ORDINAL POSITION, FAMILY SIZE, AND
DIAGNOSIS IN A PSYCHIATRIC
HOSPITAL POPULATION

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ORDINAL POSITION, FAMILY SIZE, AND
DIAGNOSIS IN A PSYCHIATRIC
HOSPITAL POPULATION

THESIS

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By

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CHAPTER I

INTRODUCTION

Importance of the Problem

Most mature students of human personality are agreed that normal and abnormal characteristics are determined by the complex interaction of numerous biological, psychological, social, and cultural factors (6). However, there still exist wide differences of opinion as to the relative importance of various determinants in the formation of adult patterns. The divergent opinions frequently represent at best no more than educated guesses, and at worst merely personal bias which results in unsolved problems being approached with preconceived convictions and consequent distortion of both observations and their interpretation (5).

In view of the observed concentration of mental disorders in the families of some psychiatric patients, and the amount of speculation concerning both genetic transmission (7) and functional interpersonal relationships or dynamics (3), it is remarkable how little is yet known about the structure or composition of the families of the mentally ill.

In order to develop successfully into a predictive science, psychiatry must know what the effects will be of a specific constellation of parental and other forces acting upon the constitutional matrix of a specific child. The dynamic
patterns of interaction must be known both specifically and also generally, in terms of types or categories of pattern (8, p. xiv).

This is undoubtedly an area where a great deal of research is needed in an attempt to collect data which can, hopefully, help us to settle some of these questions on the basis of empirical evidence.

One of the aspects of family structure which has been of particular interest to students of this field is the question of the importance of ordinal birth position. Since 1866, there have been a number of studies exploring this area (4). It is probably the name of Alfred Adler which is most often linked with much of the later interest in the effects of birth order. He wrote:

Individual Psychology has opened up a very wide field for research work by inquiring into the advantages and disadvantages for children according to the order of their birth. To simplify a consideration of this, we shall suppose that the parents are cooperating well and doing their best in the training of the children. The position of each child in the family still makes a great difference, and each child will still grow up in a quite new situation. We must insist again that the situation is never the same for two children in a family; and each child will show in his style of life the results of his attempt to adopt himself to his own peculiar circumstances (1, p. 144).

However, Adler did not expect any fixed rules in relation to birth order, and consistently assumed a uniqueness of these experiences for each child which would make the development of predictable nomothetic patterns unlikely. Indeed his own position, based upon clinical observation, seemed to
change in regard to the effects of the birth order variable. Thus, in 1918, he stated that neurotics were children, while subsequently he remarked that: "In my experience the greatest proportion of problem children are oldest children, and close behind them the youngest children" (2, p. 379). This general position that different ordinal birth positions within the family placed varying degrees of stress on children in these positions was supported by other authors (3).

In any case it would seem that there is a possibility that real and measurable differences exist between children by the very fact of being raised in differing ordinal positions or in different sized families. If this is the case, then it might be expected that these differences be represented by differing proportions or types of mental illness, and that a sample of patients at a psychiatric hospital might reveal that persons of different ordinal positions and of different family sizes are represented to a different degree either in total number of patients, or in different types of disorder, or both.

Purpose of the Study

The purpose of this study is to investigate the relationships between ordinal birth position, family size, and psychiatric diagnosis, in patients at a state mental hospital.
Subjects

The subjects were 168 white female patients on the White Female Receiving Unit at the Mississippi State Hospital, Whitfield, Mississippi. This group of subjects is unique in that:

1. They were all white females who were, ostensibly, natives of the state of Mississippi.

2. They were all patients under psychiatric observation or treatment, having recently been admitted to the hospital.

3. They ranged in age from 14 to 74 with a mean age of 39.07 and a median age of 38.50.

4. They were predominantly from middle class and below in socio-economic level, since the sample is taken from a state supported hospital, as opposed to a private type of hospital.

Measurements

The following measurements were obtained:

1. The total number of children in the family, including the patient.

2. The patient's ordinal position in the family: whether she was first born, an only child, the youngest child, or other birth position.

3. The patient's current age.

4. The diagnostic category in which the patient had been assigned by the physician, and which is placed on the patient's record.
Methodology and Procedure

Over a period of one month, all patients on the White Female Receiving Unit at the Mississippi State Hospital were given short individual interviews. This interview was carried on by an intelligent and sensitive female patient who was recommended by the ward psychiatrist as being particularly stable and able to relate to other patients.

Each patient was told that information for a research study was being collected, and that the questions would in no way be used to influence their treatment. If questions were asked, the interviewer explained the project further in order to reassure the patient. Cooperation was easily obtained in most cases, and only a few patients refused to cooperate. It seemed that the use of a patient interviewer was particularly effective in that better rapport was established without the threat of an authority figure.

Each patient was asked:

1. Her name
2. The total number of children in the family
3. Her ordinal position in the family
4. Her age.

After this information was collected and tabulated, the patient's main hospital record was used to determine the patient's psychiatric diagnosis. This also gave the examiner an opportunity to investigate the accuracy of the information
given as to age and number of siblings, since this information is usually recorded in the social history of each patient. The data given by the patients were found to be usually accurate, but where there was some contradiction, the hospital record was taken as being more valid. The only data which were given only by the patient was the ordinal position, since the hospital does not ordinarily obtain this information.
CHAPTER BIBLIOGRAPHY


CHAPTER II

RELATED RESEARCH

Although, as previously discussed, some early investigation and speculation was carried on into the effects of birth order upon innumerable variables, it was inconsistent and suffered from many methodological weaknesses. Malzberg pointed out that many investigations had failed to consider the prevalence of the first born in the general population, and that when this correction was made, many of the seeming differences between ordinal positions were not significant (5).

In 1937, Murphy and Murphy reviewed several hundred studies done up to that time and found the results to be quite contradictory. They concluded that although birth order is an important factor, it seems impossible to take it as an isolated variable and find any consistent patterns to which it correlates (6).

R. R. Sears in later work (11) raised the point that although earlier thinkers had probably been correct, that birth order was not particularly useful as an explanatory variable but might be useful as a mediating variable. He then mentions a number of research studies using birth order information in this fashion and which suggested that dependent
behavior seemed related to a history of frustration in nursing and weaning experiences, and there seemed to be some relationship between such experiences, order of birth, and the mother's behavior. Thus, mothers of later children seemed to be less frustrating and these children were less dependent.

Sears also found that being a later child is not an unmixed blessing, however, for quite often it is later children who are less wanted by the parents, particularly in the case of large families. Thus the later child, possibly, is more apt to feel rejected by the parent than the first child (12).

Stanley Schachter (9), following more or less the theoretical lines of Sears, found what seemed to be surprisingly consistent empirical evidence supporting the hypothesis that there were real psychological differences among different ordinal birth positions. His own experimental results supported this hypothesis, and he collected the results of a number of other experiments as well as data collected from real life situations in support of this position. What all this evidence seemed to indicate was this: (1) There is a positive relationship between anxiety and affiliative need, (2) First and only children seem to differ significantly from second and later children in respect to these factors (with first and only children having a generally higher level of anxiety and affiliative needs in
high-anxiety-arousing situations), (3) The first and only child finds the affiliative relationship much more effective in reducing anxiety than does the second and later child.

Schachter saw this tendency of the second and other children to prefer isolation as suggestive of the "alcoholic, a troubled person who is not strongly inclined to handle his difficulties by social means and who seeks to dispose of his problems by drinking" (9, p. 62). He found supporting evidence in a study by Bakan (2), who concluded that a large proportion of alcoholics came from the later birth ranks.

Schizophrenia is a disorder in which the person is similar to the alcoholic in that he is not inclined to actively seek social support or interaction, but is more likely to utilize a schizoid or autistic method of dealing with anxiety (1). It might be inferred from Schachter's findings that this lack of affiliative tendencies is in keeping with what would be expected among children who are from second and later ordinal positions. On the other hand, some diagnostic categories, particularly the "affective disorders," are not so clearly marked by this tendency to withdraw from social interaction (1), and it might well be expected that the social behavior shown by these persons would be more in keeping with the patterns expected from Schachter's first and only ordinal positions.

A number of studies have dealt with ordinal position and family size variables among psychiatric groups. Wahl (13, 14),
in two separate studies, investigated some of the antecedent factors in the family histories of schizophrenic patients. Originally (13), he studied 392 schizophrenic patients at a state hospital, and tabulated his findings as shown below:

**TABLE I**

**BIRTH ORDER AND PER CENT OF 392 SCHIZOPHRENICS**

<table>
<thead>
<tr>
<th>Placement</th>
<th>Per Cent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinal</td>
<td>24</td>
</tr>
<tr>
<td>Ultimate</td>
<td>23</td>
</tr>
<tr>
<td>Penultimate</td>
<td>16</td>
</tr>
<tr>
<td>Solitary</td>
<td>11</td>
</tr>
<tr>
<td>Other</td>
<td>25</td>
</tr>
</tbody>
</table>

He had no norms or comparison group in this study, but he did feel that these data supported the hypothesis that differing birth order was a significant factor in the etiology of schizophrenia, with the youngest child being somewhat overrepresented.

He also found that the average size of the family from which these patients came consisted of 4.1 children as compared to the national average of 2.1 children per family, counting only those families with children.

In his later and more thorough study, Wahl (14) collected data on 568 male schizophrenics in the United States Navy. In this study he used as a comparison group 100,000 naval inductees. The ratio of the birth order statistics between the schizophrenics and controls was:
TABLE II
RATIO OF BIRTH ORDER STATISTICS BETWEEN SCHIZOPHRENICS AND CONTROLS

<table>
<thead>
<tr>
<th>Placement</th>
<th>Per Cent of Schizophrenics</th>
<th>Per Cent of Inductees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinal</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>Ultimate</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>Penultimate</td>
<td>12</td>
<td>unknown, included in others</td>
</tr>
<tr>
<td>Solitary</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>Others</td>
<td>31</td>
<td>3</td>
</tr>
</tbody>
</table>

Wahl felt that this study also lent support to the hypothesis that the youngest child in any family is under more stress and is more likely to become schizophrenic. The average size of the families was also above that of the national average in this study, which is 4.4 children. However, it seemed that the Navy recruit came from a large family also (average 4.0 children), so this difference is probably not as meaningful in this case.

Each of these studies produced results which are consistent with what would be predicted from Schachter's data as to the dynamics of later children (9).

Data on this subject were also collected by both Malzberg (5) and Norton (7). Their data were then re-analyzed by Gregory (3), who corrected some of the statistical treatment and was able to compare the two sets of data.
Malzberg's cases consisted of 549 cases of manic-depressive psychosis at Manhattan State Hospital, New York. Norton collected data on 2,500 psychiatric patients, most of whom were psychoneurotic or personality disorder cases at a hospital in London, England. He matched 500 of these patients, randomly selected, on the basis of age, sex, and social class, with 500 controls who were physically ill inpatients, rejecting those controls who seemed to have psychiatric complications.

Gregory, in analyzing the data collected in these two experiments, found:

1. Family size

   In regard to this variable there was no significant difference between Norton's psychoneurotic patients and his physically ill controls.

   There was a definite difference between Malzberg's two groups, however, with his dementia praecox patients coming from small families, and his manic-depressives coming from larger families. This is contradictory to what would be expected from Schachter's data, as the larger families would have more later children who would be expected to be schizoid or schizophrenic.

2. Ordinal position

   In both Norton's and Malzberg's data there are generally significant differences in regard to the frequency of
representation of the youngest child, who was consistently over-represented. This relation was also true with Malzberg's schizophrenics, who differed from the expected distribution at a significant level, with both the oldest and youngest being over-represented. These findings are somewhat out of line with what would be expected on the basis of Schachter's data. It would be expected that the last born or youngest child would be more prone to a schizoid type of illness, but not that the oldest and youngest would be in the same diagnostic category.

3. Ordinal position in relation to family size

When both Malzberg's and Norton's data are examined from the point of relationships between ordinal position and family size, the results are particularly impressive, showing that in families having four or more children, the youngest child is significantly more often represented in all the psychiatric groups, but not in Norton's physically ill controls.

The only child is not analyzed separately in these data, and no comparison can be made in regard to this variable.

Malzberg's study, in conclusion, does not seem to support the contention that manic-depressives and schizophrenics represent consistently different ordinal positions. His study as well as Norton's does seem to show that the youngest child is significantly over-represented in all psychiatric groups,
and particularly so in families containing over four siblings. There is also some question that the oldest child may be over-represented in some categories.

Grosz (4), in a study of a much smaller number of clearly defined schizophrenics, found no significant differences between ordinal positions. His study is quite limited in value as far as generalization, since he chose only schizophrenics who came from three sibling families, where the other two siblings were non-psychotic, and thus had a small and select sample of patients.

Roberts and Myers (8), using a case study method with fifty cases and little statistical treatment, concluded that there seemed to be a tendency for the youngest male child in lower middle class families to develop schizophrenia. They explain this on the basis of the socio-cultural values and roles which are characteristic of this class. This conclusion is consistent with what would be expected on the basis of Schachter's data.

Schooler (10) studied a sample of 120 female schizophrenics, and found generally significant differences both in the over-representation of schizophrenics in the last born position when compared to first born, and in the over-representation of schizophrenics in the last half of the family as compared to a birth position in the first half. Again, in this study there is no individual treatment of the only child in the data. These findings are consistent with
previously discussed theory, although affective disorders are not analyzed separately.

An interesting side result in this study was a significant difference found when paranoid schizophrenics and catatonic schizophrenics were compared in relation to first half versus last half of the family. Since the catatonic disorder is significant in that it involves a greater degree of social isolation, and since these patients were found to be significantly from the last half of the family, this finding is also consistent with Schachter's prediction in regard to second and other children developing a more schizoid personality.

There is, then, a good deal of empirical evidence, although somewhat contradictory, to support the contention, in keeping with Schachter's data, that there may be an over-representation of schizophrenics among the later and particularly the last ordinal positions (7, 8, 10, 13, 14). There is also some evidence that, in contradiction to Schachter's data, there may also be an over-representation of schizophrenics among the first born (5). There is some support that other psychiatric groups also may show some variation in relation with birth order statistics, although this evidence is much more tenuous (5). One rather consistent fact would seem to be a tendency for the psychiatric patient to come from a larger than average family (13, 14), although even this has been questioned by one study which matched
psychiatric patients with physically ill controls and found no significant difference in regard to this variable (7).
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5. Malzberg, Benjamin, Social and Biological Aspects of Mental Disease, Utica, New York, State Hospitals Press, 1940.


CHAPTER III

ASSUMPTIONS AND HYPOTHESES

Because of the recognized lack of validity and reliability in diagnostic categorization within the psychiatric hospital setting (2), it is assumed that the data collected will be more effectively analyzed by the treatment of only major diagnostic groups. This seemed preferable to attempting to discriminate between more exact but also more questionable diagnostic labels.

In view of the above, and in keeping with most of the related research, an attempt will be made to investigate only the schizophrenic population (and in one phase, the population containing affective disorders) from within the psychotic group. Variations within the total hospital population, the total psychotic population, the other psychotic population (consisting primarily of involutinal psychotic reactions), and the non-psychotic population (persons sent to the hospital but who were given a non-psychotic diagnosis and would soon be released) will also be studied in regard to the birth order and family size variables, since these are larger and more meaningfully defined groups.

One of the important variables in the family constellation is the number of children which are in the family.
Sears (6) has found a variability in attitudes in the parents toward later children, and in their treatment of these children as families become larger. There is also room to suspect that as a result of growing up in a large family, these children develop certain patterns of dealing with the world and other people (5). It is possible that such factors would have a significant effect upon the incidence of later psychiatric disorders of all sorts. Some studies tend to support this (7, 8), but the evidence is mixed (4). In regard to this question it is hypothesized:

1. The median family size of the hospital population will be above that of the general population. This will be true for:

   A. The total hospital population sampled.
   B. The non-psychotic population sampled.
   C. The psychotic population sampled.
   D. The schizophrenic population sampled.
   E. The "affective disorders" population sampled.
   F. The "other" psychotic disorders sampled (primarily Involutional Psychotic Reactions).

The second hypothesis is an outgrowth of the previous discussion. It is assumed by Sears that later children in any sized family may suffer from not being as wanted as their earlier siblings (6). Schachter (5) and Bakan (1) also assumed certain differences would develop, at least between
first and later children, and that later children do tend to show less affiliative tendencies because of these early relationships. A great number of psychiatric cases are characterized by this same lack of affiliative tendencies, as previously discussed, and it may be that there are significantly larger numbers of patients from the latter half of sibships than from the first half of sibships.

2. There will be a tendency for patients whose ordinal position is in the latter half of their family to be over-represented, when compared to patients whose ordinal position is in the first half of the family. This will be true for:

   A. The total hospital population sampled.
   B. The psychotic population sampled.
   C. The schizophrenic population sampled.

It has been stated (6) that later birth position seems to be particularly significant in families which contain many children, since it is these children who are particularly likely to be subjected to certain types of psychological stress. They are less likely to be wanted by their parents, they are given less attention, and quite often must learn to fare more for themselves. It might be expected that if later children generally show less affiliative tendencies, later children in larger families might represent an extreme in this regard and may be likely to be over-represented in the hospital population. It is hypothesized that (with the only child excluded):
3. There will be a higher proportion of patients from the last half of families which contain four or more children than from the last half of families which contain fewer than four children. This will be true for:

A. The total hospital population sampled.
B. The psychotic population sampled.
C. The schizophrenic population sampled.

The previously reviewed theoretical and empirical work by Schachter (5) and Bakan (1) suggests the possibility of schizoid tendencies in later birth order positions as opposed to first and only birth positions. Since other diagnostic categories are not so clearly marked by this tendency to withdraw from interpersonal affiliation, it might be expected that people suffering from "affective disorders" would be less represented in later birth positions. On this basis it is hypothesized that:

4. There will be an over-representation of affective disorders in the first and only ordinal positions and an over-representation of schizophrenics in the later ordinal positions when these two diagnostic categories are compared.

The final hypothesis deals with a contradiction which arose in the previously discussed related research between the work of Schachter (5) and that of Malzberg (3). On the basis of Schachter's findings, it would be expected that schizophrenics, as opposed to those of other diagnosis, would be
more likely to be from later birth positions and unlikely to be from first and only birth positions (as in hypothesis four). Malzberg, however, found that schizophrenics in his population seemed to be over-represented in the first and last ordinal positions to the exclusion of the intermediary positions. These two findings are mutually exclusive, and in order to investigate this question, it was hypothesized that:

5. There will be an over-representation of schizophrenics in the first, only, and last ordinal positions, in opposition to intermediary positions, when these schizophrenics are compared to the remainder of the psychotic population.
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3. Malzberg, Benjamin, Social and Biological Aspects of Mental Disease, Utica, New York, State Hospitals Press, 1940.


CHAPTER IV

RESULTS AND DISCUSSION

In regard to the first hypothesis, that psychiatric patients would tend to come from large families, it was found that there was rather consistent support. The median family size, counting only the patient and her siblings, was 5.10. This figure is surprisingly high when it is realized that the average number of children in families that do contain children within the United States is approximately 2.20 (7). The median family size in Mississippi is somewhat above the average for the country, but the statistics show less than 4.00 children per family even among the rural whites from this area (4). It would seem in support of the second hypothesis that the average patient in the population sampled comes from a family which is sizeably larger than average.

An analysis of the median family size in relation to different categories was carried out. It can be seen from the figures in Table III that there is some variability in family size within the psychiatric population. Contrary to many findings, and perhaps in conflict with Schachter's data, it seems that the schizophrenics in this sample are not from generally larger families than are the patients in other diagnostic categories. The category which shows the highest
number of siblings within the family is the group which is drawn from primarily Involutional Psychotic Reactions. This group shows the surprisingly high number of 7.25 children in the median size family.

TABLE III
MEDIAN FAMILY SIZE IN RELATION TO VARIOUS DIAGNOSTIC CATEGORIES

<table>
<thead>
<tr>
<th>Group</th>
<th>Number in Sample</th>
<th>Median Size of Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-psychotics</td>
<td>N=51</td>
<td>4.78</td>
</tr>
<tr>
<td>Psychotics</td>
<td>N=117</td>
<td>5.18</td>
</tr>
<tr>
<td>Schizophrenics</td>
<td>N=67</td>
<td>4.80</td>
</tr>
<tr>
<td>Affective</td>
<td>N=22</td>
<td>5.40</td>
</tr>
<tr>
<td>Other Psychotics</td>
<td>N=28</td>
<td>7.25</td>
</tr>
<tr>
<td>(Primarily Involutional)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The figures from all of these groups and from each one individually are higher than would be expected from the general population. Even the lowest group, the non-psychotics, show a median number of children, per family, of 4.78, which is higher than any of the over-all census figures.

It would not seem, then, that size of the family is necessarily related to any individual diagnostic category, even though the hospital population as a whole does seem to come from families which are larger than average. This fact would support the theorizing of Sears (5) in that children from larger families are often subject to more stress than
children from smaller families, and these conditions may be instrumental in the development of personality patterns which are more likely to develop later psychiatric disorders.

An interesting fact develops when the data are examined in regard to family size and the various patient populations. The schizophrenics do come from larger than average families, as Wahl found (7), but so do all the various groups, including the non-psychotic patient population. Indeed, there is very little difference between the size of the families of the non-psychotic and the schizophrenic patients. The two most likely explanations for this, neither of which it is possible to completely settle on the basis of the present data, are that: (1) the entire population sampled is a more biased group than was originally suspected, and/or (2) people needing hospitalization for psychiatric problems, whether psychotic or not, tend to come from larger families. It is likely that both of these explanations are at least partly correct.

If patients who come to a state hospital rather than receiving private care are assumed to be of a lower socio-economic level, and family size is also related to socio-economic level (4), then the latter may be an important variable. Since there is no measure of the socio-economic level of the patients, it is impossible to assess accurately the importance of this factor. In weighing this, however, it should be noted that the state of Mississippi does not have
very extensive private facilities for the treatment of the mentally ill, and a good number of middle and upper middle class patients are treated at the hospital, which is the only public psychiatric hospital in the state. It is thought that this factor of socio-economic selection probably is not sufficient explanation for the difference between the median family size of the hospital population and that of rural white Mississippians as revealed in the state census (4).

The second explanation offered was that it is possible that patients in a psychiatric hospital, whether psychotic or not, tend to come from larger families. Even if it is assumed that there is some cause and effect relationship between large families and a tendency toward generally poor mental health, it is obviously not necessary to assume that the products of these homes will all become overtly psychotic. It would be more reasonable to assume that there is a continuum of mental health and that those people needing hospitalization all tend to be in a more extreme position on this continuum, some to the point of extreme neurosis or character disorder, some to the point of overt psychosis. Any of these could as easily be the product of a bad environment, and one of the environmental factors which seems to be fairly consistent in this population, all of whom were considered sick enough to require hospitalization, is the fact that there seem to be a number of them who come from large families.
In line with the first hypothesis and in keeping with theorizing and research in regard to the changing relationships as families become larger, the second hypothesis was to the effect that patients from the last half of sibships would be over-represented in the hospital populations when compared to patients from the first half of sibships.

A chi square analysis of the proportion of patients in different major populations, which are represented in the first and last half of their families, is shown in Table IV.

**TABLE IV**

**CHI SQUARE ANALYSIS OF THREE PATIENT POPULATIONS IN REGARD TO FIRST HALF-LAST HALF PROPORTIONS**

<table>
<thead>
<tr>
<th>Group</th>
<th>Observed</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>First half of family</td>
<td>71</td>
<td>81</td>
</tr>
<tr>
<td>Last half of family</td>
<td>91</td>
<td>81</td>
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</tbody>
</table>

\[ X^2 = .403 \]

P not significant
### TABLE IV--Continued

#### B. Psychotic Population

<table>
<thead>
<tr>
<th>Group</th>
<th>Observed</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>First half of family</td>
<td>48</td>
<td>55.5</td>
</tr>
<tr>
<td>Last half of family</td>
<td>63</td>
<td>55.5</td>
</tr>
</tbody>
</table>

\[ X^2 = .520 \]

P not significant

#### C. Schizophrenic Population

<table>
<thead>
<tr>
<th>Group</th>
<th>Observed</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>First half of family</td>
<td>28</td>
<td>31.5</td>
</tr>
<tr>
<td>Last half of family</td>
<td>35</td>
<td>31.5</td>
</tr>
</tbody>
</table>

\[ X^2 = .372 \]

P not significant

Table IV reveals that there does seem to be a general tendency, although not statistically significant, in the predicted direction. This direction is consistent in each of the populations studied. This hypothesis must technically be rejected because of the possibility that this is a statistically
chance occurrence. It is a possibility that if a larger number of patients had been sampled, this difference might have become more meaningful.

It would seem that the patients sampled do consistently tend to come from the last half of their sibships; but in the present data, this tendency is not strong enough to be considered more than possibly a chance occurrence. This tendency is, however, in the direction which would be predicted both on the basis of some of Sears' work which emphasizes the changing attitudes of the parents toward later children, and is also in keeping with Schachter's and Bakan's work which emphasizes the tendency of later children to handle anxiety in a non-affiliative way, which is so often true of many psychiatric patients.

The third hypothesis was an outgrowth of the previous discussion. It was predicted that patients who come from the last half of large families (over four children) would be over-represented when compared to patients who come from the last half of smaller families (less than four children).

A chi square analysis of this hypothesis with different hospital populations is shown in Table V.
TABLE V

CHI SQUARE ANALYSIS OF THREE PATIENT POPULATIONS IN REGARD TO FAMILY SIZE AND FIRST AND LAST HALF PROPORTIONS

<table>
<thead>
<tr>
<th>Group</th>
<th>Less than 4</th>
<th>4 or More</th>
</tr>
</thead>
<tbody>
<tr>
<td>First half of family</td>
<td>18</td>
<td>53</td>
</tr>
<tr>
<td>Last half of family</td>
<td>27</td>
<td>64</td>
</tr>
</tbody>
</table>

\[ X^2 = .518 \]

P not significant

<table>
<thead>
<tr>
<th>Group</th>
<th>Less than 4</th>
<th>4 or More</th>
</tr>
</thead>
<tbody>
<tr>
<td>First half of family</td>
<td>9</td>
<td>39</td>
</tr>
<tr>
<td>Last half of family</td>
<td>17</td>
<td>46</td>
</tr>
</tbody>
</table>

\[ X^2 = .930 \]

P not significant

<table>
<thead>
<tr>
<th>Group</th>
<th>Less than 4</th>
<th>4 or More</th>
</tr>
</thead>
<tbody>
<tr>
<td>First half of family</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>Last half of family</td>
<td>8</td>
<td>27</td>
</tr>
</tbody>
</table>

\[ X^2 = .237 \]

P not significant
It can be seen in Table V that although there are consistently more patients in all last half positions, there is in all three populations a higher proportion of such cases in families containing less than four children. None of these differences is statistically significant, but each is in the opposite direction of that hypothesized. It would seem, on the basis of these data, that there is not any greater tendency for children in the last half of larger families to be institutionalized than for children in the last half of smaller families, and there may be a tendency in the opposite direction.

These results seem to seriously weaken the previously discussed position of Sears (5) which would lead most logically to the expectation that as family size increases the later children would be subject to great degrees of stress and would be more likely to make a poor psychological adjustment. It is not necessarily inconsistent with Schachter's position, however, for he claims only that differences exist between first and later children and makes no statement directly dealing with the size of the family. Indeed, Schachter's position may partly explain these results, since first children would always be in the first half of the family, whether it was a small or a large family. The later children in both small and large families would show a more schizoid type of adjustment and would be expected to be more likely
to develop schizophrenic type disorders. Since schizophrenia is one of the largest diagnostic categories (more than half of the psychotic population in this study was diagnosed as schizophrenic), we would expect the later half of sibships to be over-represented in both the small and large families.

The fourth hypothesis was concerned with an attempt to evaluate the possibility that schizophrenics are over-represented in the later birth orders when they are compared to another diagnostic category, the "affective disorders," whose dynamics are theoretically quite different. In this analysis, the first and only ordinal positions were compared to the later ordinal positions in keeping with Schachter's work. The results are shown in Table VI.

### TABLE VI

*CHI SQUARE ANALYSIS OF FIRST AND ONLY ORDINAL COMPARED TO OTHER ORDINAL POSITIONS AMONG SCHIZOPHRENICS AND AFFECTIVE DISORDERS*

<table>
<thead>
<tr>
<th>Group</th>
<th>Schizophrenics</th>
<th>Affective Disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>First and only ordinal positions</td>
<td>27</td>
<td>10</td>
</tr>
<tr>
<td>Other ordinal positions</td>
<td>40</td>
<td>12</td>
</tr>
</tbody>
</table>

\[ x^2 = .23 \]

P not significant
It can be seen in Table VI that there is some over-representation of schizophrenics in the latter birth positions, while the affective disorders are relatively more heavily represented in the first and only positions. Although this is not a statistically significant difference, it is in the direction which was predicted on the basis of Schachter's data.

The data are then rather questionable and inconclusive in regard to this attempt to discriminate differing diagnostic categories on the basis of ordinal position. There would seem to be two likely reasons for this lack of conclusiveness. The first is based upon the previously discussed (3) lack of validity and reliability in the placement of patients within psychiatric categories. The second is the also previously discussed (5) possibility that birth order position as such may have some consistent effect upon individuals in this position, but it would be more useful as a mediating variable than as an explanatory variable. With the present data this might be interpreted as meaning that persons in the same birth positions are subjected to parallel factors in development and may develop similarly unhealthy means of dealing with the environment. But this does not necessarily mean that all of them will consistently choose such a path as withdrawal to handle their conflicts. They may develop somewhat different patterns and later develop differing psychoses.
This latter explanation will be more fully considered in the discussion of the next hypothesis.

The fifth hypothesis dealt with a contradiction which arose in the related research. The work of Schachter and the findings of Malzberg reached contradictory findings in regard to the expected ordinal placement of schizophrenics. On the basis of Schachter's work we would expect schizophrenics to be primarily in later birth positions, but Malzberg found that they were over-represented—not in the latter, but in both the first and last position. It was hypothesized that the same distribution would exist with the present data. The results are shown in Table VII.

TABLE VII

CHI SQUARE ANALYSIS OF ORDINAL POSITIONS OF SCHIZOPHRENICS COMPARED TO OTHER PSYCHOTICS

<table>
<thead>
<tr>
<th>Group</th>
<th>Schizophrenia</th>
<th>Other Psychotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>First, last only</td>
<td>47</td>
<td>24</td>
</tr>
<tr>
<td>All other positions</td>
<td>20</td>
<td>26</td>
</tr>
</tbody>
</table>

\(X^2 = 24.85\)

\(P \text{ less than } .001\)
It can be seen in Table VII that the hypothesis is strongly supported by the present data. Schizophrenics in the population sampled tend, to a highly significant degree, to come from the first, only, and last ordinal positions. This finding is in keeping with what Malzberg found in his study, but the contradiction to what would be expected on the basis of Schachter's data is somewhat surprising.

In order to explain this tendency for schizophrenics to be over-represented in the two extremes of the sibship, it would be valuable to try to discover areas in which children from these two positions are subject to similar relationships and pressures. Is there a similarity in their relationships with their parents, for instance, which would lead to the development of a schizoid type of personality pattern by children in these birth positions?

Sears (5) discusses findings in this area which are of interest. It was found that the first and only child is raised by parents who are inexperienced and anxious; he tends to be nursed longer, weaning is more traumatic, and in the case of the first child, he suffers a good deal of frustration at the birth of his younger sibling who displaces his position. In the case of the youngest child in large families (and it must be recalled that our population is from quite large families) there are some parallels. He also holds a favored position and is in many ways "spoiled" and given
treatment above and beyond that received by the middle children. Sears points out that: "There was a cloudy horizon for these children in relatively large families, however; their mothers more often used withdrawal of love as a technique of discipline" (5).

Perhaps it is this one aspect which is similar in the experience of both the first and last child. They both are probably closer to their parents, particularly their mother, than the other children, and they both must put up with the frustration of having love withdrawn from them. With the first child this occurs when the next sibling comes along; with the last child this seems to be a regularly used technique which the mother uses most effectively because of her attention and closeness to this particular child. Both of these children do have this experience in common, and it is possible that this experience is of some importance in the person's later attitudes toward interpersonal relationships. In this sense the past experience of having had love withdrawn might make the person less likely to make an attempt to relate to others in the future because of his fear of being hurt again. This is the typically schizoid pattern of defense, and if this were the case with these people, it might explain the high rate of schizophrenia in these groups.

The above argument is rather speculative and is in disagreement with most of Schachter's theorizing, as it must
be in order to explain the distribution of schizophrenics in this population. It would be impossible to establish either as correct without a good deal more research in the development of personality patterns within the frame of family constellations to see what effect some of these variables, such as ordinal position, have upon the developing child.

It should be pointed out in concluding this chapter that the bi-modal distribution found in the schizophrenic population very possibly confounded the results of several of the previous hypotheses. Undoubtedly this is true in the first half-last half analysis carried on in relation to increasing representation of patients from the later part of the family. This high number of schizophrenics found in the first and only birth positions was not more than a slightly considered possibility since only one previous researcher, Malzberg, seemed to find a strong tendency in this direction. It is thought that since this bi-modal distribution of the largest single population, the schizophrenics, shows such statistical significance, any detailed study which fails to consider it will be distorted.
CHAPTER BIBLIOGRAPHY


CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to investigate the relationships between family size, ordinal birth position, and psychiatric diagnosis in patients at a state mental hospital. One hundred and sixty-eight white female patients were asked the total number of siblings in their family, their ordinal position in the family, and their age. This was then compared to the diagnostic category in which they were placed.

It was hypothesized that (1) the patient population would be from larger than average families, (2) there would be a tendency for patients to be from the last half of the sibship, (3) patients from families of over four siblings and from the last half of their sibships would be particularly over-represented, (4) affective disorders would tend to come from first and only ordinal positions and schizophrenics from later positions, and (5) somewhat in contradiction to the fourth hypothesis, schizophrenics would tend to come from the first, only, and last ordinal positions when compared to other psychotics.

The results showed that the hospital population as a whole and each of the individual diagnostic categories did come from a larger than average family. The extent of the
individual's sickness did not seem to be related to family size, however, since there was little difference between the hospitalized schizophrenics and the hospitalized non-psychotics. Patients did seem to come from the last half of their respective sibships but not to a statistically significant degree. When this variable was examined in a comparison of large families to small families, it was found that there was a reversal from the predicted direction, although again not significant, in that patients from the last half of small families were somewhat more prevalent than patients from the last half of large families. It was found that there was no significant difference between ordinal position of schizophrenics and that of affective disorders, although the direction of the data was as predicted. There was, however, highly significant support for the fifth hypothesis in that schizophrenics did tend to come from the first, only, and last ordinal positions when compared to other psychotics.

It would seem that the results in this study, although somewhat inconclusive in several areas, do suggest two areas for future research. One is in the relationship to family size of hospital patients. Many of the questions raised in this area could be settled by a study, similar to Norton's (1) in which the psychiatric patients are matched with physically ill patients at a public hospital, with a careful screening of those in the latter group who show psychiatric overtones to
their illness. In this way, a control group would exist against whom it would be possible to compare our experimental group in relation to the variable of average family size.

The second area of further research suggested is in relation to the high number of schizophrenics as compared to other psychotic categories which come from the first, only, and last ordinal positions in this hospital population. It would be interesting to know if this is consistent among other hospital populations, and, if so, why this is true. Some attempts were made to explain this finding, but if this distribution were found to be a consistent phenomenon, it must necessarily lead to further research in developmental relationships which would explain this apparently similar propensity toward schizophrenia among ordinal positions which seem in so many ways dissimilar.

A final question may be raised as to the possible lack of generalizability of this study. The subjects were all white females from a state whose culture is generally rural and insular. A replication with male subjects might well prove worthwhile in this respect, since there are often measurable differences between males and females in studies of this nature. It might also prove worthwhile to replicate the study among a population which shows a more urban make-up in light of the many variables that are often found to be related to socio-economic and cultural background.
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