THE EFFECTS OF GROUP MEMBERSHIP UPON BIRTH ORDER
DIFFERENCES IN ANXIETY AND AFFILIATION

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[Signatures]

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THE EFFECTS OF GROUP MEMBERSHIP UPON BIRTH ORDER DIFFERENCES IN ANXIETY AND AFFILIATION

THESIS

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MASTER OF ARTS

By

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CHAPTER I

INTRODUCTION

Importance of the Problem

For many years Alfred Adler insistently claimed that birth order was an important variable worthy of the research psychologist's attention. He states:

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 children. The position of each child in the family still makes a great difference and each child will still grow up in quite a 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 attempts to adapt himself to his own peculiar circumstances (1, p. 144).

Apparently, however, because of Adler's clinical orientation and his interest in the uniqueness of each child's life situation, he pointed to no specific differences which would consistently obtain strictly on the basis of differences in birth order. As he emphasized,

We must say, however, that there are no fixed rules in this way. It is not only an eldest child that can behave like an oldest. The situation counts, not the mere order of birth . . . (1, p. 149).
Perhaps because of Adler's insistent claim that there were no fixed rules concerning ordinal position, his theories concerning the effects of birth order brought about no systematic attempts by research psychologists to isolate the effects of this variable. Over the years, research was done, but it was apparently done in isolation from any embracing social or personality theory. These theoretically isolated efforts generally came to naught.

As an illustration of the futility of attempting to get psychological insight from the study of social factors that are not given in psychological terms, we may refer to the multitudes of studies of the child's "position in the family" as determined by his birth order. His psychological position in the family is of the utmost importance for the development of social behavior, but "psychological position" is by no means completely dependent on birth order. The chart on pages 348 ff gives a digest of the results of a number of birth-order studies which tend to be inconclusive or contradictory. Study of this summary will show why the objective fact of ordinal position in the family, without regard to its meaning to the child, to the siblings, and to the parents, is sure to yield meager psychological results. The question whether the child feels accepted and loved; his emotional relation with his parents; the competition or support which brothers and sisters bring to him; and the specific pressures or areas of freedom and stimulus that come along with one position in the family or another are probably more important than the objective fact of ordinal position (2, pp. 362-363).

An article by Robert R. Sears also emphasized that ordinal position, of itself, is not an explanatory variable, but it pointed out that ordinal position might be a quite useful mediating variable in social psychological research. This article also reviewed and summarized a
series of previously unpublished research studies that made use of ordinal position as a mediating variable. These studies suggested that second children are somewhat less dependent than first children, that dependent behavior is related to a history of frustration in nursing and weaning experiences, and that, indeed, mothers of second and later children are somewhat less frustrating than mothers of first children (4, pp. 397-401).

The relationships among dependency, ordinal position, and early child rearing practices have been further explored by Sears, Maccoby and Levin (5). It was not until Stanley Schachter's research (3) on the relationships of affiliation to anxiety and hunger, however, that ordinal position data increased greatly in magnitude and scope. In this research ordinal position data found a theory to end its theoretical isolation.

Briefly, Schachter's data and confirmatory data collected in real life situations by other investigators have led Schachter to conclude that a person's level of anxiety is positively related to his level of affiliative need; that in situations which arouse a high level of anxiety, first and only children will display a higher level of anxiety and affiliative need than will second and later children; and that an affiliative relationship will tend
to reduce the anxiety level of a first or only child more effectively than a second or later child's.

Among the speculative hypotheses which Schachter and other investigators have formed in an attempt to broaden the applicability of these conclusions and to further test their empirical basis, Schachter has hypothesized that group membership has differential effects on the anxiety levels of first and later born individuals, that group membership in a high anxiety situation will effect a greater reduction in anxiety for first-born and only individuals than for second and later born individuals (3, p. 64). If this is true, the discovered relationships between ordinal positions and anxiety and affiliative need would tend to disappear within the selective confines of a group situation.

Purpose of the Study

The present study has a twofold purpose. First, it will attempt to ascertain whether ordinal position remains an effective discriminator of affiliative need and level of anxiety within the selective confines of a strong social organization, a college sorority; or whether the selective criterion of membership in the strong social organization tends to suppress the differences in affiliative need and level of anxiety between the ordinal
positions. Secondly, it will attempt to further explore the relationship, that Schachter has hypothesized on the basis of his data, between affiliation and dependency (3, pp. 82-89).

Subjects

The principal subjects utilized in this study were thirty-nine undergraduate college girls, all of whom were members or pledges of a North Texas State University social sorority. These thirty-nine participated in the experimental situation around which the study is centered. Supplementary data were also obtained and utilized from nine other members of the sorority who did not participate in the experimental situation. This group of subjects was unique (differing especially from Schachter's experimental subjects) in the following ways:

1. They were all members or pledges in the same sorority; hence, they knew each other quite well.

2. They were either sophomores, juniors, or seniors. There were no freshmen.

3. They were all volunteer subjects and were given no remuneration for their participation, either academic or monetary.
Measurements

Four measures were used in this study. Three of these were administered during the experimental situation itself, and one was self-administered at various times previous to the experimental situation, at the convenience of the individual subjects. The self-administered scale was utilized to obtain a measure of the subjects' need for dependency which was independent of the experimental situation. This scale was the "Submissive-Dependent Self Scale" of the "Self-Structure Scale" devised by Wilbur C. Washburn (6, pp. 123-131).

The "Submissive-Dependent Self Scale" measures the tendency of a person to avoid disapproval by submitting to others. The items of the scale were based upon the theories of Sarbin, Erikson, Freud, Fromm, and Horney. The corrected split-half reliability coefficients for the scale were reported above .80 for groups from the tenth grade to college undergraduates.

The scale used to measure the level of anxiety within the experimental situation was Schachter's second anxiety scale (3, p. 31) which asks the subjects to check their level of anxiety on a six-point continuum from "I feel completely calm" to "I feel extremely uneasy."

The measure of affiliative need was a six-point scale which asked the subjects to check one of six items
arranged on a continuum from "I would very much prefer being alone to think things over before the experiment is continued" to "I would very much like to talk things over with somebody before the experiment is continued."

The third experimental measure merely asked the subjects to indicate whether or not they would continue in the experiment by circling "yes" or "no" on a sheet of paper.

Hypotheses

In order to establish the comparability of the present study to Schachter's high anxiety condition experiments in certain essential respects, the following hypotheses were formulated and tested.

Within the experimental situation:

1. A significant positive correlation will exist between the degree of felt anxiety, as measured by the anxiety scale, and the degree of affiliative need, as measured by the affiliative need scale.

2. Those subjects who refuse to continue in the experiment will be significantly more anxious, as measured by the anxiety scale, than those subjects who agree to continue.

3. Those subjects who refuse to continue in the experiment will demonstrate a significantly
higher degree of affiliative need, as measured by the affiliative need scale, than those subjects who agree to continue.

In order to test, within the confines of the present experiment, the general hypothesis that membership in a group is more anxiety reducing for first and only children than for second and other children, the following hypotheses were formulated and tested.

Within the experimental situation:

4. Second and other children who are members of a strong social organization will not significantly differ from first and only children who are members of the same social organization in affiliative need, as measured by the affiliative need scale.

5. Second and other children who are members of a strong social organization will not significantly differ from first and only children who are members of the same social organization in degree of felt anxiety, as measured by the anxiety scale.

6. Second and other children who are members of a strong social organization will not differ significantly from first and only children who are members of the same social organization in tendency to quit the experimental situation.
The following hypothesis was formulated and tested in an attempt to further ascertain the relationship between affiliative need and dependency hypothesized by Schachter.

7. That a significant positive correlation will exist between affiliative need, as measured by the affiliative need scale within the experimental situation, and submissive-dependency, as measured by the "Submissive-Dependent Self Scale."
CHAPTER BIBLIOGRAPHY


CHAPTER II

RELATED RESEARCH

Anxiety and Affiliation

Since this study is concerned with the effects of group membership upon birth order differences in affiliative need, it would be helpful to first review what birth order differences have been discovered in affiliative need in populations not selected on the basis of group membership.

As noted in the previous chapter, Schachter (12) discovered that, under anxiety conditions (expectation of receiving an electrical shock), anxiety was significantly and positively related to affiliative need, that first-born and only children when compared to later born children were significantly more anxious, had a significantly greater tendency to refuse to continue in the experiment, and expressed a significantly greater desire to await the shock together with other subjects rather than alone. The "together" condition was variously described to the subjects as: (1) waiting together with talking forbidden; (2) waiting together with talking restricted to subjects other than the experiment; and (3) waiting together with
unrestricted talking allowed. In all three conditions, the direction of the results was the same.

In these experiments a systematic attempt was made to prevent the subjects (undergraduate college girls) from developing any supportive affiliative relationship with each other prior to the experiment. During the experiment, no talking was allowed. To even further insure the affiliative isolation of the subjects, those subjects who had known each other prior to the experiment were eliminated from the analysis of the data. Thus, Schachter's subjects underwent the anxiety or fear conditions of the experiment in relative social isolation.

Sarnoff and Zimbardo (11) designed and executed a study which differentiated between fear and anxiety and studied the effects of these two conditions upon affiliative need. They discovered that while the arousal of fear did indeed increase the desire to affiliate, the arousal of anxiety appeared to decrease this desire. In their experiment, fear was aroused by leading the subjects to believe that they would be required to suck on infantile nursing devices, thus arousing latent oral libidinal needs.

It is interesting to note that despite the differential reactions to the fear and anxiety conditions, in both conditions first and only children demonstrated a greater
degree of affiliative need. The study thus confirms Schachter's findings of ordinal differences in affiliative need under conditions of fear and anxiety, but suggests that while fear is positively related to affiliative need, anxiety is negatively related to affiliative need. The same systematic procedures used by Schachter to insure the relative social isolation of the subjects during the experiment were used in this study by Sarnoff and Zimbardo, with the degree of isolation being even intensified by the use of individual cubicles for the subjects during the experiment.

On the basis of his experimental findings that first-born and only children tend to express a greater affiliative need as their fears increase, whereas no such tendency occurs among later children, Schachter hypothesized that when faced with a situation of extreme fear and forced to face this situation alone, the fears of first and only children would be magnified by this isolation, and consequently they would be able to perform less effectively than later born children. Schachter presented data (12, pp. 74-75) collected by Torrance (16) which confirmed this hypothesis. In the Korean War, second and later born children were significantly more effective fighter pilots (as measured by the criterion of enemy planes shot down) than first and only children.
Schachter also theorized that an affiliative or group situation would more effectively reduce the fears of first and only children as compared to the later born; hence, bomber pilots would not show birth order differences of as great a magnitude, if any, in effectiveness, because of the group nature of their work. This hypothesis could not be tested because of the lack of a satisfactory criterion for the measurement of bomber pilot effectiveness.

Schachter did, however, obtain confirmatory evidence for this hypothesis (12, p. 110) from a study by Wrightsman (17). In this study the subjects actually underwent the waiting period between the arousal of fear and the expected "fearful" experiment. The subjects were randomly assigned to one of three conditions: (1) waiting alone, (2) waiting together with others with talking forbidden, and (3) waiting together with others with no restrictions on talking. Although the together conditions both effectively reduced the fear level of the first and only subjects as compared to the alone condition, they were ineffective with the second and later born children.

Schachter also reasoned that there should be a difference between first and only children and later born children in conformity. If affiliation more effectively reduces the anxieties and fears of first and only children, it is reasonable to expect that first and only
children will more highly value this affiliation and will behave in such a way as to insure its continuation. Confirmation of this line of reasoning would represent an indirect confirmation of Schachter's original findings of ordinal differences in affiliative need as well as expanding the generality of the original findings. Schachter (12, pp. 86-88) reported the results of an unpublished study by Danuta Erhlich (7) which supported the hypothesized differences between the ordinal positions in conformity.

Later studies by Staples and Walters (15), Becker and Carroll (2), and Sampson (10) have in the main confirmed the ordinal birth differences in conformity. Sampson's study was consistent with the other studies in results for males but not for females. The social influence situations for the males and females in his study were different, however, and he notes (10, p. 157) that this may have produced the conflicting results in his data.

Capra and Dittes (4) have presented evidence that first and only children are significantly more susceptible to the lures of a small group experiment than later born children. The results of this study and Schachter's finding (12, p. 78) that first and only children belong to a significantly larger number of organizations would lead one to expect that first and only children would be
over-represented in an organization and later born children under-represented. These results can also be interpreted as confirmation of the discovered birth order differences in affiliative need. They would also lead one to expect that the membership of an organization (especially a social organization) would demonstrate a higher affiliative need than an unselected population. Also to be expected on the basis of the above noted results is that later born children within a social organization would tend to be more like first and only children in degree of affiliative need than an unselected population of later born children.

Affiliation and Dependency

Realizing that ordinal position of itself has no meaning and at best could only mediate processes which occur as the result of child rearing practices and the differential effects of having older and younger siblings, Schachter searched for differences in parental behavior and attitudes that were related to ordinal position (12, pp. 79-82). Data collected by Sears, Maccoby, and Levin (14, pp. 530-531) concerning parental practices as related to ordinal position led Schachter to conclude that the greater affiliative need and conformity evidenced by first and only children are but specific instances of a more
general trait of dependency and that first and only children are more dependent than later born children.

The previously mentioned study by Sears (13) and the studies of Haeberle (9), Dean (6), Gerwitz (8), and Beller (3) have been quoted by Schachter (12, pp. 83-84) in support of these hypotheses, that first and only children are more dependent than later born children and that affiliative need and conformity are specific instances of a general trait of dependency.

The dependency measured in the above noted studies was the overt dependency behavior of preschool children. To what extent these studies and their results are comparable to the affiliative need and conformity studies with college undergraduates is uncertain, but the need for further studies with more comparable populations should be emphasized, especially in light of the differential reactions to anxiety and fear discovered by Sarnoff and Zimbardo (11). For the greater sociability of first-born and only children under anxiety conditions may be due to their greater dependence upon other people, or it may be due to the fact that they are less anxious and less threatened by the oral libidinal needs aroused. The possible correctness of the second interpretation of Sarnoff and Zimbardo's data is supported by at least one other study.
Data reported by Bakan on the relationship between birth rank and alcoholism (1) are quoted by Schachter (12, pp. 63-64) in support of his conclusions in regard to ordinal differences in affiliative need, and Bakan's finding that the later the birth rank the greater the proportional representation among a population of alcoholics does indeed support this relationship; but the finding that earlier born children are more liable to seek a social resolution of their problems while later born children are more likely to turn to alcohol for a solution does not suggest a lesser degree of dependency in later born children, for perhaps the most commonly shared trait among alcoholics is a deep and pathological need for dependency.

In the background of alcoholics are usually early experiences which have undermined their feelings of adequacy and security. Moore and Gray and others emphasize the importance of overprotection and pampering in childhood, leading to failure in the development of independence and to exaggerated ideas of self importance that do not hold up in the face of reality. In general, the alcoholic typically seems to be an immature, dependent individual with an unrealistic level of aspiration and an unwillingness to make the sacrifice in terms of time and energy necessary for even mediocre success . . . (5, pp. 408-409).

Thus, while there is great consistency in the research in regard to the positive relationship between fear and affiliation and in regard to birth order differences in affiliative need under conditions of fear and in
regard to birth order differences in conformity, the hypothesized relationship between affiliation and dependency in part rests at present upon data about which Sears has said:

... It would not be wise to place too much reliance on these present data, however. The study was a pilot study, with inevitable inadequacies in the collecting of the mother interviews; the number of cases is small; the reliabilities of the interview scales are adequate but by no means maximal; and the number of uncontrolled variables is greater than one might wish. The findings should be considered as suggesting some useful hypotheses that, after further theoretical refinement, would be worth examining with new and more abundant data (13, p. 401).

The data upon which the relationship between affiliation and dependency rests, also, are wholly derived from the overt behavior of preschool children. This is not to disagree with the hypothesized relationship but to call for further and more sophisticated empirical tests of the relationship with populations more comparable in age to the college undergraduates from whom the affiliative need and conformity data were collected.
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CHAPTER III

METHODOLOGY AND PROCEDURE

Preparations

Two months prior to the actual experiment, the cooperation of the membership of the sorority was elicited at a regular meeting of the organization. Birth order information was gathered from those members present, and arrangements were made for a member of the sorority to collect this information from members who were not present. Copies of Washburn's "Self-Structure Scale" were distributed and instructions were given as to how to complete this test. Other copies were left with a member to be distributed to the members who were not present. The members were then told briefly of the importance of the research being done and that it was part of a nation-wide research program having great importance to the national mental health program. No information was given to the subjects as to the nature of the experiment they were to undergo, but they were assured that it was in no way dangerous and would in all probability be quite interesting to them.

All birth order information and "Self-Structure Scales" that were filled out were collected prior to the
experiment. In the two months prior to the experiment, the sorority membership was addressed periodically, with emphasis given each time to the importance of the research and the importance of the sorority's cooperation.

The Experiment

A Psychology Department classroom was utilized for the experiment. No changes were made in its everyday appearance. After the subjects had arrived and settled in their seats, they were told the following:

In order to assure that each reaction you report to this experiment is yours and yours alone, I must have your complete cooperation on one point. That is, from this point on you will talk with nobody. If you have any questions, signal me or my assistant, but do not talk. Will you do this?

After nods of assurance from everybody, the instructions were continued in a most solemn tone:

This experiment in which you are participating today is a joint effort of the Psychology Department and the Department of Psychiatry of the Southwestern Medical School. A team of doctors is now setting up the equipment for the experiment. While they are doing this, I shall explain the nature of the experiment to you and get a number of preliminary psychological measures from you.

Some of you, no doubt, have heard of electric shock treatments and of their beneficial effects in the treatment of mental illness. . . .

A brief description was then given of the "old style" of electric shock treatment, with emphasis on the element of danger in these treatments. During this description, an assistant opened the door and said in a loud voice that
the doctors were ready. This evoked a nervous laugh from the subjects and a number of whispered comments which were sternly hushed, with a reminder to the subjects of the importance of silence. The instructions were then continued:

A new type of electric shock treatment has been developed which has eliminated the dangers of the previously used type. What we would like you to do today is to undergo this new type of electric shock treatment. To be perfectly honest with you, this shock treatment is severe enough to be quite painful, but let me hasten to add that it has been thoroughly tested and will do no lasting damage. Let me emphasize once again: This research is extremely important; to scientifically establish the effects of this shock treatment, we must have a great deal of data from normal subjects, like yourselves, as well as the mentally ill. Before we begin, we need some preliminary data from you in order to get a complete understanding of your reactions to the shock.

The anxiety scale was then distributed quickly, the subjects responded, and the scales were collected. This done, the instructions were continued:

Now, we realize that some of you will be unwilling to continue in an experiment in which you will be shocked. If this is so, circle "no" on the sheet that will now be passed out. If you are willing to continue, circle "yes."

After these sheets were passed out, responded to, and collected, the subjects were told:

Because of the complexity of the apparatus, only one person can be treated at a time. As a consequence, there will be a short wait for most of you. With previous groups, we have discovered that some people prefer to await the shock together with other people so that they can talk, while others prefer to wait alone. We have the permission of a number of
the professors on this floor to use their offices as waiting rooms. Since the number of these rooms is limited, we would like you to indicate the degree of your preference on this scale, and we shall try to accommodate you as best we can. We will use another classroom for those of you who wish to wait together. Those of you who have indicated that you do not wish to continue in the experiment, will you please fill this scale out as if you were going to continue in the experiment.

The affiliative need scale was then distributed, filled out, and collected. The purpose of the experiment was then explained to the subjects. They were asked to indicate whether or not they had believed the information previously given them regarding the nature of the experiment. Only two subjects indicated that they had not believed it, and in conversation later, both indicated that they had been nervous and uncertain though they were fairly sure it must have been a joke. A number of the subjects spontaneously commented that they had agreed to continue but that they really would not have. Because comments such as these probably represented the unexpressed feelings of many of the subjects and because they could have represented attempts to normalize and rationalize the subjects' reactions to a strange and fear producing situation, the data of these subjects were not eliminated and were maintained in the analyses of the data.
CHAPTER IV

RESULTS AND DISCUSSION

Because of the skewedness of the distributions on both the anxiety and affiliative need scales,* non-parametric tests, median tests, and chi-square analysis were utilized rather than the planned $t$-tests and Pearson product-moment correlation, since neither normality nor even symmetry could be claimed for the distributions of the data on these scales.

The first hypothesis, that a significant positive correlation will exist between the degree of anxiety (or fear) and the degree of affiliative need, was tested by a chi-square analysis of the data. The six-point anxiety scale and the resulting four-point affiliative need scale were reduced to a fourfold contingency table by splitting the distributions near the median into high and low anxiety groups and high and low affiliative need groups. The resulting breakdown of the data is presented in Table I.

*On the affiliative need scale, all subjects were clustered within the upper four points of the scale, from "I would slightly prefer being alone to think things over before the experiment is continued" to "I would very much like to talk things over with somebody before the experiment is continued."
**Table I**

Chi-square Analysis of the Relationship Between Anxiety and Affiliative Need

<table>
<thead>
<tr>
<th>Affiliative Need</th>
<th>High Anxiety</th>
<th>Low Anxiety</th>
</tr>
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<tbody>
<tr>
<td>High affiliation</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Low affiliation</td>
<td>3</td>
<td>14</td>
</tr>
</tbody>
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\[ \chi^2 = 7.64 \quad P < .01 \quad C = .43 \]

A chi-square value of 7.64 (corrected for continuity) was obtained, which is significant at better than the .01 level of confidence. An estimate of the strength of the relationship was obtained by computing a coefficient of contingency. This was .43. Because of the direction of the obtained results and the significance of the relationship obtained, the null hypothesis of no relationship was rejected with considerable confidence and the hypothesis accepted.

To provide a test of the second hypothesis, that those subjects who refuse to continue in the experiment will be significantly more anxious than those subjects

*Because of the failure of a number of the subjects to fill out one or the other of the scales, the N varies somewhat from table to table, according to what scales are utilized in the testing of the hypothesis.*
who agree to continue, a median test for differences in anxiety between the groups was performed. The data for this test are presented in Table II.

**TABLE II**

**MEDIAN TEST OF DIFFERENCES IN ANXIETY BETWEEN THOSE WHO CONTINUED IN AND THOSE WHO QUIT THE EXPERIMENTAL SITUATION**

<table>
<thead>
<tr>
<th>Subject Group</th>
<th>Low Anxiety</th>
<th>High Anxiety</th>
</tr>
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<tbody>
<tr>
<td>Continued</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Quit</td>
<td>2</td>
<td>10</td>
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\[ \chi^2 = 10.18 \quad P > .001 \]

The obtained chi-square value of 10.18 (corrected for continuity) is significant at slightly less than the .001 level of confidence. The null hypothesis of no difference is thus rejected with a great deal of confidence, and it is concluded that those subjects who quit the experiment were significantly more anxious than those subjects who chose to continue.

A median test for differences in affiliative need between those who chose to continue and those who chose to quit was performed as a test of the third hypothesis that those subjects who refused to continue in the experiment would demonstrate a significantly higher degree of
affiliative need than those subjects who agreed to continue. The relevant data are presented in Table III.

**TABLE III**

**MEDIAN TEST OF DIFFERENCES IN AFFILIATIVE NEED BETWEEN THOSE WHO CONTINUED IN AND THOSE WHO QUIT THE EXPERIMENTAL SITUATION**

<table>
<thead>
<tr>
<th>Subject Group</th>
<th>High Affiliation</th>
<th>Low Affiliation</th>
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<tr>
<td>Continued</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Quit</td>
<td>10</td>
<td>2</td>
</tr>
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\[ \chi^2 = 5.77 \quad P < .02 \]

The obtained chi-square value of 5.77 (corrected for continuity) is significant at slightly better than the .02 level of confidence, and the null hypothesis of no difference is rejected with some confidence, and the third hypothesis is also accepted.

Since the present subjects were all volunteers and received no remuneration for their participation, either academic or monetary (unlike Schachter's subjects), it was considered necessary to establish that those subjects who quit the experiment did so because of the anxiety aroused in them by the experimental manipulations rather than because of a lack of interest in the experiment.
Hypotheses two and three were formulated and tested to establish this point. The strong evidence obtained in support of these hypotheses gives support to the legitimacy of interpreting a refusal to continue in the experiment as an indication of a high degree of anxiety or fear.

Thus, the strong support given the first three hypotheses by an analysis of the data lends sufficient strength to the assumption that differences between the present data and the data obtained by Schachter in his high anxiety condition experiments are due to the selective nature of the present sample. Further evidence for the legitimacy of this assumption is the mean anxiety score of 3.52 obtained for the present data. This level of anxiety compares favorably with the levels obtained by Schachter in his high anxiety condition experiments.

On the basis of Schachter's reasoning and the support obtained for this in Wrightsman's study, it was hypothesized that the group atmosphere of the present experiment, all subjects knowing each other, would be more supportive for the first and only children among the subjects than for the second and later born children. It was further hypothesized that if this were so, the significant differences, obtained with great consistency by Schachter and other investigators, between first and only children and
second and later born children (with the second and later born children being less anxious and less in need of affiliation) in degree of anxiety or fear and in degree of affiliative need would weaken and perhaps disappear in the present study. The reason for this is that the present subjects were supported by the presence of their friends and by the strong ties of their membership in the group, whereas the subjects in Schachter's studies and studies by other investigators operated within the experimental situation in relative social isolation.

In order to put this line of reasoning to empirical test, the following three hypotheses were formulated:

The fourth hypothesis was that, in the present experiment, there will be no significant differences between second and later born children and first and only children in degree of affiliative need. A median test of this hypothesis was performed, and the relevant data are presented in Table IV.

<table>
<thead>
<tr>
<th>TABLE IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDIAN TEST OF DIFFERENCES IN AFFILIATIVE NEED BETWEEN THE ORDINAL POSITIONS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Children</th>
<th>Low Affiliation</th>
<th>High Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>First and only</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Second and others</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

\[ \chi^2 = .022 \quad P > .80 \quad \text{N.S.} \]
The obtained chi-square value of .022 (corrected for continuity) does not even approach significance; therefore, the proposed null hypothesis is accepted.

The fifth hypothesis formulated was that second and later born children, in the present study, will not significantly differ from first and only children in degree of anxiety or fear. A median test of this hypothesis was performed, and the relevant data are presented in Table V.

**TABLE V**

**MEDIAN TEST OF DIFFERENCES IN ANXIETY BETWEEN THE ORDINAL POSITIONS**

<table>
<thead>
<tr>
<th>Children</th>
<th>Low Anxiety</th>
<th>High Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>First and only</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Second and others</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>[ \chi^2 = .424 ]</td>
<td></td>
<td>P &gt; .50, N.S.</td>
</tr>
</tbody>
</table>

The obtained chi-square value of .424 (corrected for continuity) does not even approach significance, and what difference there appears to be is in the expected direction; therefore, the null hypothesis as proposed is accepted.

The sixth hypothesis proposed was that second and later born children, in the present study, will not
significantly differ from first and only children in
tendency to quit the experimental situation. A chi-square
analysis of the data relevant to this hypothesis was per-
formed, and the results are presented in Table VI.

TABLE VI

<table>
<thead>
<tr>
<th>Children</th>
<th>Continue</th>
<th>Quit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First and only</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Second and others</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>$\chi^2 = 3.87$</td>
<td>$p &lt; .05$</td>
<td></td>
</tr>
</tbody>
</table>

The obtained chi-square value of 3.87 (corrected for
continuity) is significant at better than the .05 level of
confidence. The direction of the data, however, supports
the assumptions underlying the hypothesis, though the
effectiveness of the affiliative support with the first
and only children is surprising in its magnitude.

Because of the strength with which the assumptions
and reasoning underlying the sixth hypothesis were con-
firmed, the possibility of the effect of an uncontrolled
variable, conformity, was considered. In a number of
studies previously noted, it has been demonstrated that
first and only children are more conforming in their behavior than second and later born children. It is possible that the first and only children tended significantly to continue in the experiment as compared to the second and later born children because they were significantly more conforming and not because they were significantly less anxious or fearful. Since the "Submissive-Dependent Scale," utilized as a measure of dependency independent of the experimental situation, purports to measure a tendency to avoid disapproval by submitting to others, the data obtained with this scale were analyzed to see if the first and only children who tended to continue in the experiment did so because they tended to be conformists and tended to avoid the expected disapproval of the group. A median test for differences between those who quit and those who continued in the experiment on this scale was performed. The relevant data are presented in Table VII.

<table>
<thead>
<tr>
<th>TABLE VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDIAN TEST OF DIFFERENCES BETWEEN THOSE WHO CONTINUED IN AND THOSE WHO QUIT THE EXPERIMENTAL SITUATION IN SUBMISSION-DEPENDENCY</td>
</tr>
<tr>
<td>Subject Group</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Continued</td>
</tr>
<tr>
<td>Quit</td>
</tr>
<tr>
<td>$\chi^2 = .618$</td>
</tr>
</tbody>
</table>
Although the obtained chi-square value of .618 (corrected for continuity) is not significant, the direction of the results suggests that, if anything, those who quit the experiment have a greater tendency to submit to the will of others to avoid disapproval than those who continued in the experiment.

Thus, as far as can be ascertained by the present data, the affiliative support of the group atmosphere in which they underwent the high anxiety or fear conditions of the experiment effectively reduced the level of anxiety or fear of the first-born and only children as compared to the level of anxiety or fear of the second or later born children. An internal analysis of the data of the present experiment suggests this, even independent of the previously discovered fact that under similar experimental conditions, in relative social isolation, the first and only children were significantly more anxious or fearful than the later born children and more desirous of affiliation.

What conclusions can be drawn from the above reported results? Not many with a great deal of certitude, for the N in all analyses within this experiment was small, the distribution of the data markedly skewed, and the range of the scales utilized to measure anxiety and affiliative need rather restricted; but a number of interesting
hypotheses amenable to empirical test are suggested. If later born children are indeed more anxious or fearful under stressful affiliative or group conditions, then it might be expected that under these conditions they would function less effectively than first and only children. Thus, it might be expected that within the social confines of a group, first and only children might function better as leaders, since it is reasonable to assume that a leader's job is frequently stressful, and stressful often because of the affiliative demands made upon him. Also, though no differences in degree of mental health between the ordinal positions are to be expected on the basis of the data to the present, differential reactions to psychological problems are to be expected, as Schachter noted in his interpretation of Bakan's data. If the later born children tend more to nonsocial means for the resolution of their problems, and first and only children tend more to conform to the social demands of their milieu, it might be expected that later born children would be over-represented in a schizophrenic population while first and only children would be over-represented in a manic-depressive population.

The ordinal birth data could thus lead to a profitable analysis of the causes of the mental illnesses noted, since relevant research has been and is being done to
ascertain the underlying reasons for the discovered birth order differences.

In order further to ascertain the relationship between affiliative need and dependency hypothesized by Schachter, the seventh hypothesis was formulated, that a significant positive correlation will exist between affiliative need, as measured within the experimental situation, and dependency as measured by the "Submissive-Dependent Self Scale." Because of the skewness of the affiliative need data's distribution and because it clustered toward the upper end of the scale, it was decided to test the hypothesis by means of a biserial correlation rather than the planned product-moment correlation. Because of the bimodal distribution of the data from the "Submissive-Dependent Self Scale," these scores were converted to $t$ scores and normalized. The relevant data are presented in Table VIII.

### TABLE VIII

<table>
<thead>
<tr>
<th>Degree of Need</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>High affiliation</td>
<td>17</td>
<td>48.62</td>
<td></td>
</tr>
<tr>
<td>Low affiliation</td>
<td>16</td>
<td>50.86</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>11.3</td>
</tr>
</tbody>
</table>

$r_b = - .124$, N.S.
Because the correlation obtained does not support the hypothesis and the direction of the relationship also further suggests that the hypothesis is wrong, possible reasons for the obtained relationship were considered. The scale possibly does not measure what it purports to measure. Since it is a relatively recent scale, the validity of the scale has not been adequately ascertained. Also, the skewness of the affiliative need data and the clustering at the upper end of the scale suggest a restriction of range which without doubt limited the possible correlation, whether plus or minus. There is, as well, the possibility that the hypothesis is simply wrong.

Which of these three alternatives is correct or whether some combination of them or perhaps a fourth cause has produced the obtained results cannot be ascertained within the confines of this study.

In order to determine, as well as possible, whether the restriction in range has produced these results, a median test of the differences on this scale between those subjects who were high on both the anxiety scale and the affiliative need scale and those subjects who were low on both the anxiety and affiliative need scale was performed. It was thus hoped that if there was in actuality any relationship, it would be magnified by the use of
these extreme groups. The relevant data are presented in Table IX.

### Table IX

**Median Test of Differences in Submission-Dependency Between the High Affiliation - High Anxiety Group and the Low Affiliation - Low Anxiety Group**

<table>
<thead>
<tr>
<th>Subject Group</th>
<th>High Dependency</th>
<th>Low Dependency</th>
</tr>
</thead>
<tbody>
<tr>
<td>High anxiety - high affiliation</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Low anxiety - low affiliation</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 0.053, \quad \text{P} > .80, \text{N.S.} \]

The obtained chi-square value of .053 (corrected for continuity) does not even approach significance. Therefore, the null hypothesis of no relationship must be accepted, if only within the confines of this study. In light of the previously noted interpretation of Bakan's results with alcoholics, however, the null hypothesis of no relationship must be given serious consideration and further empirical test, for Schachter has made sweeping use of the concept of dependency as a global concept around which to organize his and other investigators' ordinal birth data concerning affiliative need and conformity.
CHAPTER V

SUMMARY AND CONCLUSIONS

In what was in basic respects a replication of the Schachter high anxiety condition experiment, the present study attempted to ascertain whether ordinal position remained an effective discriminator of affiliative need and level of anxiety within the selective confines of a strong social organization. It also further explored the relationship that Schachter hypothesized between affiliation and dependency.

The subjects for the experiment were thirty-nine undergraduate college female students, all of whom were members or pledges of a social sorority. They participated in the experiment as a group.

In order to demonstrate the comparability of the present study with Schachter's high anxiety condition experiments in basic respects, the following hypotheses were formulated and tested:

Within the experimental situation:

1. A significant positive correlation will exist between anxiety and affiliative need.
2. Those subjects who refuse to continue in the experiment will be significantly more anxious than those subjects who agree to continue.

3. Those subjects who refuse to continue in the experiment will demonstrate a significantly higher degree of affiliative need than those subjects who agree to continue.

All three of these hypotheses were confirmed, and the study was considered to be in essential respects comparable to Schachter's high anxiety condition experiments.

In order to test the general hypothesis that the affiliative support of group membership would be more anxiety reducing for first and only children than for second and later born children, the following hypotheses were formulated and tested:

Within the experimental situation:

4. Second and other children who are members of a strong social organization will not significantly differ from first and only children who are members of the same organization in affiliative need.

5. Second and other children who are members of a strong social organization will not significantly differ from first and only children who are members of the same organization in degree of anxiety.
6. Second and other children who are members of a strong social organization will not significantly differ from first and only children who are members of the same organization in tendency to quit the experimental situation.

Hypotheses four and five were confirmed. Hypothesis six was not because the second and later born children demonstrated a significantly greater tendency to quit the experiment. Thus, although hypothesis six was not confirmed, the assumptions underlying it and the other hypotheses were confirmed, to an unexpected degree.

To ascertain, as far as possible, that those who continued in the experiment did not do so because of a tendency to conform rather than because of a lower level of anxiety and affiliative need, the two groups were compared on the "Submissive-Dependent Self Scale" which measures a tendency to avoid disapproval by submitting to others. There was no significant difference between the groups on this scale, and what difference there was suggested that those who quit were more submissive.

Thus, the results of the present study suggest that the affiliative support of the group was more effective in reducing the level of anxiety and satisfying the affiliative needs of the first and only children than the second and later born children. Not only is this suggested by a
comparison of the results of the present study to the high anxiety condition experiments of Schachter and others, which took place with the subjects in comparative social isolation, but it is also suggested by an internal analysis of the present data.

A number of hypotheses are suggested by these results. First, because of the lower level of anxiety or fear of the first and only children within a group, it might be expected that first and only children would function with greater effectiveness than later born children within a group. If this is so, an over-representation of first and only children among group leaders might be expected. Secondly, although on the basis of this study and previous studies it would not be expected that there would be any differences in the ordinal positions in degree of mental health, the differential effects of various experimental environments upon the ordinal positions suggest that their adaptive reactions to psychological stress would be different. Thus, an over-representation of later born children in a schizophrenic population might be expected, since schizophrenics have chosen a nonsocial adaptation, and an over-representation of first and only children in a population of manics, since manics are marked by a flight into social relationships.
In an attempt to further explore the relationship between affiliative need and dependency hypothesized by Schachter, the following hypothesis was formulated and tested:

7. That a significant positive correlation will obtain between affiliative need and submission-dependency.

This hypothesis was not supported, and what non-significant correlation there was in the present data was negative. Because of the restriction in range in the affiliative need data in the present study, a comparison of the high anxiety - high affiliation and low anxiety - low affiliation groups was made. It was felt that a comparison of these extreme groups might demonstrate a positive relationship that was obscured by the restriction in range. These data, however, also demonstrated a negative direction.

The null hypothesis of no relationship must, therefore, be given further consideration and further empirical tests. It is possible that dependency as a general concept is useless and confusing, for its meaning might be too closely tied to concrete, situational determinants.
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