the age group 15-19 are 18.4 versus 6.8, and 2.4 versus 1.7.\textsuperscript{13}Apparently early marriages do have an aggravating


\textsuperscript{12}Durkheim, Emile, \textit{op. cit.}, p. 178 and p. 261.

\textsuperscript{13}Dublin, Louis I., \textit{op. cit.}, p. 27.
### TABLE III-14

**COMPLETED SUICIDE, ATTEMPTED SUICIDE AND MARITAL STATUS BY SEX AND AGE-GROUPS 15 YEARS OLD AND OVER**

(Rates per 100,000 persons 15 years old and over)

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>SINGLE</th>
<th>MARRIED</th>
<th>DIVORCED</th>
<th>WIDOWED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
<td>MALE</td>
<td>FEMALE</td>
</tr>
<tr>
<td>15-19</td>
<td>2.2</td>
<td>--</td>
<td>21.4</td>
<td>3.7</td>
</tr>
<tr>
<td>20-24</td>
<td>8.1</td>
<td>3.3</td>
<td>1.6</td>
<td>2.0</td>
</tr>
<tr>
<td>25-29</td>
<td>28.5</td>
<td>--</td>
<td>4.5</td>
<td>--</td>
</tr>
<tr>
<td>30-34</td>
<td>15.5</td>
<td>--</td>
<td>2.1</td>
<td>2.7</td>
</tr>
<tr>
<td>35-44</td>
<td>14.8</td>
<td>--</td>
<td>7.8</td>
<td>5.9</td>
</tr>
<tr>
<td>45-54</td>
<td>11.7</td>
<td>13.9</td>
<td>12.8</td>
<td>5.4</td>
</tr>
<tr>
<td>55-64</td>
<td>24.6</td>
<td>18.7</td>
<td>19.5</td>
<td>3.6</td>
</tr>
<tr>
<td>65-over</td>
<td>34.7</td>
<td>18.9</td>
<td>6.3</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>7.2</td>
<td>2.9</td>
<td>8.3</td>
<td>4.4</td>
</tr>
</tbody>
</table>

**COMPLETED SUICIDE**

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>SINGLE</th>
<th>MARRIED</th>
<th>DIVORCED</th>
<th>WIDOWED</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>40.5</td>
<td>251.7</td>
<td>240.1</td>
<td>288.9</td>
</tr>
<tr>
<td>20-24</td>
<td>66.6</td>
<td>469.9</td>
<td>90.5</td>
<td>151.4</td>
</tr>
<tr>
<td>25-29</td>
<td>51.8</td>
<td>306.0</td>
<td>44.5</td>
<td>149.3</td>
</tr>
<tr>
<td>30-34</td>
<td>115.2</td>
<td>315.5</td>
<td>28.9</td>
<td>98.2</td>
</tr>
<tr>
<td>35-44</td>
<td>134.8</td>
<td>307.5</td>
<td>20.7</td>
<td>79.3</td>
</tr>
<tr>
<td>45-54</td>
<td>--</td>
<td>328.2</td>
<td>16.0</td>
<td>58.5</td>
</tr>
<tr>
<td>55-64</td>
<td>53.6</td>
<td>104.2</td>
<td>8.3</td>
<td>--</td>
</tr>
<tr>
<td>65-over</td>
<td>63.2</td>
<td>154.2</td>
<td>--</td>
<td>58.1</td>
</tr>
<tr>
<td>Total</td>
<td>57.1</td>
<td>263.2</td>
<td>26.5</td>
<td>81.3</td>
</tr>
</tbody>
</table>

**ATTEMPTED SUICIDE**

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>SINGLE</th>
<th>MARRIED</th>
<th>DIVORCED</th>
<th>WIDOWED</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>20-24</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>25-29</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>30-34</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>35-44</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>45-54</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>55-64</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>65-over</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>57.1</td>
<td>263.2</td>
<td>26.5</td>
<td>81.3</td>
</tr>
</tbody>
</table>
influence on the attempted and completed suicide rates for males and females.

Durkheim's claim that married persons 20 years or older are less likely to commit suicide than unmarried persons of the same age is true for females, but questionable for males. From data in Table III-14, it would seem that the older the married male is, the less likely Durkheim's second hypothesis is to hold.

However, the claim that married persons 30 and over are less likely to attempt suicide than unmarried persons of the same age holds true for males and females.

The amount of immunity to suicide associated with marriage does vary with the sexes. Married females in the 15-19 age group are six times as immune to suicide as are married males in the same age group, and three times as immune in the 45-54 ages. Furthermore, married males and females enjoy differential immunity to completed and attempted suicide in relation to the status of single, divorced and widowed. For example, the coefficient of preservation of married versus divorced males, ages 35-44, is between six and seven, but for females of the same age division the coefficient is between three and four.

Being younger is not as aggravating for females as it is for males. Early widowhood is less likely to culminate in suicide for females than for males.
The amount of immunity to attempted suicide associated with marriage does also vary with sex. Married males in the 30-44 ages are approximately four times as immune to attempted suicide as are married females in the same ages.

Also, married males and females enjoy differential immunity to attempted suicide in relation to unmarried males and females. To illustrate, the coefficient of preservation for married versus divorced males, ages 30-34, is roughly fifteen, but for females of the same ages, the coefficient is four.

Durkheim's fourth hypothesis can only be given acceptance if his reference group is single females and divorced females in the above 55 age groups. This also holds for attempted suicide: widowed persons, particularly males, attempt suicide less often than single males in the above 35 ages.

Clearly, when Durkheim says that "...the old kill themselves more often than the young..."; "... married commit suicide less often than the nonmarried..."; "... married females are about twice as immune to suicide as are married males...", and so on, Durkheim obscures important factual differences in the patterns of suicidal action. I.e., Durkheim is ignoring many subtleties in the etiology of suiciding.
The conclusion that emerges from Table III-14 is that within each age division, the completed suicide rates for divorced and widowed males and females is regularly higher than for married males and females, while for attempted suicide only rates for divorced males and females are consistently higher in all age groups than they are for either married males or females.

Among males and females, the completed suicide rate for married in all age groups, but the youngest and oldest, is markedly lower than for single, divorced and widowed males and females. Rates for divorced males run as much as 27 times as those for married males in the 30-34 ages. Further comparisons in the same table should not minimize the fact that many married persons do take their lives. Nonetheless, the data does reveal a major pattern in that married life in all age groups, but the extreme young, for males and females seems to be one of the best protectors against suicide. This pattern is so general and consistent that it must be accepted as at least an approximation of the actual situation.

For male and female attempters the rates in all age divisions over thirty are considerably lower for the married than for the single and divorced. In the 15-19 age group, married males and females show higher
rates than single males and females in the same age group, with the married male rate being six times greater than that of the single males. However, in the 20-24 ages, the pattern is reversed for married and single females: the rate for married females being more than three times lower as that of the single females in the 20-24 years.

In general, attempted suicide is more frequent among women than men for all marital status age groups. Among males and females, the attempted suicide rate for the married shows a greater differential in the frequencies between the extreme age groups, which suggests that married life and length of marriage may be a bulwark against attempted suicide. The same progressive trend, i.e., high attempted rates among the married young, and low rates among the married "old" does not appear to hold true for completed suicides.

Attempted suicide rates are higher in the 25-34 ages for divorced males and females, with the peak in the 20-24 years for males and in the 30-34 years for females. Why would the majority of divorced males attempt suicide five years sooner than divorced females? Divorced completed suicides show a similar pattern for both sexes: the highest male and female suicide rates in the 25-29 ages, with completed suicide three times as common for divorced males than
females.

**Conclusion:** completed and attempted suicide is highest in the 25-34 ages for divorced males and females, with attempted suicide between seven and eight times as common as suicide. Furthermore, the attempted suicide rate for divorced males shows a continuous decline from a high in the 25-29 ages to a low of 58.1 in the above 65 years, whereas for divorced females no regularity exists.

Among the widowed, attempted suicide is a phenomena of females in the 30-44 ages, and in the 35-64 years for males. Completed suicide rates for widowed males and females support the same pattern as for attempted suicide: high rates in the 35-64 years for males and high rates in the 30-44 ages for females. In the 35-44 age group, widowed males have a completed suicide rate seven times as high as for widowed females, whereas only three times more widowed males as widowed females attempt suicide.

The most **inconsistent** pattern in the attempted suicide rate is found among single males and females. For example, the rate for females shows the following pattern: almost doubling in the 15-24 ages to a high of 469.9 per 100,000; then it drops to 306.0; slightly increases again to 345.2; drops suddenly in the 35-44 years bracket; abruptly increases again to 327.2 in the

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next age group; then, in the 55-64 ages, declines to a low of 104.2; followed by a noticeable increase in the above 65 years.

Summary

This section on completed suicide, attempted suicide and marital status, indicated that among single persons the total suicide rate was less than among the married. When the age-specific rates are considered, the generalization from other studies that the single have higher suicide rates than the married is supported. If we are to consider total rates only from this study and compare them to other studies, we must conclude that the findings from this study do not give conclusive support to the generalization that the single have a higher suicide rate than the married. The discrepancy is greater for the females than for the males. The divorced persons have the highest suicide rate of any group with the exception that occasionally when the sexes are treated separately, the widowed may have a higher suicide rate than the divorced.

Among single persons, the total attempted suicide rate was higher than among the married. When the age-specific rates are evaluated, the generalization from other investigators that the single have higher attempted suicide rates than the married is supported. Findings from this study do give conclusive support that the single have
higher rates than the married when total rates or specific-age rates are considered. The divorced had the second highest rates, and when the sexes are treated separately, the divorced still have a higher attempted suicide rate than the widowed or married.

Suicide is indeed rare in childhood and does approach its peak in old age: attempted suicide is common in the young ages, and infrequent in the older ages for both sexes.

However, it appears that Durkheim was wrong about females since they reach their suicidal peak between 45-54. Completed suicide still is essentially a male phenomenon and attempted suicide a female phenomenon in Flint and the United States.

Although Durkheim argues that there are about three male suicides for every female suicide, at all ages, I found that in the 45-54 age group the ratio was about two-to-one, and that among those persons 65 and over, the ratio was almost five-to-one. Durkheim's three-to-one ratio does not hold for any of the age groups in my study.

White persons were found to have the highest suicide rate in Flint, followed by white females, nonwhite females and nonwhite males.

Nonwhite persons were found to have the highest attempted suicide rate in Flint, followed by nonwhite females, white females, and almost identical rates for white and nonwhite males.
Durkheim's contention that early marriages have an aggravating effect on suicide was found to be true. His statement that married persons twenty years or older are less likely to commit suicide than unmarried persons of the same age was generally true for both sexes. The "coefficient of preservation" of married males and females diminishes with increasing age in relation to never married females and males.

The amount of immunity to suicide for married persons does vary with sex. For example, married females in the 45-54 age group were about twice as immune to suicide as were married males of the same age. This immunity increases to five-to-one for married females in the 55-64 age group.

Durkheim was wrong about widows being less likely to commit suicide than the unmarried. He was probably right that widows are less likely to kill themselves than divorcees, when controlled for age.

General Summary of Findings

The social distribution of completed and attempted suicide in Flint conforms to a number of specific findings presented in other studies. Some of the more specific findings are...

1. Completed and attempted suicide rates fluctuate with regard to marital status, sex and age.

2. Completed and attempted suicide rates differ at each period in life and that among males differ greatly from that among females.
3. The highest completed and attempted suicide rates by marital status are for the divorced.

4. Married and single persons have the lowest rates for completed suicide, and divorced persons have the highest completed suicide rate.

5. Married males have appreciably lower completed and attempted suicide rates than single males, with the greatest disparity between the married and divorced.

6. Among married females much of the same pattern prevails as for married males.

7. In all age groups, more single, married and divorced females than males attempt suicide, while more widowed males commit suicide.

8. The suicide rate for the majority of the age groups have higher rates for the single than for the married, thus supporting the generalization that the single have a higher suicide rate than the married. The widowed and divorced have a higher suicide rate than the single or married.

9. The attempted suicide rate for the majority of the age groups have higher rates for the single than for the married, and the widowed and divorced have higher rates than the married.

10. In general, males have higher completed and attempted suicide rates in each age group than the females, however, there are exceptions, particularly in the older age groups.
11. Whites are more likely to commit suicide than non-whites: Nonwhites are more prone to attempt suicide. But, the Foreign-born population manifests a higher suicide rate than the Native-born population.

12. The relatively high rates of completed and attempted suicide among the widowed and divorced suggests the proposition that family contacts, family responsibility, and a stable married life may serve as deterrents against self-destruction. In other words, marital disruption, marital friction, and family disorganization may be etiologically related to completed and attempted suicide.
CHAPTER IV

A SOCIAL AREA APPROACH TO COMPLETED AND ATTEMPTED SUICIDE

Section A

The Ecology of Completed and Attempted Suicide

Three popular American studies concerned with the spatial distribution of suicides in urban areas are those of Cavan, Mowrer, and Schmid. In analyzing the spatial patterning of suicide, these investigators have emphasized the contrasts of rates within a city and their variability from one period to another.

In his study of suicide in Seattle for the years 1938 to 1942, Schmid found a heavy concentration of suicides in the "down-town" area, over fifty percent of the suicides were from this section of the city. He found the same basic pattern in Seattle and in Minneapolis. Cavan pointed out that the "Loop Area" and adjacent tracts in Chicago have the highest rates in

---

1 Cavan, Ruth S., Suicide, Chicago: The University of Chicago Press, 1928, pp. 77-100.


the city for the period 1919 to 1921. Mowrer, in a later study found a higher rate in the same section of Chicago; a rate of 144.5 per 100,000 population 15 years of age and over as compared to Cavan's suicide rate of 87.0 per 100,000 persons.

Data presented by these authors substantiate the association of suicide with personal and social disorganization in the ecological structure of the city. In those areas of the city where suicide rates are highest there also is present a high degree of mobility. A large proportion of the population in these areas dwell in a condition of social isolation. A stable primary social milieu seldom exists in those areas that have been designated as disorganized. In an environment of this kind the individual is unable to find the stable social world that would aid him in an acceptable adjustment to his problems, and as a consequence, he may attempt or commit suicide.

Explanations for the concentration of suicide and attempted suicide in the center-city and adjacent areas may be summarized as follows: (1) Mobility of the population: Mobility of the population is generally higher in high suicide areas than in other parts of the city. This area is in a constant state of change. (2) Composition of the population: Population in areas with high suicide rates consist predominantly of young single men
and women, and elderly homeless men. The population, however, is predominately of the male sex and the majority of these are adults. (3) Social Disorganization: This is related closely to population mobility. In a socially disorganized area there is the possibility of individual anonymity and there prevails the lack of community solidarity and well-integrated community standards. Such conditions are conducive to personal disorganization.

The community and its census tracts.

In most demographic respects, Flint is quite similar to other Michigan Standard Metropolitan Statistical Areas. Between 1950 and 1960, Flint's population increased over 38 percent of which 78 percent is urban and only 2.3 percent is rural farm. Ten percent of the population is non-white, 4.3 percent is foreign-born, 12.4 percent is native of foreign or mixed parentage. Median school years completed of persons 25 years old and over in 1960 was 10.8 years, 4.4 percent completed less than five years of school, and 40 percent completed high school. Slightly less than three-quarters of the population in 1960 were living in the same house as in 1955, and 12 percent of this population lived outside the county in 1955. The median age of the population was 26.1 years, 14.1 percent was under five years, 56.6 percent was 21 years and over, and 6.2 percent was 65 years and over.
The SMSA of Flint, the second largest urban area in Michigan had in 1960 a population of nearly 375,000. The county, which comprises one of the ten SMSA's in Michigan, is divided into 75 census tracts with an average population of 5,000. Over half, 196,940, of the population lives within the 41 census tracts in the city and the balance of the population lives in the surrounding 34 tracts outside the city limits, but within the county.  

Distribution of completed and attempted suicide by census tracts in Flint.

Using census tracts of Flint determined by the Census Bureau, I plotted the frequency of completed and attempted suicide on a city and county map and then converted the frequencies to rates per 100,000 population of the census tracts. Figures IV-1 and 2 present the results on completed and attempted suicide rates of Flint by census tracts. Generally, the greater the distance from the core of the city, the lower the committed and attempted suicide rates. This suggests the possibility of physical **locale** as a suicidal prophylactic.

In an effort to determine the association of high and low completed and attempted suicide rates with other

---


FIGURE IV-1

Distribution of Attempted Suicide Rates in the Census Tracts of Flint

Legend

Rates per 100,000 population 10 years old and over

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FIGURE IV-2

Distribution of Completed Suicide Rates in the Census Tracts of Flint

Legend

0-9 | 10-19 | 20-29 | 30-39 | 40+  

Rates per 100,000 population 10 years old and over

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demographic variables of Flint, I constructed Table IV-1 in which census tracts have been arranged into two basic community areas with the highest completed and attempted suicide rates contrasted with community areas with the lowest rates in relation to age, medium school years completed, percentage of white collar workers, percentage of foreign stock, percentage of population per household, percentage unemployed, and percentage in different household in 1955.

Focusing on Table IV-1, it can be observed that high suicide areas have an older population than low suicide areas; that the median school years completed is higher in high suicide areas; that there are more white-collar workers in high suicide areas than in low; that there is more foreign-stock in high suicide areas than in low; that in high suicide areas the population per household is smaller than in low; that there are more unemployed people in high suicide areas than in low; and, that the amount of residential mobility in high suicide areas is markedly higher than in low suicide areas.

It also can be observed that demographic patterns for high/low completed suicide areas are not the same way associated with high/low attempted suicide areas. For instance, high attempted suicide areas have a older population than low attempted suicide areas, but both types of areas are characterized by younger popu-
### TABLE IV-1

**TWO TYPES OF COMMUNITY AREAS COMPRISING THE HIGHEST AND LOWEST COMPLETED AND ATTEMPTED SUICIDE AREAS IN FLINT 1960**

<table>
<thead>
<tr>
<th>Areas by Census Tracts</th>
<th>Percent 65 years old and over</th>
<th>Median School Years Completed</th>
<th>Percent White Collar Workers</th>
<th>Percent Negro Workers</th>
<th>Percent Foreign Stock Population</th>
<th>Percent Unemployed</th>
<th>Percent in Different House in 1955</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Areas:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicides</td>
<td>12.3</td>
<td>11.2</td>
<td>43.5</td>
<td>7.6</td>
<td>36.6</td>
<td>2.6</td>
<td>8.2</td>
</tr>
<tr>
<td>Attempts</td>
<td>9.3</td>
<td>10.6</td>
<td>31.9</td>
<td>43.2</td>
<td>2.9</td>
<td>7.6</td>
<td>66.2</td>
</tr>
<tr>
<td><strong>Low Areas:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicides</td>
<td>6.8</td>
<td>9.2</td>
<td>27.1</td>
<td>61.9</td>
<td>23.4</td>
<td>3.9</td>
<td>4.6</td>
</tr>
<tr>
<td>Attempts</td>
<td>6.1</td>
<td>9.4</td>
<td>33.4</td>
<td>29.8</td>
<td>25.7</td>
<td>3.8</td>
<td>4.2</td>
</tr>
</tbody>
</table>

lations than the completed suicide population. The median school years completed is higher in high attempted suicide areas than in low; there are more white collar workers in low attempted areas than in high; there is more foreign stock in high attempted suicide areas than in low; in high attempted areas the population per household is smaller than in low attempted suicide areas; there are more unemployed in high attempted suicide areas than in low; and, the amount of mobility in high attempted suicide areas is markedly greater than in low attempted suicide communities.

In general, high completed suicide areas have an older population, higher medium school years completed; far more white collar workers; more unemployed persons; fewer non-white; high proportion of foreign stock; smaller population per household; and a greater percentage of residential mobility.

High attempted suicide areas have a younger population; higher medium school years completed; slightly lower percentage of white collar workers; more non-white; more foreign stock; fewer persons per household; more unemployed; and more residential mobility.

Comparing high completed suicide areas with high attempted suicide areas one finds that the suicide population is older; the completed suicide population is more educated; the committed suicide group is characterized
by more white collar workers; the suicide group is of lower foreign stock; has more unemployment; and has less residential mobility than the population in high attempted suicide areas.

Data presented in the previous Figures and Table suggest a possible association between social disorganization and the ecological structure of the city. Most of the data on the ecological aspects of suicide have been presented by Cavan in Chicago, Schmid in Seattle and Minneapolis, and Sainsbury in London. These authors have indicated of an association between high suicide rates within the center-city area and those areas of high population mobility and pronounced social disorganization.

It appears that in Flint, as in Chicago, Minneapolis, Seattle and London, completed and attempted suicides are located largely in the center-city district and the areas contiguous to it. The explanation for the high completed and attempted suicide rates are in part due to the composition of the population, including age, percent nonwhite, percent foreign stock, education, occupation, percent unemployed, number of persons per household, and to a relatively constant turnover of the population.

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Section B

Social Area Analysis: Methodology

Human ecologists, for many years have been interested in the spatial patterning in the urban scene, how it develops and changes. Three of the better known generalizations of the internal structure of cities are those of Burgess, Hoyt and Harris. All these studies have been used in describing, analyzing and comparing the spatial patterns of cities.

Shevky and Bell have advanced a system for analyzing census tract populations within a framework for a small number of measures which they regard as having high theoretical significance. Their detailed theoretical discussion includes the rationale for selection of the measures and mode of analysis. This method, derived from census tract statistics for a tracted city provides a frame within which detailed investigations of the social relationships in sub-areas within a city can be designed.

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Social area analysis has succeeded in gaining widespread recognition and use.\textsuperscript{9} It was offered by its originators as an analytic framework for the comparative study of certain aspects of the social structure of American cities.\textsuperscript{10} Social area analysis was developed from theories of social change, economic development, social disorganization and other macroscopic aspects of modern society. The typology as presently constructed constitutes a useable framework for the systematic and comparative investigation of the internal differentiation of urban populations. The typology of urban sub-areas is useful in this thesis, for it allows any census tract to be located in three different arrays by means of three indices constructed from census data.


The social area indices

The Shevky-Bell dimensions of economic status, family status (cohesion), and ethnic status are abstract variables which cannot be observed directly. At the same time, the researcher may find it difficult to decide whether these dimensions are intended to describe so-called "ecological correlations" between variables characteristic of urban areas, or designed to say something about the behavior of individuals in the urban environment. It turns out that they are descriptive of neither urban areas nor urbanites: rather they suggest associations between certain abstract dimensions derived from characteristics enumerated in a census and aggregated for areas.\(^{11}\) Shevky and Bell have shown, however, that the dimensions are reflected in census tract measures and that indices can be derived from weighted combinations of census measures.\(^{12}\)

**Economic status index:** This dimension is based upon measures of occupation and education. The construct is viewed as the product of the changing distribution of skills in the development of modern society, and considered to be an important factor among individuals and


sub-groups at one point in time. Occupation and education were selected from a large number and combinations of possible measures because of their greater importance in the changes in distribution of skills.

The index of economic status, based upon measures of occupation and education is defined in the manner suggested by Shevky and Bell:

1. Occupation—the number of craftsmen, operatives and laborers per 1,000 employed persons.

2. Education—the number of persons 25 years old and over who have completed no more than grade school per 1,000 persons 25 years old and over.

A low score on the economic status index (the range is from 0 to 100) indicates that the census tract contains many craftsmen, operatives and laborers, and many persons who completed only a grade school education or less. A high score indicates the tract contains few craftsmen, operatives and laborers, and few persons with an elementary education or less.

Family status (cohesion) index: The index of family cohesion is hypothesized by the authors to be another basic differentiating factor for individuals in modern society at one or more points in time. It is composed of measures dealing with family characteristics, namely: fertility, percent of women in the labor force, and percent of single-family dwelling units. The measure of fertility is assumed to reflect changes in the relation
of the population to the economy and concomitant changes in the function and structure of the family. Similarly, the measures of house-type and women in the labor force are also assumed to reflect changes in the function and structure of the economy and family.

The index of family cohesion, redefined for the purpose of this study, is composed of measures of fertility, women in the labor force, and single-family dwelling units. These variables are defined as follows:

1. Fertility—the number of children under 5 years of age per 1,000 women in the 15 through 44 age group.

2. Women in the Labor Force—the number of women in the labor force per 1,000 women 15 years of age and over.

3. Single-family dwelling units—the percent of occupied dwelling units which are single-family detached.

Fertility and single-family dwelling units are inversely related to family cohesion, while women in the labor force is directly related to the family cohesion dimension. High scores on this index indicate that the tract population contains high ratios of children under five, few women in the labor force, and many single-family dwelling units. Low scores indicate low ratios of children under five to women in the 15-44 age group, many women employed outside the home and many multiple-family units.

**Ethnic status index:** This index is hypothesized by the authors to be the third factor differentiating modern society. Implicit in this dimension is that it too reflects a major trend which has significantly determined
the present character of urban society. Shevky and Bell\textsuperscript{13} write:

This trend is composed of changes in the composition of the population, which are manifested by redistribution of the population in space, alteration in the age and sex composition, and the isolation of groups.

Variables composing the index of ethnic status measure differences in individuals and groups which reflect this trend. The index is a measure of the percent of concentration of specified racial and groups, i.e., members of the "new migration",\textsuperscript{14} and nonwhites residing in a census tract. A census tract having a large number of nonwhites and foreign-born whites are high in ethnic status. A low score indicates that the tract population contains only a small number of nonwhite and foreign-born.

\textbf{Construction of the social area typology:} Social area analysis implies that population aggregates within industrial society may be located in a social space or a three-dimensional typology bounded by three constructs, i.e., economic status, family cohesion and ethnic status, which are basic factors of urban differentiation. This

\textsuperscript{13}Shevky and Bell, \textit{op.cit.}, p. 18.

\textsuperscript{14}Members of the new migration and nonwhite include: Negro, Other Races and Foreign-born white from Poland, Czechoslovakia, Hungary, Rumania, U. S. S. R., Lithuania, Finland, Greece, Italy, Other Europe, Asia, French-Canadian, Mexico, and Other America.
classificatory device locates tracted populations which have similar configurations of scores on thes three indices. Employing the concept of attribute or property space with economic status as its horizontal axis and family cohesion as its vertical axis, census tracts with similar scores on these two factors are grouped into "types". Next, the economic status dimension and family cohesion dimension each is then divided into four equal segments which results in sixteen social area types of census tract populations with respect to economic status and family status characteristics.

<table>
<thead>
<tr>
<th>High</th>
<th>1D</th>
<th>2D</th>
<th>3D</th>
<th>4D</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>1C</td>
<td>2C</td>
<td>3C</td>
<td>4C</td>
</tr>
<tr>
<td>50</td>
<td>1B</td>
<td>2B</td>
<td>3B</td>
<td>4B</td>
</tr>
<tr>
<td>25</td>
<td>1A</td>
<td>2A</td>
<td>3A</td>
<td>4A</td>
</tr>
</tbody>
</table>

**Economic Status Index**

In Figure IV-3, social area "1A", for example, contains those tract populations having low economic and low family cohesion scores as opposed to social area "4D", which contains those tract populations having both high economic and high family cohesion characteristics.
The third dimension, the index of ethnic status, is added to the typology by distinguishing those tract populations that have a relatively large proportion of migrants and nonwhites. For example, census tracts which contain high proportions of members of nonwhites and foreign-born groups, which have traditionally held minority positions in American society have a high ethnic status score. Tracts with relatively low ethnic status have few members of these groups. Those populations characterized by high ethnicity are given an "S" along with their social area code, e.g., "1AS" would indicate a tract in a social area which has low economic status, low family cohesion and high ethnicity. In all, there are thirty-two possible social area types. All census tracts in any of the resulting thirty-two types represent populations which are relatively homogeneous with regard to economic characteristics, family cohesion properties and ethnicity, irrespective of their geographical location.

Social area approaches to the study of suicide.

The more recent works on suicide involving an ecological approach, of which that by Sainsbury\textsuperscript{15} is the most important, interpret the ecological approach largely in

\textsuperscript{15}
Sainsbury defined the ecological approach as follows:

The present study of suicide will employ this second approach, i.e., sociological approach, by examining the differences in suicide rates in various neighborhoods in London and interpreting these in terms of their social and cultural structure. The emphasis therefore is ecological, as the spatial distribution of suicide, that is the neighborhood in which they occur, is stressed in relationship to human institutions. To define the ecological concept further, it may be said that the behavior of a population is ecological when it is formed by the experience of living in certain areas and alters after quitting them.

Compared to most of the ecological works on suicide, Sainsbury's is a multi-factorial approach. The focus of his work, however, is ecological. Social disorganization and the causes of social disorganization he considers to be important in the causation of suicide. But, he emphasized the over-all effects of the characteristics of populations as the most important factors in an ecological study of suicide. In other words, Sainsbury's analysis is simply an analysis of the weighting of certain factors found to be associated with a given geographically specified area. This form of analysis, when divested of its geographical references, becomes an analysis of suicide in terms of social areas, which is merely a grouping of individuals in terms of certain social properties for the

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16 *loc. cit.*, p. 45.
purpose of a comparative analysis of the relations between these grouped properties and some other properties.\textsuperscript{17}

Part C

Hypotheses and Predictions

As the application of the urban typology in various studies of urban patterns indicate, there are districts and census tracts within cities in which distinctive combinations of factors appear. The application of this typology by numerous investigators indicates that there are present those types of census tracts and social areas which share particular types of social characteristics and behavior patterns. It has been pointed out in section A of this chapter that completed and attempted suicide also tend to cluster in certain tracts and not in others.

If, as Shevky and Bell have remarked, non-census data can be related to this typology it would permit the researcher to analyze the various social-psychological aspects, i.e., attitudes, values and behaviors, of the population divided into social area types. Then, one can anticipate to find important relationships between completed suicide rates, attempted suicide rates and the individual census tract scores of the three indices.

\textsuperscript{17}\textit{loc. cit.}, p. 51.
This investigation into the nature of completed and attempted suicide assumes that in the city of Flint it is possible to differentiate "social worlds" on the basis of the social area indices of economic status, family cohesion and ethnic status variables. Therefore, the completed and attempted suicide rates are expected to vary with the social character of census tracts.

The hypotheses and predictions will be cast in statistical terms, treating rates, not individuals. The claim being that a person in social area "ID" has a greater probability of committing or attempting suicide, other things being equal, than a person in social area "LD".

Used as ideal types, each of the thirty-two possible social area types must be viewed in relation to the others, because the conditions "causing" completed and/or attempted suicide in one social area will be also at work in the other social area. The task--and a difficult one--will be to isolate specific differences between social area types which will explain observed variations in the completed and attempted suicide rates in the 1960 social areas of Flint.

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18 The concept of "natural area" and "sub-culture" are not unrelated to the social area. Shevky and Bell view a social area as containing persons with similar social positions in the larger society.
Development of hypotheses

Completed suicide: Studies of completed suicide in urban settings, reviewed in Chapter I, have shown that the relationship between economic status and completed suicide is somewhat contradictory. For example, Sainsbury\(^{19}\) concluded that completed suicide rates increase with economic status, whereas Wendling and Polk\(^{20}\) found no consistent association between completed suicide rates and economic status in San Diego, San Francisco and the East Bay Region. The lack of consistency between economic status and the suicide rate in these studies and others may be due to differences in the operational definition of economic status. However, there is some consistency in early ecological studies of an association between the highest completed suicide rates and the most mobile, densely populated and low socio-economic intra-city areas.\(^{21}\) On the basis of these early findings one would expect to find an inverse relationship between economic status and the suicide rate. In all, one expects to find a small negative correlation between suicide and economic

\(^{19}\) Sainsbury, Peter, op. cit., p. 73.


\(^{21}\) Cavan-Mowrer-Schmid, op. cit.
status in Flint with high rates characteristic of low economic status areas.

The same studies, among others, provide evidence for the existence of a strong relationship between family integration and low suicide rates. The highest suicide rates tend to be found among the single, widowed, separated and divorced, whereas the lowest rates are associated with an integrated family life and the presence of children.22 However, when a high degree of familism is introduced as a variable along with economic status it has the effect of reducing the magnitude of the inverse relationship.23 Wendling and Polk24 for San Diego, San Francisco and the East Bay Region found high suicide rates in areas characteristic of few married people, with few children, often both parents working, and generally living in multiple-family dwellings. Similarly, areas in the city of Flint typified by relatively high proportion of women working outside the home, low fertility and few single-family dwelling units would be expected to have high suicide rates.


24Wendling and Polk, op.cit., p. 51.
The relationship between ethnic status and completed suicide remains clouded. For instance, among a population of many foreign-born whites a high suicide rate would be anticipated if they came predominantly from Protestant countries. On the other hand, a low suicide rate is anticipated in areas if the population is predominantly foreign-born Catholics and a high mixture of nonwhites. Accordingly, census tracts with the greatest mixture of foreign-born white from Catholic countries and nonwhite (fifty percent foreign-born and fifty percent nonwhite) would have the lowest suicide rates, while the completed rates would be highest in tracts that have many foreign-born white from Protestant countries. Thus, the completed suicide rate would range from very high to very low, depending upon the groups dominant in a particular tract. Minimizing the importance of religion, nevertheless, one would expect in Flint higher suicide rates in low ethnic status areas.

Attempted suicide: The sociological position generally assumes a sharp difference between completed and attempted suicide. Some investigators believe that completed suicide and attempted suicide are distinguished only by a difference of "intent": others believe that

they are two distinct phenomena. In this study, however, it will be assumed that what is characteristic of census populations with high, medium or low attempted suicide rates is also characteristic of census tract populations with high, medium or low completed suicide rates. The correlation between attempted and completed suicide of .86 in Flint is interpreted to mean that completed suicide and attempted suicide are not two unrelated phenomena, and the social conditions leading to attempted suicide also lead to completed suicide.

The few sociological studies done on attempted suicide have shown that attempted suicide rates tend to be high in low economic status areas of the city where the family situation is often unstable and where there is the greatest mixture of racial and ethnic groups. Again, these are the most mobile, densely populated and heterogeneous areas of American society, i.e., areas not conducive to a well integrated, stable family life.

Generally, one would expect to find an inverse relationship between economic status and attempted suicide. However, from previous studies one anticipates finding a positive association between family cohesion


and a low attempted suicide rate, with the highest rates among the single, separated and divorced. The ethnic and racial, especially between white and nonwhite, is important when it comes to attempted suicide. For instance, Schmid and van Arsdol in Seattle found that Negroes and Indians had the highest attempted suicide rates, while the Chinese and Japanese had the lowest rates.

Since attempted suicide rates are more consistently related to economic status and ethnic status than is completed suicide, with its high rates in the extremes on the economic status scale, the following relationships are expected between the urban typology variables and the attempted suicide rate: High attempted suicide rates in low economic status areas, low rates in high economic status areas; high rates in low family cohesion areas, low rates in high family cohesion areas; high rates in high ethnic status areas, and low rates in low ethnic status areas.

**Major hypothesis:** Etiological factors can be understood only as part-causes, affecting the total psycho-social make-up of an individual who is relating

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in various ways to his special social environment. The social organization of a locality in some way or degree determines the incidence therein of completed and attempted suicide. Among the factors held to be etiologically related to completed and attempted suicide are: (1) economic status; (2) family cohesion; and (3) ethnic status. If these factors are causally related to completed and attempted suicide, they should figure prominently in the social area types of Flint. Then, census tracts having different configurations of scores with respect to economic status, family cohesion and ethnic status will reflect different rates of completed and attempted suicide. In addition, it is reasonable to expect that the socially disruptive behaviors, i.e., completed and attempted suicide, would tend to cluster in census tracts where social disorganization is greatest, i.e., where familial disruption, marital disruption and social isolation is greatest. Predictions of completed and attempted suicide rates in the social area typology of Flint are presented on the next page.
## Predictions

<table>
<thead>
<tr>
<th>Variables</th>
<th>Suicide Rates</th>
<th>Attempted Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic Status Index:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low Economic Status</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>2. Medium Economic Status</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>3. High Economic Status</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Family Cohesion Index:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low Family Cohesion</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>2. Medium Family Cohesion</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>3. High Family Cohesion</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Ethnic Status Index:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low Ethnic Status</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>2. High Ethnic Status</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td><strong>Combinations:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low Economic-High Ethnic</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>2. Medium Economic-High Ethnic</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>3. High Economic-High Ethnic</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>4. Low Family-High Ethnic</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>5. Medium Family-High Ethnic</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>6. High Family-High Ethnic</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>1. Low Economic-Low Family</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>2. Low Economic-Medium Family</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>3. Low Economic-High Family</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>4. Medium Economic-Low Family</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>5. Medium Economic-Medium Family</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>6. Medium Economic-High Family</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>7. High Economic-Low Family</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>8. High Economic-Medium Family</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>9. High Economic-High Family</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>
Summary

Section A of this chapter attempted to present the spatial distribution of completed and attempted suicides in Flint, and to show that the ecological patterns of completed and attempted suicide conform to the findings presented in other studies of American cities. The area with the highest completed and attempted suicide rates in Flint is the center-city district and contiguous areas. These areas are characterized by high population mobility, ineffective social control, and a high degree of anonymity. However, the relationship between the spatial patterning of completed and attempted suicide merits additional research.

Section B described the technique called social area analysis, which can be used for the description and measurement of social trends in the urban structure of Flint. This technique represents an advance over the urban "natural area" framework for differentiating and analysing census tract populations.

Section C presented the urban typology as a predictive instrument for completed and attempted suicide rates. If, as Shevky and Bell have remarked, non-census data is related to the typology then one should be able to predict and analyze social aspects of suicidal populations in Flint.
CHAPTER V

FINDINGS

This chapter reports the findings of completed and attempted suicide rates in the social area typology for Flint. The analysis is ecological in nature using the framework of social area analysis.

As the application of the urban typology and various studies of urban patterns indicate, there are districts and census tracts within cities in which distinctive combinations of demographic, social and behavioral factors appear. In a previous chapter, it was pointed out that completed and attempted suicide tend to cluster in certain census tracts and not in others. It seems apparent that urban behavior patterns, i.e., completed and attempted suicide, can be related to the urban typology which, according to Shevy and Bell, permits the researcher to analyze the various social-psychological aspects of the population in the social area types. Thus, one should find a high relationship between the completed and attempted suicide rates and the individual census tract scores of the three indices—economic status, family cohesion and ethnic status. The predicted relationships between completed and attempted suicide rates of census tracts to the social area typology dimensions are present in the remainder of this chapter.
Using scores by census tracts for economic status, family cohesion and ethnic status, the writer has computed coefficients of correlations between completed suicide rates, attempted suicide rates and the three indices composing the urban typology. The results of these computations are presented in the following table, which indicates that qualitative evaluation would render the majority of the correlations as "low" or "very low".

**TABLE V-1**

Zero Order Correlations Between the Completed Suicide Rate, Attempted Suicide Rate, Economic Status, Family Cohesion and Ethnic Status

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Completed Suicide</td>
</tr>
<tr>
<td>Economic Status</td>
<td>.20</td>
</tr>
<tr>
<td>Family Cohesion</td>
<td>.42</td>
</tr>
<tr>
<td>Ethnic Status</td>
<td>.18</td>
</tr>
</tbody>
</table>

Table V-1 shows that the variable of family cohesion is the only one consistently related to completed and attempted suicide rates, having a positive correlation of .42 for completed suicide rates and .48 for attempted suicide rates. Flint shows one other important correlation between ethnic status and attempted suicide rates. Nevertheless, even though the remaining three correlations are small does not imply that they are insignificant. The small correlations between economic status, completed suicide rates and
attempted suicide rates may not be a unilinear relationship (as the review of the literature on these variables suggest), indicating that there is no straight line which fits the data. Therefore, the researcher should be careful not to infer that the two variables are unrelated. Inspection of the scattergram does indicate that the relationship between completed suicide--economic status and attempted suicide--economic status tend to be U-functional. Apparently, the elaborate procedure devised by Shevky and Bell does not appear to be substantially more predictive than simple correlations of various census data with completed and attempted suicide rates.

The positive correlations between family cohesion, completed suicide and attempted suicide means that the rates for both types of behaviors were highest in census tracts where fertility was low, many women were working outside the home, and there were many multiple-family dwelling units. It is in such areas of American cities that one would expect to find also a high incidence of anomie.  

The lack of a large correlation between economic status, completed and attempted suicide rates does not

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exclude the component variables of occupation and education from being "causally" related to suiciding.

Table V-2 presents the component variables for the factors of economic status, family cohesion and completed suicide and attempted suicide.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation Coefficients</th>
<th>Suicide</th>
<th>Attempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Status:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td>.39</td>
<td>.22</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>.17</td>
<td>-.32</td>
<td></td>
</tr>
<tr>
<td>Family Cohesion:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertility</td>
<td>-.58</td>
<td>-.63</td>
<td></td>
</tr>
<tr>
<td>Working Women</td>
<td>.42</td>
<td>.47</td>
<td></td>
</tr>
<tr>
<td>Single-Family Units</td>
<td>-.34</td>
<td>-.42</td>
<td></td>
</tr>
</tbody>
</table>

The correlations presented in Table V-2 indicate results that are almost as high or higher as the highest correlation in Table V-1. The component variables of family cohesion, i.e., fertility, percent of women in the labor force, and single-family dwelling units, are significantly related to completed and attempted suicide: (1) the higher the fertility, the lower the completed and attempted suicide rates; (2) the more working women, the
higher the completed and attempted suicide rates; and 
(3) the more single-family dwellings, the lower the com-
pleted and attempted suicide rates.

On the basis of these correlations, it is not im-
plied, however, that this urban typology would not 
produce more significant correlations for other social 
phenomena. Completed suicide and attempted suicide, as 
it was pointed out earlier is present in all areas of 
the city. It would seem that other phenomena that was 
completely located in census tracts with either high or 
low scores would be more predictive from Shevky and 
Bell's urban typology.

Test of Predictions

This section presents the distribution of completed 
and attempted suicide rates by economic status, family 
cohesion and ethnic status in the social area types of 
Flint. In Figure V-1 important differences in the com-
pleted and attempted suicide rates may be observed from 
social area to social area, with some social areas con-
tributing a disproportionate share of completed and at-
tempted suicides when compared with other social areas. 
The distribution of completed and attempted suicide 
rates in the urban typology is not totally a random 
phenomenon. The rate differentials in Figure V-1
suggests the proposition that the social area generates, aggravates and precipitates completed and attempted suicide.

FIGURE V-1

DISTRIBUTION OF COMPLETED AND ATTEMPTED SUICIDE RATES IN THE SOCIAL AREA TYPOLOGY OF FLINT

<table>
<thead>
<tr>
<th>Family Cohesion</th>
<th>Economic Status Index</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suicide Attempt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>2.6</td>
<td>19.3</td>
<td></td>
<td>54.8</td>
</tr>
<tr>
<td>Medium</td>
<td>3.5</td>
<td>47.4</td>
<td></td>
<td>63.9</td>
</tr>
<tr>
<td>Low</td>
<td>8.9</td>
<td>119.1</td>
<td></td>
<td>152.4</td>
</tr>
<tr>
<td></td>
<td>12.5</td>
<td>173.4</td>
<td></td>
<td>278.3</td>
</tr>
</tbody>
</table>

The results of the predictions in Figure V-2 indicate that the typology for Flint has only limited utility for predicting completed and attempted suicide. The urban typology is adequate on the family index, but weak on the economic and ethnic status indices. Whether it is more predictive of other social phenomena remains to be demonstrated by future studies.
<table>
<thead>
<tr>
<th>Variables</th>
<th>Findings</th>
<th>Suicides</th>
<th>Attempts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre Rate</td>
<td>Sup</td>
<td>Pre Rate</td>
</tr>
<tr>
<td></td>
<td>dic</td>
<td>por</td>
<td>dic</td>
</tr>
<tr>
<td>Economic Status Index:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low economic</td>
<td>H 9.1</td>
<td>y* <strong>yes</strong></td>
<td>H 94.1</td>
</tr>
<tr>
<td>2. Medium economic</td>
<td>L 5.3</td>
<td>y</td>
<td>L 65.2</td>
</tr>
<tr>
<td>3. High economic</td>
<td>M 11.3</td>
<td>y</td>
<td>M 57.4</td>
</tr>
<tr>
<td>Family Cohesion Index:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low family cohesion</td>
<td>H 19.2</td>
<td>y</td>
<td>H 212.7</td>
</tr>
<tr>
<td>2. Med family cohesion</td>
<td>M 9.8</td>
<td>y</td>
<td>M 92.5</td>
</tr>
<tr>
<td>3. High family cohesion</td>
<td>L 3.2</td>
<td>y</td>
<td>L 29.8</td>
</tr>
<tr>
<td>Ethnic Status Index:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low ethnic status</td>
<td>H 12.6</td>
<td>y</td>
<td>L 79.8</td>
</tr>
<tr>
<td>2. High ethnic status</td>
<td>L 7.3</td>
<td>y</td>
<td>H 138.1</td>
</tr>
<tr>
<td>Combinations:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low econ-High ethnic</td>
<td>H 11.4</td>
<td>y</td>
<td>H 86.4</td>
</tr>
<tr>
<td>2. Med econ-High ethnic</td>
<td>M 4.1</td>
<td>y</td>
<td>M 124.3</td>
</tr>
<tr>
<td>3. High econ-High ethnic</td>
<td>L 8.4</td>
<td>n</td>
<td>L 51.7</td>
</tr>
<tr>
<td>4. Low family-High ethnic</td>
<td>H 13.1</td>
<td>y</td>
<td>H 143.5</td>
</tr>
<tr>
<td>5. Med family-High ethnic</td>
<td>M 7.3</td>
<td>y</td>
<td>H 178.2</td>
</tr>
<tr>
<td>6. High family-High ethnic</td>
<td>L 2.1</td>
<td>y</td>
<td>L 91.4</td>
</tr>
<tr>
<td>1. Low econ-Low family</td>
<td>H 9.5</td>
<td>y</td>
<td>H 133.7</td>
</tr>
<tr>
<td>2. Low econ-Med family</td>
<td>M 3.5</td>
<td>n</td>
<td>M 47.4</td>
</tr>
<tr>
<td>3. Low econ-High family</td>
<td>M no data</td>
<td>L no data</td>
<td></td>
</tr>
<tr>
<td>4. Med econ-Low family</td>
<td>H 19.2</td>
<td>y</td>
<td>H 212.9</td>
</tr>
<tr>
<td>5. Med econ-Med family</td>
<td>M 7.6</td>
<td>y</td>
<td>M 81.2</td>
</tr>
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<td>6. Med econ-High family</td>
<td>L 2.1</td>
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<td>M 57.2</td>
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<tr>
<td>9. High econ-High family</td>
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General Summary of Findings

This chapter, by relating completed and attempted suicide rates to economic status, family cohesion and ethnic status variables has isolated what may be important components in the suicide complex. Interpretation and further analysis of these components should serve to contribute to the development of a theory of suicide that is well grounded in empirical observations on the social and demographic levels.

Specifically, this chapter examined the relationship of completed and attempted suicide rates to a hypothetical continuum, based on economic, family and ethnic characteristics extending through census tracts in Flint. The analysis disclosed that there are rate differentials for both types of acts by economic status, family cohesion and ethnic status, which suggests that the social area generates as well as precipitates suicidal actions.

The variable of family cohesion showed a consistent positive correlation. Areas low in family cohesion, i.e., large percentage of women working outside the home, low percentage of children under age five, and few single-family dwellings are more given to completed and attempted suicide.
Summary of findings:

1. Completed and attempted suicide rates vary in the social area types.

2. Areas with high completed and attempted suicide rates are low in family cohesion, high and low in economic status, and high and low in ethnic status.

3. The urban typology indices of economic status and ethnic status do not appear to be substantially more predictive than simple correlations of other census data with completed and attempted suicide rates.

4. Intra-city comparisons of census tracts showed that in some social areas attempted suicide rates tend to support the pattern for completed suicide rates.

5. The correlations presented for the component factors of economic status, family cohesion and ethnic status were found to be high or higher than the correlations for the indices, which suggests that the sub-variables are more predictive than the indices.

6. There is a tendency for a high rate of both completed and attempted suicide to be associated with apartment living. Therefore, does multiple-family living exacerbate suicidal impulses, or do suicidal persons gravitate to apartment units?
CHAPTER VI

DISCUSSION OF FINDINGS

In line with previous findings that family cohesion is consistently related to completed and attempted suicide, suggests that the crucial variable is family cohesion. Findings in this study disclosed that family cohesion is the crucial variable in completed and attempted suicide. The interpretation of the findings may not depend so much on whether completed suicide or attempted suicide in urban sub-areas is positively or negatively related to the indices of economic status, family cohesion or ethnic status, but how completed and attempted suicide rates are related to the index of family cohesion.

Further analysis showed that there is little consistent agreement in this study between the findings for economic status, ethnic status, completed and attempted suicide in Flint. Other studies have found a similar inconsistency when economic and ethnic status were related to suicide. However, the dimension of family cohesion supports Durkheim's contention of the relationship of family life and the presence of children with a low suicide (and attempted) rate.

The correlations indicated that the relationship between the three indices of economic status, family cohesion and ethnic status, and completed and attempted suicide were "low". I did not expect to find that the correlations for the component variables of occupation, education, fertility, working women and house-type were almost as high or higher as the highest correlations for the indices. The elaborate and time-consuming procedure devised by Shevky and Bell does not appear to be substantially more predictive than simple correlations of various census data, i.e., fertility, house-type, percent in labor force, percent of males (or females) over twenty-five years of age, number of years of education, and so on with completed suicide and attempted suicide.

All correlations for the components of fertility (–.58 for suicide and –.63 for attempted suicide), working women (.42 for suicide and .47 for attempts), and single-family dwellings (–.34 for suicide and –.42 for attempts) are significantly predictive in the direction hypothesized by authorities on the subject. Although the index of family cohesion has lower correlations (.42 for suicide and .48 for attempts) than some of its component variables, which suggests that the index variables may be more predictive variables for suicidal behavior than the family cohesion index.
Cavan, Mowrer, Schmid and Sainsbury, among others, referred to the lack of family integration in those areas of the city having the highest completed suicide rates. In describing such an area, Cavan\(^2\) writes:

For the most part they are either not married or at least are not living with husband or wife; and they are unencumbered with children. Men and women, even when married, often both work, which again prevents a home and a family life in the old-fashioned sense of the words.

Durkheim\(^3\) adds:

Just as the family is a powerful safeguard against suicide so the more the family is strongly constituted and the greater its protection against suicide.

Whether it is the quality of the marital bond or the number of children in the family which is more important as a preventive check against suiciding remains speculative. However, the latest research on suicide indicates that the presence of children has a much greater preventive effect on women then on men, because of the parental role which is believed to be stronger among women, particularly married women.\(^4\) This may account, other things being equal, the great difference in the completed and attempted suicide rates between the sexes, and the vari-

\(^2\)Cavan, R.S., *Suicide*, op. cit., p. 92.


\(^4\)Dublin, L.I., *Suicide*, op. cit., p. 29.
ations in rates among the married, single, widowed and divorced. Moreover, it may be that it is not marriage that influences the completed and attempted suicide rates, but rather that marital status and the prevalence of attempted and/or completed suicide are both influenced by the same social-psychological determinants. To quote Dublin: 5

The married person in an unbroken home with children is in many respects a highly selected person. He or she has succeeded in finding a mate, in giving expression to the natural desires of most persons for parenthood, and in maintaining the home intact. Persons who have remained single or whose marriages have failed, as is the case with the divorced, in general are probably inherently less well equipped to maintain usual human relationships and responsibilities and hence to adjust to or overcome life's vicissitudes. On the other hand, the relatively high suicide rates among the widowed seems to suggest that married life itself is a defense against some contingencies that may lead to self-destruction. The community of interest, the intimacy of family contacts, inter-dependence among family members, and the acceptance of family responsibilities serve to affirm and strengthen the desire and determination to live.

Family life as it exists in some areas of the city is often favorable to completed and attempted suicide. The residential distribution of completed and attempted suicide in San Diego, Chicago, Minneapolis, Seattle, London, etc., as well as in Flint indicated a concentration

5 Ibid., pp. 29-30.
of suicided and attempted suicides in the center-city district and areas contiguous to it. These are the areas of the city generally regarded as areas of "social and personal disorganization"; and, as indicated by the high percentage of unemployed persons, high geographical mobility, high proportion of persons per household, ... , are not family areas. This is also consistent with the classic notions of social integration as a regulatory and protective force among humans.

At the beginning of this study, I pointed out that this thesis owed its inception to Durkheim's work and his contention that suicide rates of areas vary to the extent that inhabitants are identified with social groups that control and define their activities. In that perspective, the fundamental postulate of this study is that disruptions of social relationships is an important—if not the most important—etiological factor in suiciding, whether variations in the rates or the individual case. The general thesis is stated as two basic propositions:

1. The greater the incidence of disrupted social relationships in a population, the higher the completed and attempted suicide rates of that population.

2. All completed and attempted suicide victims have experienced a "set" of disrupted social relations, that is not found in the history of non-victims.  

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It is to be noted, however, that the relevant theoretical question pertaining to this study is not so much whether individual suicides or attempted suicides have experienced disrupted relationships, but whether "weakly" integrated groups, perhaps due to economic failure, marital conflict, social failure in general have high rates of completed and attempted suicide. In that sense, completed and attempted suicide rates vary inversely with the "...stability and durability" of social relationships in society, community and group.

Furthermore, no claim is made that a particular type of disruption or disorganization is essential for a specific type of suiciding. Instead, the referent is all kinds of social disruptions. Social disruptions being defined as "...any instance where a regular pattern of social interaction between two or more persons is interrupted or destroyed."\(^7\) Defined as such, the concept of social disruption embraces numerous and varied occasions and events. For instance, divorce; separation; death of a parent, lover, child or friend; termination of employment, education, marriage, love affair; role conflict; residential change; status change; changes in the life-cycle, to mention only a few instances of social disruptions. Moreover, the fact of social disruption may also be perceived as actual

\(^7\)Ibid., pp. 17-18.
or potential. It includes situations where individuals have a basis for anticipating a disruption, i.e., the date when the marital relationship is terminated; the date at which employment is terminated; the approximate date at which one or a member of the family is expected to expire because of terminal illness, to mention only a few possible situations.

The urban typology of urban sub-areas is useful in this connection, since the family cohesion index largely measures differences in family structure, and, it is assumed, indicates corollary differences of behavior. Thus, when economic status and/or ethnic status are controlled, differences in the index of family cohesion for specific tract populations should indicate consistent variations in social behavior, including completed and attempted suicide.

One study is of particular importance in this regard. Greer's sampled two social aggregates inhabiting tracts with similar economic and ethnic status characteristics, but varying with respect to family cohesion scores. The sample populations were then studied by means of reported social participation and degree of social involvement. The study disclosed consistent differences in parti-

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pation between two census tract areas with respect to family cohesion. The high family cohesion area differed sharply and consistently in the direction of more participation in the local community. Their neighboring score was higher, they were more apt to have friends in the local area, and these constituted a large proportion of all close friends, i.e., those visiting at least once a month. Also they were more apt to go to cultural events such as movies, stage shows, and study groups in the local neighborhood.

The same high family cohesion area had a higher rate of membership and participation in formal organizations other than church, and a larger proportion of their organized activities were local in nature. The members of formal organizations to which the high family cohesion population belonged were more likely to live in the immediate local community.

What really is important from Greer's study is the finding that the most important single kind of social relationship for high family cohesion groups was kinship visiting.

Moreover, the high family cohesion population described their area as a "little community" where "people are friendly and neighborly". The low family cohesion area, on the other hand, most frequently spoke of the "nice people" who "leave you alone and mind their own
business". According to Greer, this group was less committed to remaining in their present area, with a large proportion stating that there where other areas in the city in which they would rather live.

Another pertinent finding by Greer is that the high family cohesion group is more apt to have friends in other high family cohesion areas, while the low family cohesion group is more likely to visit in other low family cohesion areas.

The importance of the Greer findings to this investigation is the fact, that, if populations at given levels on the family cohesion scale interact more frequently and more intensely within those levels than with other populations, such interactions should result in fairly stable networks of informal and formal patterns of communication, i.e., social relationship patterns vary with variations on the family cohesion scale.

The Greer findings highly suggests that the family cohesion scale does affect social participation and degree of involvement, and tends to support the hypothesis that differences in the family cohesion index will indicate not only differences in social participation, but also differences in social behavior, i.e., completed and attempted suicide.
In line with the findings of this study, and that by Greer, that the family cohesion dimension is associated with differential degrees of social involvement and variations in the completed and attempted suicide rates in Flint and other American cities, suggests another important proposition: That in high family cohesion areas one finds a low degree of anomie. The assumption that anomie is an important factor in the etiology of suicide is well documented. Therefore, one would expect anomie to be related to completed and attempted suicide rates and the social area indices. Bell's study is important in this regard.

Selecting census tracts according to their scores on the urban typology so that they varied widely with respect to economic status, family cohesion and ethnic status, Bell found that anomie is inversely related to economic status and positively related to social isolation, i.e., those persons who have higher anomie scores tend to be more isolated than persons with lower anomie scores on the Srole Anomie Scale.

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In areas where anomie and social isolation is pronounced completed and attempted suicide will be high, because family life, community life will be unstable, i.e., conditions conducive to suiciding. In other words, men and women are more prone to completed and attempted suicide when they live in, but apart from, social groups which neither acknowledge nor provide the means for the achievement of a chosen way-of-life. Low economic status, and low family cohesion are not life-goals for most persons in American society. A person of low economic status, lacking in education and occupational training has little opportunity and few social choices to improve his way of life. Economic stringency, after all, is only one factor among many in the suiciding complex. Persons who commit or attempt suicide are frequently overwhelmed by conditions which many other people are able to surmount. In the last analysis, it is the social-psychological constitution of the individual in relation to the stresses and frustrations that he faces which make the difference between life and death.
The Interrelationship of Fertility, Working Women and House-Type to Completed and Attempted Suicide

The nature of the empirical relationship between family cohesion and suiciding apparently lies in the differential distribution of social characteristics, i.e., fertility, working women and house-type, along the family cohesion scale. In other words, the amount and quality of family life in a given census tract appears to have some effect on the degree to which people are social-psychologically isolated from other family members, from their neighbors, from kin groups, from peer groups, and so on, thus lacking a sufficient degree of family cohesion and social integration in general.

Parsons and Leslie concluded that the family in urban society is more than ordinary structurally and functionally isolated from larger groups of kin, building and maintaining of friendships and community commitments, because isolation is continuously being built into the very structure of the family. Such isolation may well have the effect of weakening certain constraints which tend to preserve and integrate family, kin and community ties. Furthermore, the weakening of family life and the conjugal unit, stemming in large part from (1) the


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changing social position of women; (2) movement of more women into urban occupations; (3) greater mobility from family and kin; (4) weakening of familistic values, i.e., value of children; and (5) opportunities for more variant life-styles, i.e., consummepship pattern, career pattern or familistic pattern, often demand the weakening of familial, group and community ties.

The weakening of familial and communal ties, in large part, stem from the interrelated changes taking place in a society experiencing "increase in scale". Changes in society undergoing increase in scale have not only affected the range of choices in family size and life patterns, but also demanded the necessity for many women to work outside the home. These women who do work outside the home, largely in occupations characteristic of urban society, is reflected not only in the way of life of the individual, but more so in the life-style of the family. Thus, if the family or any other social group loses cohesion it can no longer exercise the function of effective socialization and social control. As family cohesion increases, family-centered, home-centered life increases along with an increase in neighborhood and community participation, especially if there are children in the family. When there is a high integration of the

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population into social groups one can expect a low incidence of completed and attempted suicide.

In other words, when high family cohesion is characteristic of an urban sub-area, i.e., high family cohesion understood as primary group contacts, it acts as a deterrent to suiciding even in the face of extreme economic conditions or membership in an ethnic group having a "high" ethnic status position in American society. A loss or reduction of individual, group or familial cohesion and the stage is set for attempted or completed suicide, which may be only two among a number of socially deviant behaviors available to the individual as a futile effort to adjust to the costly demands of the "urban way of life".

Changes in family structure and function in urban society cannot be fully understood without reference to the relationships between the family and specific economic variables, i.e., occupation and education. Certainly a man's occupation, and the prerequisites that go with it, greatly influences where a family will live, their social choices, material possessions, values and aspirations, the size of the family, and most importantly, how they are accepted by others. Because in American society, status of the family and its individual members depends primarily on the occupation of the head of the household.
Moreover, economic status not only determines a family's social status in the community, but also its relationship to the larger society.\textsuperscript{13}

The relation of the family to economic variables has given rise to specific variations not only in family structure and function, but also has produced specific variations in family size. In part, the size of the urban family is strongly related to—but not determined by, such variables as education and occupation. In view of variations in size of the family within similar education and occupational levels, two separate processes can be assumed to take place concurrently: (1) certain segments of the population within the urban complex are in process of transission from high fertility to low fertility or vice versa; and (2) there is a continuous differentiation process taking place producing relatively fixed alternative forms of fertility patterns among families.\textsuperscript{14} Adoption of a given family form by a given segment of the population would be explicable in reference to "ranges in life-styles".


\textsuperscript{14}Shevky, E. and W. Bell, \textit{op. cit.}, p. 13.
The Social Area Concept and its Relation to Completed and Attempted Suicide

The social area concept, in my estimate, provides a theoretical and empirical means for explaining variations in completed and attempted suicide rates. Although the elaborate procedure devised by Shevky and Bell does have only limited predictive power on the economic and ethnic status indices, with the component variables being more predictive then the indices. Nonetheless, other social phenomena, i.e., voting behavior, juvenile delinquency, mental illness, etc. may be more predictive in the urban typology framework.

It is postulated that there exist fundamental variations, as measured by economic status, family cohesion and ethnic status, in the ways of life or life-styles of social area populations. Furthermore, it is these basic differences in the life-styles of residents in each social area type due to variations in the experience of living in a particular area, which reveal irregularities

15The concept of social area implies the way in which we group one set of units into larger units on the basis of their similarities with respect to their social characteristics. The delineation of urban sub-areas assumes that the social area contains individuals having the same standard of living, the same life-style, and the same ethnic and cultural background. In short, individuals living in a given social area differ with respect to attitudes and behaviors from individuals living in other social areas.
in the phenomena of completed and attempted suicide. Thus, variations in economic status, family cohesion and ethnic status are postulated as aspects of basic differences between the styles-of-living from social area to social area. Completed and attempted suicide then is a derivative of the way of life of individuals residing in census tracts differentiated in the manner of social area analysis.

Life-style is conceived as the social-psychological manner in which individuals appraise and utilize the opportunities and limitations to which they are exposed. Aspects of life-style are generally due to the situation in which individuals typically find themselves. The style of life of a tract population may be more or less distinctive with respect to the following: type of residence and its location in the community; type of occupation for the men (and women); patterns of family cohesion; amount and kind of social participation; religious and political affiliations; and so on. This incomplete list of complex factors of urban living suggests that the concept of life-style is not inappropriate with the concept of social area.

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The tracted population of Flint may be seen as differing in the levels of living (economic status index), in the styles-of-living (family cohesion dimension) and population composition (ethnic status index). How these constructs are interrelated remains somewhat of a methodological problem which requires further research. However, in this study family cohesion is conceptualized as the higher the index of family cohesion, the nearer to an ideal life-style. In other words, towards the low family cohesion scale are tract populations with many apartment houses and other types of multi-family dwellings; many single persons; many childless or one-child families; and a large proportion of "unattached" individuals. Towards the high family cohesion scale are many single-family dwelling units inhabited by families with several children, and a high proportion of women are not employed outside the home and play the roles of wives and mothers. In such areas emphasis is on a family-centered, home-centered way of life. Among low family cohesion groups, emphasis is on diversity of interaction, high geographical mobility, ephemeral social relationships, and so on. Low family cohesion life-styles imply the lack of social cohesiveness, lack of social control, inadequate socialization all of which, singly or taken together, generate, aggravate and often perpetuate the conditions leading to socially dis-approved behavior, i.e., completed and attempted suicide.
One of the first attempts to equate the construct of life-style with spatial areas in cities was made by Mowrer. Different families were viewed as part of the general life patterns that developed in urban areas. Differentiated ways of living, according to Mowrer, was related to the growth of residential areas in and around metropolitan areas, which were viewed as an integral part of the total growth and changes of the larger society. The latter, however, in turn depended on the level of the birth rate, death rate, migration and ultimately on the social-psychological choices made by individuals. In addition, particular areas are not only more symbolic of certain life-styles than others, but their social structures offer differential opportunities for the achievement of these life-styles—at certain cost. The fact that the residential area is expressive of its population's style-of-living, and instrumental in its achievement, is applicable to any neighborhood in the urban complex. Similarly, Cavan called attention to the diversification and variations of urban living:

Each type of urban sub-area has its own way of life. When differences seem to exist between city and suburb, a strong factor is the life-style already developed by families and individuals, which they seek to express more fully in one or another urban sub-area.


Summary

This chapter has been limited to the discussion of completed and attempted suicide rates as they are related to the social differentiation of census tracts. The technique of social area analysis focused on three factors which traditionally have been considered important in the study of suicide. Implications are that behind the complex manifestations of completed and attempted suicide lies a common sociological ground of economic, family and ethnic variables relevant for any general theory of suicide. The interpretation offered was that high mobility, social isolation, lack of familial and communal cohesion preclude a stable social framework by which the individual may orient himself, and the result is frequently completed or attempted suicide.

The index of family cohesion suggested that family-centered, home-centered life, as it exists in certain sub-areas of the city, does not offer a social milieu conducive to suiciding. High family cohesion implies primary group contacts and as such acts as a deterrent to completed and attempted suicide. Furthermore, when there is high integration of the population into social groups one can expect to find an inverse relation with completed suicide and attempted suicide in Flint.
Conclusion

The problem of this study concerned the relationship between completed and attempted suicide rates, and census tracts in Flint whose characteristics were expressed statistically in the manner suggested by social area analysis. The hypothesis to be tested was that differences in the completed and attempted suicide rates vary with the social characteristics of census tract populations, as defined by economic status, family cohesion and ethnic status. The variable of family cohesion, and its component variables of fertility, working women and type of dwelling unit were the only variables consistently related to completed suicide and attempted suicide. This finding was in support of conclusions reached by other investigators.

This study illustrated the utility of the urban typology as an integrative framework for the classification and comparison of large amounts of census data. On the demographic level, the social area approach enabled me to order a large amount of census data into differentiated urban sub-areas. On the social level, the social area technique enabled me to compare urban sub-areas differentiated on the basis of economic status, family cohesion and ethnic status variables, which made the testing of specific relationships between two
forms of behavior—completed suicide and attempted sui-
cide—possible.

Furthermore, this study disclosed that the elaborate
procedure devised by Shevky and Bell does not appear to
be substantially more predictive than simple correlations
of various census data with completed and attempted sui-
cide. The variables of anomie and social isolation were
also incorporated as explanations of high completed and
attempted suicide rates in a wide variety of social area
types.

The findings were discussed in relation to economic
status, family cohesion and ethnic status. When completed
and attempted suicide rates were examined in relation to
economic status, the following conclusions emerged:

1. Completed suicide was highest in areas of extreme
economic status.

2. Attempted suicide was highest in low economic sta-
tus areas, moderate in medium and low in high eco-
nomic status areas.

When completed and attempted suicide rates were ex-
amined in relation to family cohesion, it was disclosed
that:

1. Completed suicide was highest in low family cohesion
areas and lowest in high family cohesion areas.

2. Attempted suicide was highest in low family cohesion
areas and lowest in high family cohesion tracts.

Support was given to Durkheim's contention of the re-
relationship of family life and the presence of children with
a low suicide rate.
When completed suicide and attempted suicide rates were examined in relation to ethnic status, the following conclusions emerged:

1. Completed suicide was highest in areas of low ethnic status.

2. Attempted suicide was highest in areas of high ethnic status.

Contribution

This thesis represented a basic contribution to research on the problems of completed suicide and attempted suicide, as well as on more general relationships in the area of urban ecology. This study is unique in that it makes extensive comparisons of two specific, but related forms of deviant behaviors in a "small" Michigan Standard Metropolitan Statistical Area at one point in time. In that respect, it goes beyond a simple replication of other studies on similar problems.

An important part of the research in this study was the application of the urban typology, developed by Shevky and Bell, as a predictive instrument to the phenomena of completed and attempted suicide, particularly from an ecological perspective.

In addition, this thesis (1) added the city of Flint to the growing list of American cities which have been analyzed by the urban typology approach; (2) shed some light on the local aspects of two important social problems;
and (3) provided information on the relationship between census tract populations, completed suicide and attempted suicide in Flint.

Limitations

This study presents only part of the complex story related to completed and attempted suicide. This writer, first of all, was limited by the kind of data which was at my disposal. Generally, records and statistics available on completed and attempted suicide are often inadequate. They are inadequate if the investigator wanted to find the motivations of the individuals committing or attempting suicide, his membership in voluntary or involuntary groups, the quality of his home life, or his personality characteristics.

Relationships between the spatial distribution of completed and attempted suicide with other spatially distributed phenomena, i.e., homicide, juvenile delinquency, etc., requires further research. The factor of mobility (psychological, social and physical), believed to be an important aspect of suiciding, requires more research. More needs to be investigated in urbanized society, especially its effects on the human group and the individuals composing these groups.

Methodologically, the urban typology requires additional specifications, elaborations and formulations
for greater discriminatory power of the social area types. It is hoped that the present technique of social area analysis will be superseded after the 1970 census by some modifications in the current method.

Additional research is in order if one is to develop more valid and reliable indicators of life-styles, which will greatly increase our ability to explain and predict variations in completed and attempted suicide rates. More research must be directed towards the identification of different life-styles and the social processes by which each particular life-style channels motives, attitudes, emotions and "psychic forces" such as hostility, aggression, frustration, and so on, towards the complex phenomena of completed and attempted suicide.

Nevertheless, it is hoped that social area analysis and the construct of life-style as applied in this study will serve sociologists as a useful tool in order to improve our understanding of completed suicide and attempted suicide in the contemporary urban community.

**Suggestions Towards a Theory of Completed and Attempted Suicide:** I would like to offer some suggestions as to what direction a systematic and general theory of completed and attempted suicide might venture to take.

First, I am convinced that more attention should be directed towards the construction of particularistic typologies of completed and attempted suicide. If there
are different types of completed and attempted suicides, then why should their causes be the same?

Second, Completed and attempted suicide research would be expedited if the records were more descriptive and less interpretive. I believe that much available data on suicide and attempted suicide is distorted because of the stereotypic and moralistic approaches of the reporters.

Third, I believe that not all cases and types of completed and attempted suicides can be explained by the lack of family cohesion, social integration, and so on. Even Durkheim was aware of this problem, since he did not have much to write about Fatalistic suicide, because it was such a uncommon event.

Fourth, Suicide research is in need of pertinent data on the social characteristics of non-suicidal populations. Typological differences between suicidal and non-suicidal groups are essential for any comprehensive theory of suicide.

Finally, scholars like Durkheim and Weber are needed in the study of suicide and attempted suicide, who can synthesize the empirical and the theoretical into a unified system of suicidal action.
# APPENDICES

## Appendix A

CENSUS TRACTS IN THE STANDARD METROPOLITAN STATISTICAL AREA OF FLINT WITH INDEXES OF ECONOMIC STATUS, FAMILY STATUS, AND ETHNIC STATUS, WITH SOCIAL AREA DESIGNATIONS FOR 1950 AND 1960

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*In Flint a tract was designated segregated if more than 8.3 percent in 1950 and 16.2 percent in 1960 of the tract population was represented by members of the combined subordinate groups; likewise, for Kalamazoo 3.2 percent in 1950 and 13.3 in 1960.
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APPENDIX B

Standardization of Scores to the Ranges of the Index Components in Flint: 1950 and 1960

All of the measures composing the index of social rank or economic status and family status have been standardized to their respective ranges in Flint, 1950 and 1960. Thus, a single scale is established for the direct comparison of census tract scores on the respective indices for different cities at the same time or the same city at different times. Intra-city comparisons are not handicapped and inter-city comparisons are made possible. The index of ethnic status scores are comparable since they are simple percentages. The scores composing the indices of economic status and family status were standardized to a range of 0 to 100 in the following manner:

a) The basic formula for standardization:
   \[ s = x(r-o) \]
   
   where
   
   - \( s \) - standardized score
   - \( o \) - lower limit of the census tract ratio for each component.
   - \( r \) - ratio for a particular tract.
   - \( x \) - range of the ratio

b) For those variables (occupation, education, fertility, and single-family dwelling units) which had an inverse relation to the basic indices for which they were computed (economic status and family status), the formula was adjusted to read as follows:
   \[ s = 100-(x(r-o)) \]

c) The range, the lower limit of the range, and the conversion factor \( x \) for each of the ratios for Flint, 1950 and 1960 are as follows:

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<th>Ratio</th>
<th>Range</th>
<th>Lower Limit</th>
<th>Conversion Factor( x )</th>
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Construction of the Social Areas Diagram:

A. **Division in the Index of Economic Status:** Divide the census tracts into four groups on the basis of their scores on the index of economic status. Group tracts together having economic status scores of 0 to 24, 25 to 49, 50 to 74, and 75 to 100, respectively.

B. **Division in the Index of Family Status:** Divide the census tracts into four groups on the basis of their scores on the index of family status. Group together tracts having family status scores of 0 to 24, 25 to 49, 50 to 74, and 75 to 100. Designate these groups of tracts as social areas of the order A, B, C, and D, respectively. Combining these divisions in the index of economic status, there are sixteen possible social areas. These are designated 1A, 1B, 1C, 1D, 2A, .... 4D.

C. **Division in the Index of Ethnic Status:** Divide the census tracts into two groups on the basis of their scores on the index of ethnic status. Select as the cutting point the percent of the total population of the urban area represented by the combined racial and nationality groups considered subordinate. Those tracts having more than the average proportion of the combined subordinate groups designate "high ethnic" tracts; those tracts having less than the average proportion of the combined subordinate groups designate "low ethnic". Thus, there are thirty-two possible groupings of census tracts into social areas: 1A, 1B, 1C, 1D, 2D, 2C, ....1DS, 2DS, ...4DS.
Appendix C

COMPUTATIONAL PROCEDURES

The data required are given in the following sources: U.S. Bureau of the Census, United States Census of Population, Census Tract Statistics, (series P-D and PHC) reports.

I. For each census tract compile the basic data and compute the ratios for the indexes of social rank, urbanization, and segregation. Compute the standard scores and combine these into index scores as indicated below:

A. Economic Status Components

1. Occupation ratio (total number of craftsmen ..., operatives ..., and laborers ... per 1,000 employed persons). (Add males and females in these occupational categories.)

a) Add:

(1) "Craftsmen, foremen, and kindred workers"
(2) "Operatives and kindred workers"
(3) "Laborers, except mine"

b) Subtract the total number of persons with "Occupation not reported" from the total number of persons "Employed".

c) Divide the total number of craftsmen ..., operatives ..., and laborers by the above difference.

d) Multiply the above quotient by 1,000.

2. Occupation standard score*

a) Substitute in standard score formula:

Occupation score = 100-(x(r-o))

*See Appendix B for a discussion and presentation of the standard scores. All scores composing the index of social rank and the index of urbanization have been standardized to their ranges for Flint 1950 and 1960; Kalamazoo 1950 and 1960.
3. Education ratio (number of persons who have completed no more than grade school per 1,000 persons 25 years old and over.)

a) Add number of persons 25 years old and over who have had only eight years of schooling or less.

b) Subtract the total number of persons with "School years not reported" from the total number of "Persons 25 years old and over".

c) Divide the total number of persons completing elementary school or less by the above difference.

d) Multiply the quotient by 1,000.

4. Education standard score

a) Substitute in standard score formula: 
   Education score = 100 - (x(r-o)).

5. Social rank index

a) Compute a simple average of the occupation and education standard scores. The average is the index of social rank.

B. Family Status Components

1. Fertility ratio (number of children under 5 years per 1,000 females age 15 through 44).

a) Record total number of persons "Under 5 years." (Add the number of males and females "Under 5 years.")

b) Add the number of females in the age range 15 through 44.

c) Divide the total number of children under 5 by the total number of females age 15 through 44.

d) Multiply the quotient by 1,000.

2. Fertility standard score

a) Substitute in standard score formula: 
   Fertility score = 100 - (x(r-o)).
3. **Women in the labor force ratio** (the number of females in the labor force per 1,000 females 14 years old and over).
   
   a) Record number of females "14 years old and over" who are in the "labor force".
   
   b) Divide the above by the total number of females "14 years old and over".
   
   c) Multiply the quotient by 1,000.

4. **Women in the labor force standard score** \( x(r-o) \).

5. **Single-family detached dwelling units ratio** (the number of single-family dwelling units per 1,000 dwelling units of all types).
   
   a) Record number of "a dwelling unit, detached (includes trailers).
   
   b) Divide by total of "all dwelling units".
   
   c) Multiply the quotient by 1,000.

6. **Single-family detached dwelling units standard score**.
   
   a) Substitute in standard score formula:
   
   \[ \text{S.F.D.U. score} = 100 - (x(r-o)). \]

7. **Family Cohesion Index**
   
   a) Compute a simple average of the fertility, women in the labor force, and single-family dwelling units standard scores. The average is the index of family cohesion.

C. **The Index of Ethnic Status**

1. Add the number of persons designated Negro; Other races; and Foreign-Born White from Poland, Czechoslovakia, Hungary, Yugoslavia, U. S. S. R., Lithuania, Finland, Rumania, Greece, Italy, Other Europe, Asia, French Canada, Mexico, and Other America.

2. Divide the above sum by the total population in each census tract.

3. Multiply the above quotient by 100 to obtain the index of segregation for each census tract.
APPENDIX D

LEGEND

"S" means Segregated or High Ethnic tracts.

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CENSUS TRACTS IN THE FLINT SMSA

1960
## Appendix E

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