A STUDY OF ORDINAL POSITION AND SOCIAL
INTROVERSION IN SMALL FAMILIES

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A STUDY OF ORDINAL POSITION AND SOCIAL INTROVERSION IN SMALL FAMILIES

THESIS

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

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Denton, Texas
August, 1964
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CHAPTER I

INTRODUCTION

During a child's development, innumerable physical, mental, and cultural stimuli bombard the life situation of that child. An important factor, perhaps above all other factors, which tends to form the psychological structure of the individual is his interaction with his family. More specifically, evidence suggests that an individual's interaction with his parents and siblings is influenced by the individual's ordinal position in the family (6).

Ordinal position as an experimental variable in association with behavior has long been the subject of psychological speculation and research. Although not the first to recognize the importance of birth order, Adler is often associated with the concept as a research variable. He wrote:

Individual psychology has opened up a very wide field for research work by inquiring into the advantages 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 attempts to adapt himself to his own peculiar circumstances (1, p. 144).
Adler (1) expected no fixed laws or constants of behavior associated with ordinal position. He stated that there exists an influence of birth order on behavior, but this association is not rigidly inflexible in all situations.

In his book The Psychology of Affiliation, Schachter expressed the opinion that a more lawful relationship exists between birth order and behavior than that position taken by Adler. Schachter's reasons for his firm position on the effect of birth order are stated when he writes:

(Virtually everyone would agree that the first birth is an event of profound psychological and philosophical importance for the parents and that later births are of considerably less importance . . . one can plausibly expect that with a first child, parents who are still inexperienced and insecure will respond to more signals from the child and respond more quickly than they might with later children. Their insecurity may lead them to over protect the first child. Their inexperience may force a trial-and-error procedure on them and their behavior with a first born child may be more inconsistent than with later children (6, p. 79).)

In addition to the parental attitude and behavior toward the child, Schachter relates variances in sibling attitudes and behavior. A younger child threatens the familial status of the older child who punishes the young child. The parents reassure the older child to quell his anger and anxiety but "in the long run the older child represents more of a threat and source of anxiety to the younger one than the younger does to the
older child" (6, p. 81). The idea of sibling interaction and birth order is carried to a more explicit degree by Koch. She proposed that the sex of the sibling and also the number of years spacing between the ages of the siblings were of great importance in the determination of a child's behavior and personality development (4, p. 425).

In the past, much work has been carried out in order to determine the relation of ordinal position with various personality variables. Schachter's concentration was on affiliative need (6). Various authors, Becker and Carroll (2), and Sampson (5), have considered birth order and its relation with conformity. Koch (4) and Sampson have correlated the variable with need achievement and concluded the effect of birth order on these variables is statistically valid.

While work has been done in these associated areas, little research has been done in areas which generalize associated variables into broader vistas of conceptualization. A broad variable which would seem to encompass these more minutely defined variables is that of social introversion. Facets of this concept have been inquired into as previously stated, but inquiries into social introversion-extroversion as a function of ordinal position has been neglected.

With these observations in mind, postulations may be put forth to predict either social introversion or
extroversion on the basis of ordinal position as measured by number of organizations joined. Because first born males are proportionally given less consistent nurturance than are later born males, they become insecure and dependent and will exhibit less social introversion through joining organizations to gain support for their personal dependency. First born females on the other hand, will join fewer groups and be more socially introverted because they have received independence training through household chores and assisting in the rearing of the younger children, thereby decreasing their dependency and tendency to become associated with groups. Subjects with siblings of the opposite sex and not more than five years their senior will tend to join more organizations than will Ss who have same sex siblings more than five years their senior. This postulation is promoted because a close association with an opposite sex sibling would force the S, as a child, outside the home to seek same sex relationships and would thus tend to join more groups and be more socially extroverted.

Purpose of the Study

The purpose of the present study is to attempt to ascertain whether ordinal position is an indicator of social introversion as measured by number of organizations joined in families of a maximum of three children. In conjunction with ordinal position, the sex of the sibling and the years spacing between children will be taken into consideration.
Hypothesis

In order to determine the association between ordinal position and social introversion the following hypotheses were proposed:

1. If male subjects alone are rated as to ordinal position the first born male Ss will exhibit less social introversion than later born males as measured by number of organizations joined.

2. If female Ss alone are rated as to ordinal position, then first born female Ss will exhibit more social introversion than later born females as measured by number of organizations joined.

3. Later born Ss, both male and female, whose next older sibling is of the opposite sex and not more than five years their senior will exhibit less social introversion as measured by number of organizations joined than later born Ss whose next older sibling is of the same sex or more than five years their senior.

Statistics

In order to evaluate the effects of ordinal position on social introversion the Chi Square method will be used. Chi Square will be employed to evaluate all three hypotheses as a test of independence. The number of organizations joined will be divided into cell frequencies of 0 to 7 organizations, 8 to 15 organizations, and 16, ad infinitum, organizations.
Subjects

Subjects for the study consisted of male and female students in the department of Psychology and Education at North Texas State University. The students were of undergraduate and graduate standing. If the students were undergraduate they were of advanced standing, being either juniors or seniors. The reason for using advanced students rather than those of lower classification was the fact that these students would have had a greater opportunity to join organizations. It was believed that the degree of sophistication concerning psychological knowledge of the Ss would be of no consequence since the nature of the responses to the instruments were those which could not be confounded by knowledge in that area. The age range of the Ss was 19 to 36 years. The mean age of the group was 22.78 years. A total of 203 Ss were used which consisted of 123 males and 80 females. Only those subjects with one or two siblings were utilized.

Measurements

In order to determine the birth order of the S, three sentences were composed by the writer to discern the individual's sex, ordinal position, number of children in the family, and sex of siblings. The sentences are as follows:

My sex is (M,F) _____. I am the (1st, 2nd, 3rd, etc.) _____ child in a family of (1, 2, 3, etc.) _____ including myself. I have _____
brothers and ____ sisters. My next older (brother or sister) ____ is ____ years my senior.

In order to measure the presence and degree of social introversion the number of organizations to which the individual belongs and has belonged is used as the variable of measurement. The rationale for using number of organizations to which one belongs as a measure of social introversion-extroversion is derived from previous research. In reference to Scale 0 (Social Introversion-Extroversion) of the MMPI, Hathaway and Monachesi relate that:

Persons scoring high on the scale tend to hold back in personal interrelationships and are likely to be socially seclusive. When the score is low, the individual is more extroverted, tends to join organizations with a primarily social purpose and to take an active part in them (3, p. 16).

In a validation study of that scale (Scale 0) of the MMPI, Drake and Thiede used organizations as a criterion for determining social introversion-extroversion. They wrote:

Each student filled out detailed information blanks regarding high school and college extracurricular activities in the area of literary dramatics, debating, music, art, athletics, and student government (7, p. 181).

Schachter writes that he and his associates made a single attempt to determine the relationship between sociability and birth order. A check list was compiled which was composed of various questions of the frequency of dating and of attending parties, on the number of close friends the Ss had, and the number of organizations to which
they belonged. Other areas of questioning were used but were not reiterated by Schachter. He writes:

... the only indices of social behavior that revealed any consistent relationship with ordinal position was the number of organizations to which the individual belonged (6, p. 78).

Under the assumption the number of organizations to which an individual belongs is an accurate measure of whether that individual is socially introverted or extroverted, a check list which is included in the appendix was constructed by the writer.

The check list was divided into two parts. The first part consisted of organizations to which the individual belonged in grades 1 through 9. These organizations were divided into headings of service organizations, church organizations, and school organizations. The second part consisted of organizations to which the individual belonged in grade 10 through his present academic or professional situation. These organizations were divided into headings of social, fraternal, academic and professional, honorary, and miscellaneous organizations.

Methodology and Procedure

Over a period of one month, data for the study was collected at North Texas State University, Denton, Texas. Subjects for the investigation included advanced students of both sexes of junior, senior, or graduate level classification. The measure used was the check list for procuring
ordinal position information and organizations joined by the S which has been described previously. Data was collected by administering the check list to whole classes at a time. The total number of Ss used was 203. A total of 315 check lists were collected but only 64 per cent of this number was usable data since some Ss were either only children or were members of families having more than three children, thus excluding them by the nature of the hypotheses.

With the approval of the instructor of the class the check lists were administered. After a brief introduction by the instructor, Ss were instructed that the data to be collected was to be used by the investigator in the writing of his Master's thesis. Further instructions to the Ss related that all blanks should be filled or marked which were applicable to the individual S. It was explained that the organizations listed were not the only ones to be considered, and that they should act as a spring-board to remind the respondent of those and other organizations to which he has been affiliated. Ss were told that the check list was largely self-explanatory but that the Ss should feel free to ask questions if they were unsure of the responses to be made.

When the respondent had completed the list, it was handed to the investigator. Total time needed to pass out the check list, administer the instructions, respond to the list, and take up the completed forms did not exceed
twenty minutes. In each class a few questions were asked but no problems were encountered and Ss seemed to concentrate and respond to the best of their ability when marking the check list.
CHAPTER BIBLIOGRAPHY


In order to exist adequately in any society or culture an individual must become socialized. Thus in a child's development, the socialization process is of utmost importance. In this process the primary and most influential social constellation in most cases is that of the family. This importance is related by Sears (8) when he writes,

The family is conceived as creating a particular kind of social structure within which the individual is embedded, which acts upon him in diverse ways and on which he acts . . . . It provides the main setting in early life for the learning of those behavior characteristics that have both individual and social reference, skills such as talking and feeding oneself and motives and values. A description of the family, in other words, is a description of the conditions of learning for a child born into that family (8, p. 379).

Within the family a child's learning is influenced by his parents and siblings through their attitudes toward him and his attitudes toward them. Schachter (6) has proposed that the child's position, or birth order, in the family group will have a great effect on not only his sibling relationships but also his parental relationships.

Investigators in social psychology have long recognized the importance of ordinal position and have promoted its
use as an experimental variable. Much of the past research has dealt with ordinal position and its relation with the susceptibility of the individual to sway toward a group norm in the sense of affiliative need (7), conformity (1, 5), volunteer groups (2, 9), and need achievement (5, 8).

Schachter, in his work with affiliative need and anxiety (6), has perhaps generated more research than any investigator in the field of ordinal position. He bases his investigations on his question that, "When the individual faces an anxiety-provoking situation alone, does ordinal position have a differential effect on anxiety?" (6, p. 132). In order to investigate this inquiry, Schachter used the data collected by Torrance (12) to determine the effects of ordinal position on the arousal of affiliative needs under anxiety such as that which would be aroused during air combat. When the jet pilots were ranked as to first born and later born Ss it was found that Schachter's hypothesis was correct and later-born flyers were more effective fighter pilots than first born flyers, this fact being evident to the .03 level of significance. (These results were discussed in conjunction with Schachter's basic hypothesis that because of parental inconsistencies in training and discipline, their own insecurity, and the fact that first born children are threatened by younger siblings, the first born children will be less proficient at successfully dealing with anxiety provoking situations.
In order to add more control to his investigations dealing with birth order, Schachter considered the size of the S's family and its bearing on the S's behavior. He writes:

*Family size is possibly a confounding variable, for of course the larger the family, the greater the number of later born children. It is conceivable, then, that these results are due to differences in family size, rather than to differences in ordinal position* (6, p. 53).

In order to evaluate the effects of family size, Schachter compared first-born and later born children in families of various sizes to degree of anxiety. A small family was defined as having up to three children and a large family was defined as having four or more children. It was found that there was a striking difference between small and large families. In large families, both first-born and later born children chose "together" (measure of anxiety) considerably less often than did their counterparts in small families, and the difference between first and later borns is considerably smaller in large families than in small families (6, p. 54). Schachter felt that the difference between Ss from small and large families is probably understandable in terms of rural-urban and socio-economic differences. He states that there is good evidence the Ss from large families are more frequently from rural backgrounds or poorer homes than those Ss from small families. Although the variable of comparison in Schachter's situation was anxiety, it would appear that any experimental variable being compared with birth order would be most accurately
represented if the number of children in the family was held to a maximum of three.

The implication of size of family upon ordinal position and behavior was also reviewed by Stagner and Katzoff (10). They attempted to evaluate personality variables and family size using a well standardized test (Bernreuter Personality Inventory) and a large number of Ss (430 university men). After compiling and computing birth order, size of family and personality information, the authors found that with a few exceptions, differences in birth order do not result in significant differences in personality score. However, results show that there seems to be a slight advantage for small families in that more relationships are significant. The authors relate that the effect of being "dispossessed" by later-born children in a large family promotes the development of independence in children from large families and decreases the effect of ordinal position.

Staples and Walters (11) followed Schachter's work in studying birth order and anxiety and base their work on Schachter's hypothesis that first-born Ss are subjected to more inconsistent nurturance than are later born children and consequently show more dependency behavior in the form of affiliative responses. Using the autokinetic situation as an index of suggestibility to social influence, the authors introduced an anxiety provoking situation to determine the affiliative need of first and later born Ss.
Family size and years spacing between S and sibling were held constant being 3.5 children and 3 years respectively. It was found that the results were in the predicted direction (first-borns being more susceptible to social influence than later borns) but were significant only at the .06 level. Results were discussed as adding impetus to Schachter's basic hypothesis which was previously stated.

In further refining the study of ordinal position and various personality variables the concept of the effect of sex of sibling was promoted by Koch (4). In addition to sex, she included the number of years spacing between the children of a family as an interacting variable. In a well designed study dealing with five and six-year-olds, the author inquired into various personality characteristics and their relation to birth order. The author relates her findings in relation to years of spacing and sex of sibling and states that birth order differences which were obtained at the "under-two-year" spacing may not be obtained at wider spacings. Koch writes that:

Ordinal position group differences at the close spacing reflect to a relatively greater extent direct sibling interaction effects, whereas at the wider spacings the differences are increasingly expressions of parent child relations (4, p. 424).

In summarizing the spacing-sex of sibling interaction, the author relates that the differences seem to be greater in the case of males than females. The "two to four" year spacing, especially for first borns, appeared to be
a stimulating and stressful one and Koch suggests that:

The boys seemed stung to the quick by the attentions their one to four year old siblings received, especially if the siblings were sisters. When the siblings are at close spacing they get more nearly the same treatment (4, p. 420).

Another study concerning birth order, sex of sibling, and age interval was conducted by Schoonover (7). The relationship of these three variables with intelligence and achievement was considered using the Stanford-Binet and the Stanford Achievement Test. 'When an analysis of the sibling performance utilizing the two tests was carried out it was found that no significant differences were found between older and younger siblings in intelligence or achievement.' Siblings, irrespective of sex, with a brother consistently had higher mental and achievement ages than siblings with sisters. The relationship between interval of births and the average difference in intelligence and achievement for sibling pairs was insignificant.

The relation between need achievement, conformity and birth order was reviewed by Sampson (5). Three experimental situations were used to determine this relationship. In the first situation, birth order and conformity were considered using 68 female undergraduate Ss in an audience-type influence experiment. In the second situation 116 male Coast Guard recruits were rewarded for conformity and punished for non-conformity in a leader suggestion situation.
In the third situation 31 male and 30 female undergraduates were given a digit-symbol task and were premeasured on achievement and test anxiety. The major concern of the situation was to determine differences in digit-symbol performance between persons motivated by the need to achieve and those motivated to avoid failure. It was found that in relation to situation B first born males exhibited less resistance to influence than later born males. In situation A it was found that first born females exhibited greater resistance to influence than later born females. In situation C, results showed that first born persons have a higher need for achievement than later born persons. These findings were taken to be consistent with a set of assumptions (5, p. 158) that the first born females are more significantly involved in independence training than first born males. This early independence training produces a greater need for achievement and leads to greater resistance to influence for the first born females. First ordinal position for the males on the other hand, produces greater affiliative dependency and leads to greater conformity in an influence situation.

Again, conformity and its association with birth order is reviewed in a study by Becker and Carroll (1) who used 30 American boys and 18 Puerto Rican boys of elementary school age to test not only conformity behavior, but also a minority group aspiring toward group membership in
the Asch situation. Three hypotheses were tested:

1. In the Asch situation, first born children will yield more frequently than will later born children.

2. In the Asch situation, children of Puerto Rican extraction will yield more frequently than will native American children.

3. In the Asch situation, first born Puerto Ricans will yield more frequently than will later born Puerto Ricans or first born native Americans who in turn will yield more frequently than will later born native American children (1, p. 130).

An analysis of the data indicated that differences in yielding behavior between first borns and later borns were significant \( (p < .01) \) and it was concluded that those Ss high in affiliative need more frequently yield to normative social influence than those low in need of affiliation.

The second hypothesis was also supported at the .01 level of significance. In testing the third hypothesis the ordering of the groups was correctly predicted and the difference in yielding errors was found to be significant also at the .01 level. It was suspected that the larger size and the reference group effect of the American group might confound the birth order results of the Puerto Rican group in hypothesis 3. After further analysis this suspicion was found to be true. The author related that it cannot be expected that results of birth order data will be the same when testing a cross-cultural sample. The assumption that differences in personality because of birth order are based
on the individual's interaction with his family is generally accepted. Since familial interaction is different in various cultures, it cannot be assumed that the results derived from birth order studies using American samples will hold true for all samples.

In addition to considering birth order and its relation to the tendency for an individual to become associated with a group by measurements of conformity, affiliative need, and need achievement, the tendency to volunteer for some group activity may be used as the criterion of assessment. In considering birth order as a selective factor among volunteer subjects, Capra and Dittes (2) proposed that affiliative and related dependency tendencies may make first born Ss more vulnerable to the appeal of a recruiter and to the activity for participation in small group activity. One hundred Yale freshmen were solicited in their dormitory by a senior student for a small group experiment to be conducted at a later date. Results showed that 36 per cent of the first borns and 18 per cent of the later borns volunteered for the experiment. These percentages yielded a probability level of .05. Results were interpreted by stating that the effects obtained with such variables as dependence, cohesiveness, and attractiveness of the group are likely to be exaggerated among volunteer Ss (meaning a higher proportion of first borns) as compared with results obtained in a random sample of the population.
Snedfield (9) reviewed the relation of birth order to volunteer Ss for a sensory deprivation study. Birth order information was collected from male college students for an experiment involving isolation and sensory deprivation. Among the 29 consecutive Ss reporting for the confinement, the proportion of the first borns was 76 per cent first borns and 24 per cent later borns. The author relates that, "the appeal of guaranteed interaction in a small group study is more likely to attract first borns' (2,302) does not seem to explain the preponderance of first borns among volunteers for isolation." (9, p. 196). Although the possibility of affiliative interaction with the experimenter before and after the confinement may be a factor in the motivation of the volunteers, other hypotheses are at least equally tenable. Snedfield writes:

One of these is the desire for attention which may be characteristic of first born individuals (Adler, 1931), and which could be satisfied by the mere fact of volunteering and serving as a subject regardless of the social aspects of the experimental situation (9, p. 195).

In summary, the author proposes the idea that birth order appears to be one factor which may significantly affect the constitution and behavior of the subject group even in studies where social interaction and cooperation are not salient features in the experimental design.

Although the majority of past research has dealt with birth order and its relation to various social situations,
some work has been carried on relating the variable to biological criterion. Results of these studies indicate the importance of the effect of birth order and social behavior. Witty (13) using high school students as Ss collected data concerning physical growth and development and health histories. The Otis intelligence scale and the Bernreuter Personality Inventory were administered by home room teachers who also rated each S on character traits and provided subject marks. A study of the means and standard deviations revealed that the groups were approximately equal in 18 measures and ratings of physical development in test-intelligence, in school marks, and in 21 comparisons relating to social or emotional adjustment. Although the groups differed in mean scores on the personality measures, the critical ratio was significant in no instance.

Another physical variable, pain tolerance, was compared with birth order by Gelfand. In reviewing the work of Schachter (6) concerning the anxiety of first borns produced in stress situation and the work of Beecher (Science, 1960) concerning placebos being more effective in stressful and anxiety-producing situations, the author hypothesized that first born and only children being more anxious should give greater placebo response than later born children. Sixty-two female nursing students were divided into experimental (first and only children) and control (later born children) groups and were given four
pretrials of pain inducing stimuli. The experimental group was then given placebos purported to be new and powerful pain killing tranquilizing drugs and three post trials were completed. Results indicated that no significant differences in pretrial pain tolerance for the experimental and control existed. Similar results were acquired for the post trial pain tolerance. None of the findings support the hypothesis of a significant relationship between birth order and pain tolerance.

To summarize the review of birth order to various behavioral variables, a study conducted by Sears (8) concerning ordinal position as a psychological variable may be used. Subjects consisted of 42 pre-school children who were observed and rated as to nurturant and dependency behavior. Mothers of the children were interviewed and rated on child rearing practices. Echoing the findings of Schachter and others, Sears writes:

In summary, it appears that the second children are somewhat less dependent than first. Dependent behavior is related to a history of frustration in nursing and weaning experiences, and the mothers of second and later children tend to be somewhat less frustrating than the mothers of first children. It is not clear from the present study whether this difference is related to some basic difference in the family structure and the roles comprising it, or to greater experience of the mother and her decreased anxiety about the child, or to her social status upward (8, p. 400).
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CHAPTER III

RESULTS AND DISCUSSION

In the use of the Chi Square as a test of significance, it was found that a null hypothesis was retained for all three proposed hypotheses. Although the data of the proposed hypotheses were found to be in the predicted direction, none reached the accepted level of probability (.05) and it must therefore be stated that no relation exists between ordinal position and social introversion under any of the tested conditions. A summary of the results of the three hypotheses and relevant information about the Ss is included in Table IV.

A statistical analysis of the first hypothesis concerning the prediction that first born male Ss exhibit less social introversion (will join more organizations) than will later born male Ss revealed a Chi Square value of 2.3297 and a probability level of >.30. The expected and obtained frequencies for the Chi Square test of hypothesis I is included in Table I.
TABLE I

FREQUENCY DATA FOR THE CHI SQUARE TEST
OF HYPOTHESIS I

<table>
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*fe = Expected frequency
*fo = Observed frequency

The level of significance of the second hypothesis, predicting that if female Ss alone are rated as to ordinal position, then the first born females will exhibit more social introversion (will join fewer organizations) than will later born females was found to be insignificant. The retention of a null hypothesis was concluded in light of a Chi Square value of 2.3297 and probability level of > .30. The expected and obtained frequencies for the Chi Square test of hypothesis II is included in Table II.
TABLE II
FREQUENCY DATA FOR THE CHI SQUARE TEST OF HYPOTHESIS II

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*fe = Expected frequency
**fo = Observed frequency

Concerning the level of significance of the third hypothesis, it was found that somewhat more than ten times in one hundred could the results have been obtained by chance alone (Chi Square = 3.8400, p > .10) and although the results were in the suggested direction, they could not be considered statistically significant. This hypothesis that later born Ss, both male and female, whose next older sibling is of the opposite sex and not more than five years that senior will exhibit less social introversion (will join more organizations) than will later born Ss whose next
older sibling is of the same sex or more than five years their senior was rejected. The expected and obtained frequencies for the Chi Square test of hypothesis III is included in Table III.

TABLE III

FREQUENCY DATA FOR THE CHI SQUARE TEST OF HYPOTHESIS III

<table>
<thead>
<tr>
<th>No. Org. Joined</th>
<th>Frequency</th>
<th>Ss with Sib. of Opp. sex and 5 or less yrs. older</th>
<th>Ss with Sib. of Same Sex or 6 or more yrs. older</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>fe*</td>
<td>6.63</td>
<td>15.37</td>
</tr>
<tr>
<td>0 - 7</td>
<td>fo**</td>
<td>7.00</td>
<td>15.00</td>
</tr>
<tr>
<td></td>
<td>fe</td>
<td>9.65</td>
<td>22.35</td>
</tr>
<tr>
<td>8 - 15</td>
<td>fo</td>
<td>7.00</td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td>fe</td>
<td>2.71</td>
<td>6.29</td>
</tr>
<tr>
<td>16 --</td>
<td>fo</td>
<td>5.00</td>
<td>4.00</td>
</tr>
</tbody>
</table>

*fe = Expected frequency
**fo = Observed frequency

As will be recalled from the introduction the basis for the first hypothesis was primarily Schachter's (3) assumption that first born individuals are subjected to more inconsistent nuturance that are later born individuals and consequently exhibit more dependency behavior in the form
of susceptibility to social influence. This susceptibility to social influence and the affiliative responses were interpreted as being manifested in the social introversion-extroversion continuum. Therefore, those persons who join more organizations (as a measure of social introversion-extroversion) are more socially extroverted. Although Schachter's Ss, jet aces, were similar in sex and age to those Ss used in the present hypothesis, a major discrepancy is present in the design of the two studies which may account for the lack of consistency in results. Schachter's conclusions were reached by a consideration of a degree of anxiety, in addition to birth order information and affiliative responses. No such anxiety state was considered in the present study. Although number of organizations joined may be considered an accurate measure of social introversion-extroversion in most situations, the measure may not be as accurate when considering such intervening variables as anxiety and using Schachter's assumptions as a basis for hypothesis formulation. A more valid measure could be attained by increasing the specificity of the organizations with which anxiety might be associated. Examples of the organizations which might be used are honor societies, social clubs, and fraternal societies with the exclusion of those organizations with which little anxiety is usually associated such as church groups and service organizations.
### TABLE IV

**SUMMARY OF Ss AND CHI SQUARE RESULTS FOR PROPOSED HYPOTHESES**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Ss</th>
<th>N</th>
<th>M Age</th>
<th>M no. Org. Joined</th>
<th>d.f.</th>
<th>Chi Square</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>First Born Males</td>
<td>40</td>
<td>23.48</td>
<td>10.50</td>
<td>2</td>
<td>2.386</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>Later Born Males</td>
<td>39</td>
<td>22.49</td>
<td>7.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>First Born Females</td>
<td>35</td>
<td>23.03</td>
<td>11.00</td>
<td>2</td>
<td>2.0568</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>Later Born Females</td>
<td>26</td>
<td>21.81</td>
<td>13.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Ss with sib of opp sex and 5 or less years older</td>
<td>19</td>
<td>22.78</td>
<td>11.26</td>
<td>2</td>
<td>3.8400</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>Ss with sib of same sex and 6 or more yrs. older</td>
<td>44</td>
<td>22.93</td>
<td>9.61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Again elaborating on a statement in the introduction, the second hypothesis in the present study was based on a set of assumptions by Sampson (2). He found that first born females exhibited greater resistance to social influence than did later born females and discussed this finding by stating that first born females are more significantly involved in independence training through assisting with the household chores and the rearing of the younger siblings than are later born females or males. Sampson writes, "This early independence training produces a greater need for achievement and leads to greater resistance to influence for first born females (2, p. 158)."

Therefore, it was assumed that first born females, being more resistant to social influence, would tend to join less organizations than later born females, implying more social introversion. Results show that this was not the case in the present study. Although the M number of organizations joined by the first borns was 11.00 and the M number of organizations by later borns was 13.04, this difference was not statistically significant. A discrepancy between the present study and that one of Sampson may account for the inconsistency in results. Although Sampson reported his finding in categories of first born and later born females, in actuality his category of first born females included both first born females and only child females. In the present study, only first born females were considered in
this category. The inclusion of only children could possibly have misrepresented the degree of social introversion or greater resistance to social influence was manifest in a "first born" category.

In the present study, as it was inferred in the introduction, the third hypothesis was based on Koch's (1) findings that there exists a significant relationship between birth order, number of years spacing between siblings, and the sex of the sibling. Koch writes that:

> Ordinal position group differences at the close spacing reflect to a relatively greater extent direct sibling interaction effects, whereas at the wider spacings the differences are increasingly expressions of parent child relations (1, p. 424).

It is assumed that if a child has a sibling of the opposite sex, that this child will venture outside the home to such companions of his own sex since they are not available at home. If the child's sibling is close to his age the sibling relationship will be strong and in the case of opposite sex sibling, it will tend to force the child outside the home to a greater extent than if the spacing was wider and the relationship less intense. It was further assumed that more than five years between siblings would not constitute an intense relationship since the older child would become interested in varied social and educational situations and would cease to be satisfied by association with his younger sibling. Therefore if an
intense sibling relationship exists between siblings of the opposite sex, the younger sibling will avidly seek same sex relationships outside the home. As a result, the child will tend to become affiliated with organizations through which he can achieve his desired relationships. In later life, it is inferred that these comfortable childhood associations will generalize to other, perhaps bisexual groups, to which the individual is associated and the number of organizations with which he is affiliated will be a measure of the degree to which he is socially extroverted. Although the level of probability of this hypothesis was somewhat greater than .10 and consequently insignificant, it was in the predicted direction. Koch states that "... birth order differences which we obtained at the 'under-two-year' spacing may not be obtained at wider spacings (1)." This statement in relation to the previous statement that closer spacings create more intense sibling relations would lead to the inference that had a larger number of samples been taken so that the maximum of 5 years spacing could have been reduced to two years spacing, results would have been more significant because of the greater intensity of the relationship and tendency to such relationships outside the family.

Schachter (3) found that in small families the effect of birth order on behavior was greater than that effect in larger families in that individuals from small families
tended to affiliate more frequently. Results in a similar direction were found by Stagner and Katzoff (4) but their results lacked the high statistical significance which was present in Schachter's study. Following these conclusions, only individuals from small families (a maximum of three children) were used in the present study in order to eliminate the possible confounding factor which would be present if individuals from large families were used as Ss. To evaluate the difference in number of organizations joined between Ss from small and large families in the present study, the data was manipulated by the use of Chi Square. Results reflected no statistical significance to promote the interpretation that Ss from either small or large families tended to join more organizations (Chi Square + 1.7391, df + 2, p<.50). These findings follow most closely those obtained by Stagner and Katzoff and are inconsistent with those of Schachter. An explanation of this discrepancy lies in that the Ss used in the present study were similar to those used in the study by Stagner and Katzoff (individuals currently attending college) whereas Schachter's Ss were jet aces.


CHAPTER IV

SUMMARY AND CONCLUSION

The purpose of the present study was to ascertain whether ordinal position is an indicator of social introversion as measured by number of organizations joined in families of a maximum of three children. In conjunction with ordinal position, the sex of the sibling, and the years' spacing between children were taken into consideration.

Subjects consisted of 203 male and female advanced undergraduate and graduate students in the Department of Education and Psychology at North Texas State University. Only Ss with one or two siblings were used.

Measurement consisted of a check list constructed by the writer which gathered birth order data and data concerning the organizations to which the S has been or is presently associated with from childhood to the present time. Number of organizations joined was considered the operational definition of social introversion. The check lists were administered to Ss during regular class periods at the university.

Three hypotheses were tested considering (1) social introversion and birth order in first born and later born males (2) social introversion and birth order in first
born and later born females (3) social introversion and birth order in Ss of both sexes when taking into consideration sex of sibling and years' spacing between siblings.

Past research was reviewed dealing with ordinal position and various personality variables. Such variables consisted of affiliative need, conformity, tendency to volunteer for group activities and need achievement.

In the use of the Chi Square as a test of independence, it was found that a null hypothesis was retained for all three proposed hypotheses. Although the proposed hypotheses were found to be in the predicted direction, none reached the accepted level of probability and it was therefore stated that no relation exists between ordinal position and social introversion under any of the tested conditions.

These results were discussed in relation to the findings of other writers. When discrepancies arose between findings of the present study and past studies explanations were proposed.

From reviewing the results of the present study and their relation to past research several conclusions can be made. It appears that number of organizations joined is an accurate measure of social introversion, however, when dealing with a variable such as ordinal position, the specificity of the organizations should be increased so that the kind of organization joined can be evaluated as well as the number. In other words, organizations with
which anxiety is associated could be compared with organizations with which anxiety is not associated to determine if Schachter's assumptions concerning anxiety and affiliative need are consistent with birth order and the social introversion-extroversion continuum.

Also, since refinements of the present study are necessary, an increased number of Ss would be necessary to fulfill the requirement for accurate statistical analysis. With this increased number of Ss it would be possible to accurately evaluate the effects of size of family as opposed to ordinal position and the resulting behavior with such variables as sex, sex of sibling, and years spacing between siblings held constant.
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Articles


Unpublished Article