

Birth Category Effects on the Gordon Personal Profile Variables

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Personality measurements for ascendancy, emotional stability, responsibility, sociability, and self-esteem were compared across birth order categories. Undergraduates ($N = 535$ total) reported whether they were the eldest, middle, or youngest children of their families, only children, or of inconsistent birth order due to parents' remarriage. ANOVA did not support any significant effects for these personality traits across birth order categories for either males or females. It was concluded that the hypothesized differences must be relegated to folklore.

Introduction

Many people believe that their position as the eldest, middle, youngest, or only child in their family affected their personality in some way. Parents often muse whether their children's birth categories have affected their development. Since everyone has a birth category, it is not surprising that many people have developed their own implicit theories regarding birth order and personality. Many have probably been exposed to birth order theory, of either scientifically grounded or mythological origins.

The purpose of the present study is to investigate birth order trends for five traits that have proven to be among the most interesting to birth order dynamics – ascendancy, emotional stability, responsibility, sociability, and self-esteem. The construct definitions that are measured by the Gordon Personal Profile (GPP; Gordon, 1978) serve as a frame of reference. The following review of the literature indicates that some consistent trends are in evidence for IQ and achievement variables, but that there is substantial inconsistency with regard to personality traits and birth order.

IQ and Achievement

It has been well-established that oldest and only children have an academic edge over the other birth categories, with overrepresentation in college, IQ measurements, SAT scores in the US and equivalent tests in the UK being primary indicators of this trend (Eisenman, 1992; Falbo & Polit, 1986; Parker, 1998; Storfer, 1990; Zajonc & Mullally, 1997).

Responsibility

Responsibility, in the GPP set of traits, characterizes individuals who value dependability, which is also expressed as greater persistence and greater attention span. When combined with other variables it could take the form of the “self-starter” altruist, or even the authoritarian (Dyer, 1984). The available birth order literature contains measures of responsibility and locus of control, where internality and responsibility were used nearly synonymously.

The oldest-born and the only-born have been reported to take more internal responsibility for their actions (Falbo, 1981). Falbo theorized that oldest children had probably developed this sense of responsibility because they were more often put in charge and the only because they had no one else to blame things on. Similarly, Phillips and Phillips (1994) found that first and only children tend to attribute others’ work performance to internal factors more so than later-borns. First-born weight lifters showed a more internal locus-of-control as well as a greater need for achievement than later-borns (Hall, Church, & Stone, 1980). Among alumni of a social work college, first-born and only males felt they had too much responsibility toward their families, whereas later-born males identified more with the role of the infantilized child (Lackie, 1984). Findings for females were similar. Other research also supports the idea that first-borns and only children demonstrate more responsibility than later-borns (Hansson, Chernovetz, Jones, & Stortz, 1978; Howarth, 1980).

In contrast, Walter and Ziegler (1980) found middle-borns to have a more internal locus of control than first- or later-borns in families of three or more. They also found last-borns in larger families to show a more external locus of control than last-borns from smaller families. Harris and Morrow (1992) found that birth order had no effect on self-perception of responsibility. Kirkcaldy (1992), similarly, concluded that birth-order has no effect on the work attitudes of college students.

Sociability and Ascendancy

GPP Sociability reflects the extent to which an individual enjoys social interaction. It is essentially a measure of extroversion (Dyer, 1984). GPP Ascendancy is essentially a measure of dominance or assertiveness, particularly verbal expressions thereof. High scorers have a tendency toward aggressiveness. The available birth order literature on sociability and ascendancy contains studies where both traits were studied together.

In the meta-analysis of only children research, Falbo and Polit (1986) found that only children scored lower on sociability when the data was self-report, but there was no difference in sociability when the measurement method was peer rating. The only child seemed to have a lower need to be sociable but was not lonely (Falbo, 1981). Falbo and Polit’s (1986) findings contradict Bragg’s (1986) conclusion that first- and second-borns were more likely than only children to acquire dominant status in their peer groups. In another study, Harris and Morrow (1992) found first-born males to be more dominant than first-born females, but the opposite was true for last-borns.

The research on sociability and birth order concluded that last-borns were the most sociable (Segal, 1978) perhaps because they were not likely to win at competitions (due to their younger age and lower competency) and thus developed a more adaptive affiliative orientation. Singh (1985) reported that last-borns were more extroverted; sociability is a major component of extroversion. Kaur and Dheer (1982), on the other hand, found no effect of birth order on introversion/extroversion. Schneider (1981) found that only children had lower Social Interest Scale scores than first-, second-, or middle-borns with middle-borns scoring higher than younger borns. Falbo (1977) concluded that only children show less of a need for affiliation and exhibit more trusting interaction styles. This may be related to the lower affection deprivation experienced by only children.

Snow, Jacklin, and Maccoby, (1981) however, found that sociability, as well as assertiveness in frustrating situations, was highest in only children, second highest in first-borns, and lowest in later-borns. Yet Bell et al. (1985) found that birth order had no effect on social competence. Others, similarly, found no differences in sociability between the birth categories, but found the oldest to be the dominant (similar to ascendancy factor measured by GPP) birth category (Perlin & Grater, 1984; Phillips, Bedeian, Mossholder & Touliatos, 1988).

Research on aggression and exhibition found that last-borns scored highest on need exhibition while middle-borns scored highest on need aggression (Begum, Banu, Jahan, & Begum, 1981). First-borns, on the other hand, scored lowest on both exhibition and aggression. Gender was also a factor here with need exhibition for first-borns and middle-borns being stronger with males than with females. For last-borns, need exhibition was stronger with females than with males.

Anxiety or Emotional Stability

GPP Emotional stability is essentially a measure of anxiety versus well being, where emotions are controlled rather than highly variable (Dyer, 1984). The available birth order literature contains related constructs for coping and other clinical symptomatology.

In a review of the literature, Eisenman (1992) concluded that first-borns are more fearful, and that some first-borns show more anxiety and creativity. These findings may be due to parents being more restrictive and anxious with first-borns as well as to first-borns having more time alone with their parents.

Kushnir (1978) found that birth-order differences in affiliation exist only in females and only in situations that produce higher anxiety (similar to emotional stability as measured by the GPP) in first-born than in later-born females. This finding suggests that the purpose of affiliation for first-born females is to reduce anxiety. Schachter (1959) concluded that first-born and only children become more anxious in anxiety-inducing situations than later-borns, and when anxious, are also more likely to seek company than later-borns.

Bloom, Anderson, and Hazaleus (1984) found that neither age spacing nor gender had an effect on anxiety or locus of control of first-borns in two-child families. Furthermore, Anantharman (1981) found no difference in the anxiety levels of first-borns and later-borns. However, Gates, Limberger, Crockett, and Hubbard (1988) reported first-borns as having less trait anxiety with girls exhibiting more anxiety than did boys overall. Howarth (1981) replicated this finding. The assertion that the oldest in the family will be the most anxious because first-time parents are more anxious themselves is not supported by these studies. Shanbhag (1990), however, found that first-borns were more anxious than both middle- and last-borns, and Kushnir (1978), while finding no birth order effect on trait anxiety, did conclude that first-born females may show higher state anxiety than later-born females.

Research on coping resources found that psychological birth order (the extent to which a person shows a set of characteristics shown by research to be associated with a certain birth order position) as measured by the White-Campbell Psychological Birth Order Inventory (PBOI) is related to the perception of coping resources in school-aged children (Pilkington, White, & Matheny, 1997). Psychologically oldest children perceived themselves as having more family support, peer acceptance, and social confidence whereas psychologically middle children scored lowest on these measures. The authors suggest that the lower self-esteem, higher frustration, and victimization of psychologically middle children limit the development or demonstration of coping resources. Research by Stewart & Campbell (1998) supports the construct validity of the PBOI as well as the concept of psychological birth order.

Regarding emotional stability, Kaur & Dheer found that middle-borns are more emotionally stable while first- and later-borns are more neurotic. Another study, however, found no birth order effect on neuroticism or extroversion (Shaughnessy, Neely, Manz, & Nystul, 1990).

Self-Esteem

The GPP Self-esteem scale is created by summing the scores from Ascendancy, Sociability, Responsibility, and Emotional Stability. This total reflects the number of positive statements that examinees make about themselves (Dyer, 1984). The Coopermith (1967) Self-esteem scale was the most prevalent self-esteem measurement in the available birth order literature.

In a meta-analysis, Falbo and Polit (1986) conducted an extensive review of only children and revealed that they surpassed the non-only group (all other birth orders combined) in achievement, psychological adjustment (low anxiety, high self-esteem, androgyny), character (leadership, autonomy) and intelligence. The research findings on the relationship between self-esteem and other birth categories have been contradictory. Rosenberg (1965) found that only borns had the highest self-esteem within a predominantly Jewish, male sample. Coopersmith (1967), in a broader study of adolescent boys, found that only and first-born boys were overrepresented in the high self-esteem group. Kaplan (1970) found, however, that last-born males (white, high SES) were more likely to have higher self-esteem than middle, first-born, and only children. Other studies reported the trend of first-borns having higher self-esteem than last-borns (Falbo, 1981; Gates et al., 1988), especially with females (Schwab & Lundgren, 1978). Another study found that first-borns in two-child families had a more positive self-concept when the age gap between the two siblings was small (ten months to two years) (Bloom et al., 1984). Likewise, Howarth (1980) found that, in sibling pairs, the older showed more self-pride than the younger.

There are some interesting complex effects as well. Self-esteem was reported to be lower among middle-born males than among first-born and last-born males, but self-esteem was enhanced if all other siblings were female (Kidwell, 1982). Kidwell concluded that the middle-born male in this situation enjoyed a uniqueness and special treatment in the family. Lester, Eleftheriou and Peterson (1992) reported an interesting self-esteem finding moderated by sex; last-born females exhibited higher self-esteem while first-born males scored higher on this measure.

Hypotheses

In light of the inconsistent findings for the five traits, it was hypothesized that birth order effects could be obtained for each trait of responsibility, sociability, ascendancy, emotional stability, and self-esteem. What is new is that the traits were measured simultaneously by a common form of measurement. It was anticipated that a better understanding of birth order effects would emerge by studying the traits in this fashion. Ideally, a profile of traits could be isolated for only children, first-, middle, and last-born children.

Method

Subjects

The sample contained 527 undergraduate students from Introductory Psychology classes at a Midwestern 4-year college. Of that total, 431 students had lived with both biological parents' families (campus residence notwithstanding), and 96 lived with a divorced biological parent or some other non-traditional family structure. There were 149 males and 386 females. The racial composition of the sample was reported by the students as: Caucasian, 470 (87.5%); African-American, 27 (5.1%); Asian, 15 (2.8%); Hispanic, 13 (2.4%); other, 9 (1.7%). Data were collected over a period of several years. A distribution of subjects by serial order in their families appears in Table 1.

TABLE 1
Distribution of Subjects by Gender and Birth Order

Birth Order	Males	Females
Only child	11 (7.4)	28 (7.3)
First born	65 (43.6)	121 (31.4)
Middle child	25 (16.8)	93 (24.1)
Youngest child	38 (25.5)	113 (29.3)
Inconsistent due to parents' remarriage	10 (6.71)	31 (8.0)
Total	149	386

The relatively homogeneous sample was appropriate for studying birth order effects. If the birth order effects were small, any (unknown) strong effects associated with ethnic differences, income, education of parents, or marital status of parents could obscure them.

Students were instructed on how to fill out the questionnaires before completing them. By happenstance, 31 students completed the GPP twice, thus providing an opportunity to gather some test-retest reliability on the GPP for the study.

Measures

The subjects filled out the GPP in class along with a sheet containing demographic questions such as birth order, sex, and race. The five birth order categories were: only child, oldest, middle, youngest, and inconsistent due to parents' remarriage. Subjects were asked additional questions about their family compositions, but that information was not used in this study.

The GPP assesses four personality variables: ascendancy, responsibility, emotional stability, and sociability. Ascendancy is a measure of assertiveness and dominance. Responsibility is a measure of conscientiousness, and sense of duty. Emotional stability measures how well controlled emotionally a person is and their degree of anxiety. Sociability is a measure of gregariousness. A composite score for Self-esteem is obtained by adding these four scores together. A trained assistant scored the profiles. The students were given their score report and the results were explained to them.

The GPP was chosen for use in this study because it assesses the same traits that received the greatest attention in the birth order literature. The GPP also has demonstrated internal consistency and test-retest reliability coefficients in the upper .80s. Validity studies have demonstrated that GPP scores correlate significantly ($p < .001$) with self-assessment ratings as well as peer ratings on the same characteristics (Gordon, 1978).

Results

ANOVA was used to compare all the birth order categories was conducted on each of the five GPP variables. Analyses were conducted on males and females separately to avoid the problem of unequal cell sizes in a two-way ANOVA. Surprisingly, no significant differences (at $p < .05$) in any of the five personality variables were found for any of the birth order categories, with one exception.

The exception was an effect for emotional stability among males. Tukey's HSD follow-up procedure could not discern any significant difference among particular groups. If the Bonferroni correction for all the one-way tests were applied, however, this effect could have occurred by chance also.

The set of F tests for these analyses appear in Table 2 along with the test-retest reliability results. Reliability coefficients ranged from .78 to .84.

TABLE 2
Summary of Reliability and ANOVA Results for GPP Variables by Birth Order

Variable	Males <i>F</i> , <i>df</i> = 4, 144	Females <i>F</i> , <i>df</i> = 4, 381	Test-Retest <i>N</i> = 31
Ascendancy	1.35	0.69	.80**
Responsibility	0.57	1.50	.83**
Emotional Stability	2.46*	1.23	.78**
Sociability	0.29	1.78	.81**
Self-esteem	1.25	1.27	.84**

* $p < .05$ ** $p < .01$

Discussion

Prior to this study, the literature had shown that personality traits were not consistently linked to birth order. Although there were some promising non-negative reports, those findings did not withstand replication when broader or repeated sampling was undertaken. The findings for personality constructs contrasted with the findings for IQ and intellectual achievement, wherein only children, and sometimes first-borns, fared more favorably than other children.

This study made an important contribution to the study of birth order effects and personality traits by comparing simultaneously five variables that had attracted considerable attention in the literature, if not also in folklore. The sample allowed some control over possible effects from ethnicity, income, education of parents, or marital status of parents. The birth group contrasts were tested using a larger sample than most of the others reported previously. It was necessary to conclude, nonetheless, that there were no systematic differences in the GPP constructs across birth orders, or only children versus others. Although the possible relationships between birth order effects and personality are fun to discuss, and commonly accepted as factual, the scientific evidence does not support their validity.

Because familial structure and dynamics are unique, future research may benefit by looking for birth order effects by comparing siblings of the same family. The analyses would separate two-child, three-child, and N-child family situations; contrasts with only children would be ruled out. The logistics of arranging for an entire family of participants would be challenging.

References

- Anantharman, R.N. (1981). Anxiety development and birth order. *Indian Journal of Clinical Psychology, 8*, 43-45.
- Begum, H.A., Banu, S., Jahan, R., & Begum, R. (1981). Birth order, sex, and personality traits. *Indian Psychological Review, 20*, 21-28.
- Bell, N.J., Schoenrock, C.J., Young, M., Avery, A.W., Croft, C.A., & Lane, S. (1985). Family constellation, social competence, and sex role development. *Journal of Genetic Psychology, 146*, 273-275.
- Bloom, L.J., Anderson, S., & Hazaleus, S. (1984). Personality correlates of age-spacing in first-borns. *Child Study Journal, 13*, 247-257.
- Bragg, C.F. (1986). Social dominance within preschool peer and sibling relations (Doctoral dissertation, Boston University, 1986). *Dissertation Abstracts International, 47(1-B)*, 398.
- Coopersmith, S. (1967). *The antecedents of self-esteem*. Freeman: San Francisco.
- Dyer, F. J. (1984). *Gordon Personal Profile-Inventory: An interpretive guide*. San Antonio, TX: Psychological Corporation, Harcourt, Brace, Jovonovich.
- Eisenman, R. (1992). Birth order, development, and personality. *Acta Paedopsychiatrica International Journal of Child and Adolescent Psychiatry, 55*, 25-27.
- Falbo, T. (1977). The only child: A review. *Journal of Individual Psychology, 33*, 47-61.
- Falbo, T. (1981). Relationships between birth category, achievement, and interpersonal orientation. *Journal of Personality and Social Psychology, 41*, 121-131.
- Falbo, T. & Polit, D. (1986). Quantitative review of the only child literature: Research evidence and theory development. *Psychological Bulletin, 100*, 176-189.
- Gates, L., Lineberger, M.R., Crockett, J., & Hubbard, J. (1988). Birth order and its relationship to depression, anxiety, and self-concept test scores in children. *Journal of Genetic Psychology, 149(1)*, 29-34.
- Gordon, L.V. (1978). *Gordon Personal Profile-Inventory, Manual*. San Antonio, TX: The Psychological Corporation.
- Hall, E.G., Church, G.E., & Stone, M. (1980). Relationship of birth order to selected personality characteristics of nationally ranked Olympia weight lifters. *Perceptual and Motor Skills, 51*, 971-976.
- Hansson, R.O., Chernovetz, M.E., Jones, W.H., & Stortz, S. (1978). Birth order and responsibility in natural settings. *Journal of Social Psychology, 105*, 307-308.
- Harris, K.A. & Morrow, K.B. (1992). Differential effects of birth order and gender on perceptions of responsibility and dominance. *Individual Psychology: Journal of Adlerian Theory, Research & Practice, 48*, 109-118.
- Howarth, E. (1980). Birth order, family structure and personality variables. *Journal of Personality Assessment, 44*, 299-301.
- Howarth, E. (1981). Birth order and personality: Some empirical findings and a biobehavioral theory. *Personality and Individual Differences, 3*, 205-210.
- Kaplan, H.B. (1970). Self-derogation and childhood family structure. *Journal of Nervous and Mental Disease, 151*, 13-23.
- Kaur, H. & Dheer, V. (1982). Birth-order, academic achievement and personality structure. *Indian Journal of Clinical Psychology, 9*, 189-192.
- Kidwell, J.S. (1982). The neglected birth order: Middleborns. *Journal of Marriage and the Family, 44*, 225-235.
- Kirkcaldy, B.D. (1992). Work attitudes and birth order. *Perceptual and Motor Skills, 74*, 542.
- Kushnir, T. (1978). A review of the evidence for birth order differences in anxiety and affiliation in stressful situations. *Social Behavior and Personality, 6*, 179-186.
- Lackie, B. (1984). Learned responsibility and order of birth: A study of 1,577 social workers. *Smith College Studies in Social Work, 54*, 117-138.
- Lester, D., Eleftheriou, L., & Peterson, C.A. (1992). Birth order and psychological health: A sex difference. *Personality and Individual Differences, 13*, 379-380.
- Parker, W.D. (1998). Birth-order effects in the academically talented. *Gifted Child Quarterly, 42*, 29-38.
- Perlin, M. & Grater, H. (1984). The relationship between birth order and reported interpersonal behavior. *Individual Psychology: Journal of Adlerian Theory, Research and Practice, 40(1)*, 22-28.
- Phillips, A.S., Bedecian, A.G., Mossholder, K.W., & Touliatos, J. (1988). Birth order and selected work-related personality variables. *Individual Psychology: Journal of Adlerian Theory, Research and Practice, 44*, 492-499.
- Phillips, A.S. & Phillips, C.R. (1994). Birth order and achievement attributions. *Individual Psychology: Journal of Adlerian Theory, Research & Practice, 50*, 119-124.
- Pilkington, L.R., White, J., & Matheny, K.B. (1997). Perceived coping resources and psychological birth order in school-aged children. *Individual Psychology: Journal of Adlerian Theory, Research & Practice, 53*, 42-57.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, N.J.: Princeton University Press.
- Schachter, S. (1959). Ordinal position, anxiety, and affiliation-I. In R.R. Sears, L. Festinger, & D.H. Lawrence (Series Eds.) & Schachter, S. *Stanford studies in psychology: Vol. 1. The psychology of affiliation: Experimental studies of the sources of gregariousness* (pp. 42-61). Stanford, CA: Stanford University Press.
- Schneider, L.J. (1981). The impact of birth order and sex on social interest. *Journal of Psychology, 37*, 102-106.
- Schwab, M. R. & Lundgren, D.C. (1978). Birth order, perceived appraisals by significant other, and self-esteem. *Psychological Reports, 43*, 443-454.
- Shanbhag, V. (1990). Factors influencing anxiety among adolescents. *Indian Journal of Behaviour, 14*, 49-55.
- Shaughnessy, M.F., Neely, R., Manz, A., & Nystul, M. (1990). Effects of birth order, sex, and astrological sign on personality. *Psychological Reports, 66*, 272-274.
- Segal, J. (1978). *A child's journey*. McGraw-Hill Book Company, New York, New York.
- Singh, T. (1985). Birth-order and age as the determination of extroversion. *Journal of Psychological Researches, 29*, 21-23.
- Snow, M.E., Jacklin, C.N., & Maccoby, E.E. (1981). Birth-order differences in peer sociability at thirty-three months. *Child Development, 52*, 589-595.
- Stewart, A.E. & Campbell, L.F. (1998). Validity and reliability of the White-Campbell Psychological Birth Order Inventory. *Journal of Individual Psychology, 54*, 41-60.
- Storfer, M.D. (1990). *Intelligence and giftedness: The contributions of heredity and early environment*. San Francisco: Jossey-Bass Publishers.
- Walter, D.A. & Ziegler, C.A. (1980). The effects of birth order on locus of control. *Bulletin of the Psychonomic Society, 15*, 293-294.
- Zajonc, R. B., & Mullanly, P. R. (1997). Birth order: Reconciling conflicting effects. *American Psychologist, 52*, 685-699.

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