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Political Psychology, Vol. 11, No. 3, 1990

RESEARCH NOTE
Birth Order of World Leaders: An Exploratory Analysis of Effects on Personality and Behavior

Valerie M. Hudson[1]

Do the personal characteristics and foreign policy behavior of world leaders correlate with their birth order? The literature of birth order theory suggests that they should. An exploratory empirical analysis of 46 world leaders as to their personal political characteristics, foreign policy orientations, and foreign policy behavior is performed in order to assess what, if any, effects can be linked to birth order. The results substantiate the hypotheses derived from birth order theory in a few cases, contradict them in others, and point out some new paths of inquiry as well. In brief, differences between the birth orders can be detected in the attainment of national leadership. Though no substantiation is found for hypothesized differences between firstborns and middle-borns, the group of last-born leaders differs significantly from all other groups on measures of personal characteristics. However, no significant differences were found regarding foreign policy orientation and foreign policy behavior.

KEY WORDS: birth order; leadership; foreign policy behavior.

INTRODUCTION

To ascend to a position of national leadership is a goal which many may seek, but few ever realize. For example, only forty-one men have been president of the United States; only seven men have been recognized as leaders of the Soviet Union; only one man has governed Zambia. At first glance, the members of this small set of persons appear quite diverse. Some nation-

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al leaders have actively sought this distinction, while others have had power thrust upon them. Some acquire leadership at a relative young age; others may be quite old when they finally achieve their position. There are gender and ideological differences; cultural and temporal differences; background and socialization differences. One class of scholarly literature in political psychology seeks to cut through the superficial idiosyncratics of the group to uncover the personal characteristics of leaders. It is hoped that by typologizing leaders on the theoretically important dimensions of personality, distinct patterns of leadership will emerge from the initial diversity of their life circumstances. These patterns, if uncovered, would permit explanation and even prediction of leaders' performance in office.

Once such a typology was in place, the researcher could reevaluate whether any of the variables relating to life circumstances (age, gender, etc.) in fact correlate with the personal characteristics of leaders. This latter exercise might be useful for a number of reasons: it could trace the origin of a leader's particular characteristics, providing at least partial explanation of why the leader possesses those and not others; it could aid prediction of leader performance, because a leader's life circumstances may be more accessible to a researcher than is the information needed to assess completely the leader's personal characteristics; it might act as a catalyst for refining the variables used to typologize the personal characteristics of leaders, thereby assisting the theory-building enterprise.

In this spirit, the research outlined here asks whether the birth order of national leaders correlates with measures of their personal characteristics and also their foreign policy behavior. The literature of psychology and child development gives ample evidence that birth order and certain personality attributes are significantly related within the general population. Empirical studies of birth order have investigated effects on IQ (McCall, 1970), achievement and the need for achievement (Payne, 1971; Cicirelli, 1978), popularity (Miller and Maruyama, 1976; Schachter, 1964; Payne, 1971), stress response (Weiss, 1970; Helmreich *et al.,* 1968), authoritarianism (Eisenman and Cherry, 1970; Grossman and Eisenman, 1972), motivation (Adams and Beeman, 1972), work attitudes (H. L. Koch, 1956), vocational choice (Allen, 1955; Galton, 1874), verbal ability (Breland, 1974; Payne, 1971), creativity (Eisenman and Cherry, 1970), aggression (Grossman and Eisenman, 1972), acceptance of authority (Sampson and Hancock, 1967; Smith, 1971), empathy (Stotland *et al.,* 1971)—even alcoholism, delinquency, school failure, and stuttering! (See Lamb and Sutton-Smith, 1982.)

Why should researchers expect to find effects on such wide-ranging facets of a person's life? To birth order theorists, the birth order of an individual is a primary biographical statistic. Every person is born into a family, either natural or artificial, and through birth assumes a unique position that will determine to a large degree that person's experience of the family. Because

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the family is "life's first stage," the lessons drawn from this experience may influence the individual throughout life. As Toman (1976, pp. 5-6) puts it,

> One may assume that it is the early and more pervasive life contexts rather than contexts emerging relatively late and more sporadically that serve as basis for generalization of past experiences to new contexts. The family's influence on a person's behavior in school is usually greater than the school's influence on his behavior in the family. A person's experience at home and in school are more likely to be transferred to his job situation than are his experiences at work to his experiences in school or at home . . . This does not mean to imply an inescapable determinism, but recent and contemporary influences should not be overestimated in view of the early influences that have been having their effect for much longer. The effects of the latter are often covert. *They appear in sentiments and attitudes, in basic wishes and interests of which the person may be partly unaware. They do affect his social behavior and, to be sure, they often do so more strongly, the less conscious they are.* (emphasis added)

Unfortunately for our purposes here, studies chronicling the effects of birth order on *world leaders* are not numerous. On this topic, the literature is much scantier and more speculative in nature. Unlike the studies alluded to earlier, which consist largely of survey and experimental designs, world leaders are not usually available for detailed study or experimentation. The researcher is left to ascertain a leader's birth order and, given the hypotheses of birth order theory and the public record left by the leader, to guess the effects of sibling position on the leader's life.

Nevertheless, if there were truth in birth order theory, important linkages between birth order and leadership must exist—for example, in the individual's desire for and use of power. Political power, to birth order theorists, is merely a variant of that power with which the individual became familiar as a child in a family context. The individual's first experience with power is at the receiving end—as a helpless infant in the care of its parents. As the child matures and asserts his or her own independence, clashes over power and authority with parents will occur. If the child has siblings, a rough power hierarchy will be worked out over time with them. A *style* of power usage will emerge from the child's unique birth position. Stewart makes the point convincingly:

> Just listen to this recital by ten-year-olds of the tactics they employ to get a sibling to do what they want: "I beat him up, hit him, boss him, spook him, belt him, exclude him," or "I get mad, shout and yell, cry, pout, sulk, ask other kids for help, threaten to tell Mom and Dad." So elemental and universal are these responses that no one need be told that the participants are older and younger brothers and sisters, nor need anyone be in doubt that the high power tactics are those of the older siblings . . . Are not these the raw materials of power politics? It requires no great leap of imagination to perceive in adult political leaders the same kinds of behavior: Lyndon Johnson, a first born son, in the Capitol cloakroom "twisting arms"; Richard Nixon, a second born son, angry, pouting, crying on television; John Foster Dulles, a first born son, exploiting atomic brinkmanship . . . (Stewart, 1977, 209-210)

As psychologists tell us, the family is a microcosm of society. The children will learn lessons about dominance, conformity, rebellion, punishment,

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persuasion, strategy, frustration, and control. They will learn the sources of their own power—brute force, intelligence, congeniality, material possessions—by noting when and where they are successful in achieving their aims. These successes become crucial points in the child's development, and the techniques used to realize them will become the blueprints for the future. Throughout life, even while growing from new experiences outside the family, an individual may often resort to power tactics that he or she used with success in early life.

MEASURING THE PERSONAL CHARACTERISTICS AND BEHAVIOR OF LEADERS

In order to test empirically whether birth order correlates with the personal characteristics of political leaders, it is necessary to rely on a theoretical framework that measures those characteristics. Many interesting frameworks and variables have appeared in the literature of political psychology. (For an excellent overview, see M. Hermann, 1986.) A leader's political beliefs, political style, motivation, and background have all been dimensions addressed in this literature. Perhaps the most famous is James David Barber's fourfold typology of leaders as active-positive, active-negative, passive-positive, and passive-negative types (Barber, 1977), which seeks to integrate all four of these factors. The concept of "operational code," first put forward by Nathan Leites (1951) and expanded by Alexander George (1969, 1979), has been foremost in the study of a leader's political beliefs. A leader's philosophical and instrumental beliefs about the political world are examined and compared with those of other leaders. To date, numerous operational code assessments have been made of American presidents, senators, and secretaries of state (see, for example, Holsti, 1979; Johnson, 1977; Walker, 1977). A third line of inquiry has tackled the motivation of the political leader: What personal needs does the leader fulfill by striving for and attaining his or her position? The need for power, the need for affiliation, the need for achievement, the need for self-esteem, and the need to compensate for personal problems, along with other needs, have all been found to play a role in the lives of various leaders (see Burns, 1978; M. Hermann, 1977; Winter, 1973; Rejai and Phillips, 1984). Cognitive style and interpersonal style constitute another major avenue of investigation, using variables such as cognitive complexity (Tetlock, 1984) and suspiciousness (M. Hermann, 1980).

The framework for assessing the personal characteristics of political leaders that will be used in this research examines several of these important dimensions: political beliefs, motivation, decision-making style, and inter-

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personal style. M. Hermann (1987a, 1987b) has chosen eight characteristics (two for each dimension) which she feels define a leader's "political personality":

A. Nationalism—the degree to which an individual possesses a strong emotional attachment to the nation-state, with an emphasis on national honor and sovereignty.

B. Belief in One's Own Ability to Control Events—the degree to which the individual perceives he or she has a measure of control over circumstances in which he or she is involved.

C. Need for Power—the degree to which an individual is motivated to establish or maintain power over others.

D. Need for Affiliation—the degree to which an individual is motivated to establish or maintain warm, friendly relations with other individuals or groups.

E. Conceptual Complexity—"refers to the degree of differentiation a person shows when observing or contemplating his or her environment" (M. Hermann, 1979, p. 18).

F. Self-Confidence—the degree to which an individual trusts in his or her own judgment and actions.

G. Distrust of Others—the degree to which an individual is suspicious or wary of others.

H. Task/Affect Orientation—whether an individual is more concerned with end results (task oriented), or is more concerned with the feelings of others (affect oriented).

M. Hermann has also combined these eight traits into six personality "profiles" that define a leader's foreign policy orientation. While space does not allow an elaboration of each of the six orientations, M. Hermann does characterize three of them as being relatively "insensitive" orientations, with the other three being relatively "sensitive."[2] Those possessing insensitive orientations are less open to new or contradictory information and are more straightforward in their use of coercive power. Those who possess "sensitive" orientations are more attuned to the feelings and motivations of others, and therefore are more adept at persuading and manipulating others without overt force.

M. Hermann has also worked with others to develop dimensions of the foreign policy behavior of leaders (see Callahan *et al.*, 1982). Two of these dimensions will be examined in this study: expressed affect and level of commitment. Expressed affect refers to the friendliness or hostility one entity

[2]The expansionist, active independent, and developmentalist orientations are viewed as insensitive; the opportunist, mediator/integrator, and influential orientations are viewed as sensitive.

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expresses to another—in this case, between one leader's nation and another's. Affect can be positive, negative, or neutral: it can be less or more intense (see Hermann *et al.*, 1982). Commitment refers to the pledging or allocation of resources involved in foreign policy that may constrain the leader's future foreign policy behavior (see Callahan, 1982). Low commitment behavior may involve simple diplomatic statements or judgments; high commitment behavior may include signing a treaty, offering economic aid, or deploying troops.

With the inclusion of these variables, we now have enough information to evaluate six aspects of leaders' characteristics and behavior:

1. Leaders' Beliefs:
   (a) Nationalism
   (b) Belief in Ability to Control Events
2. Leaders' Motivation:
   (a) Need for Power
   (b) Need for Affiliation
3. Leaders' Decision-Making Style:
   (a) Conceptual Complexity
   (b) Self-Confidence
4. Leaders' Interpersonal Style:
   (a) Distrust of Others
   (b) Task/Affect Orientation
5. Leaders' Foreign Policy Orientation:
   (a) Insensitive
   (b) Sensitive
6. Leaders' Foreign Policy Behavior:
   (a) Expressed Affect
   (b) Level of Commitment

Theoretical Expectations

Before delving into the construction of the empirical test, it may be useful to ask whether birth order theory provides expectations regarding the results. A review of salient literature is a bit disconcerting in this regard: though numerous expectations pervade the more abstract literature, the empirical testing of the expectations often provides uncertain, sometimes falsifying information. Nevertheless, a few broad principles seem to emerge:

A. Likelihood of Attaining a Leadership Position. The literature strongly suggests that firstborns and middle-borns are more likely to be found in office than only-borns or last-borns (see, for example, Stewart, 1977; Rejai and Phillips, 1983; Galton, 1874). Unclear from this literature is whether

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this results from birth order or merely reflects the comparative population size of each of the four groups. One statistic that saves us from a complete embrace of the latter position is that the population of last-borns is approximately equivalent to the number of first-borns. Thus, if one of these groups emerges more often in a national leadership position than the other, we may fairly confidently decide this is related to the differential effects of birth order.

Last-borns are not considered likely leaders, except as champions of the oppressed in channels outside of mainstream politics; for example, Mohatma Gandhi and Jefferson Davis were both last-borns. According to birth-order theory, last-borns have, in their family experience, left the leadership role and its incumbent responsibilities to others; they are not easily "yoked" to the team in later life. The last-born child places a premium on personal freedom.

Birth order theorists do not expect only children to assume leadership positions as often as firstborn or middle-born children, either. Toman (1976) feels that the only child will seek relationships with parent substitutes—those who can lead and direct the individual. Thus the only child, never having had leadership experience within the family, would feel uncomfortable in a leadership role later in life.

B. Style of Power. Birth order literature seems to imply that leadership style will vary according to birth order. Those with older siblings will have had experience with manipulative techniques for achieving their ends, while firstborn children rely on their strength and intellect advantages. Thus, many researchers suggest that the firstborn may be more authoritarian in personality than the later born children. The firstborn is also expected to have a high need for achievement and high self-confidence, while later borns may exhibit a high need for affiliation (see, for example, Forer, 1976; Sampson, 1962; Toman, 1976). However, the empirical evidence to substantiate these propositions is quite mixed (see, for example, Eisenman and Cherry, 1970; Greenberg *et al.,* 1963; Stotland and Dunn, 1962).

C. Beliefs. The literature also implies that firstborn and only-born children will be more attached to the heritage imparted to them by their parents, and thus be more diligent in preserving and protecting that heritage than will be those of other birth orders. As political leaders, this allegiance is transferred to the trappings of nationalism, which should be manifested in both the leader's rhetoric and policy behavior (see Stewart, 1977).

D. Behavior. Birth order literature suggests that firstborns, consonant with their style of power, will be much more direct and confrontational in achieving their policy goals. Researchers feel that firstborns will be most likely to resort to threats and punishment to influence others, while the later-borns will engage in more friendly persuasion, compromise, and quid pro quo arrangements (see Toman, 1976; Forer, 1976; Stewart, 1977).

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Operationalization of the Variables

Much has been written about the complexities of birth order coding. This study will follow Toman's (1976) basic rules. Birth order will only count children who survive birth and infancy. As Stewart (1977, p. 213) notes, "the basic elements are ordinal position, sex of siblings, and the relative ages of siblings." For this study, the following definitions are used:

Only Child. An only child, or a child whose next nearest sibling is more than 5 years of age different from the child. Also, a child taken from a family and raised as an only child by another family is an only child.

Firstborn. The first born in a family, or the firstborn son in a family. In the birth order literature, a firstborn son, despite his intermediate ordinal position, tends to manifest more the characteristics of a firstborn.

Middle Child. A child that is not an only child, a firstborn, or a last born in the family. However, a firstborn son with older sisters is considered in the firstborn group.

Last-Born. The last born in the family. However, the next oldest sibling must not be more than five years older, else the child is considered as an only child.

Data on birth order for world leaders are not easy to find. The data collected were mostly for leaders of the 1960s and 1970s, though a few more recent leaders are included as well. A wide range of biographical and autobiographical material was examined. (Please see the reference section.) In some cases, fuzziness still existed—for example, a leader might be described as the third of six children, but it might be unclear whether he was a firstborn son or a middle child. In order not to taint the results, these leaders were excluded from the sample. In other cases, polygamous marriages complicated things. Here, the families were kept separate to the extent possible when coding for birth order, with the rationale that the primary caretaker (the mother) would treat her own children according to their own birth order, not the birth order in the combined family. These were judgement calls; other researchers might justifiably decide on another course.

The personal characteristics were obtained by content analysis, using the coding rules put forth by M. Hermann. Most of the leaders had already been coded for personal characteristics by M. Hermann and her research assistants in a project completely unrelated to birth order. However, a few other leaders were analyzed by use of the same techniques and added to the sample.[3] The added leaders were content analyzed for a project again unrelated

[3]The added leaders were Duarte, Qaddafi, Ford, Ohira, Thatcher, Nixon, Giscard, Begin, Reagan, Papandreou, and Carter. Intercoder reliability scores for Hermann's sample were 0.86 or higher. ICR for the sample of added leaders was 0.75 or higher.

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to birth order. The author did not perform any of the coding. [For coding rules, formulae for orientations, processes of comparison, etc., please see M. Hermann (1987a,b).]

The two foreign policy behavior attributes (expressed affect and level of commitment) were derived from the CREON events data set. The coding rules and summary statistics for that set are to be found in Hermann *et al.*, 1973, and Callahan *et al.*, 1982.

There are 46 leaders in the sample. Their names, nations, birth order information, and birth order coding for this test are included in Table I.

A caveat must be mentioned. The test constructed here has only exploratory aims. Though the sample size is good (46 leaders), there is no way to determine if the sample is representative of the universe of leaders. As a result, the test results can only be viewed as suggestive and not confirmatory in any strict sense. The leaders in the sample were included because they met two criteria: (1) they had been content analyzed for personal political characteristics using M. Hermann's scheme, and (2) birth order information was available for them. Thus, although no overt bias was introduced into the sample, it is not clear whether the sample is "representative." The best that can be said is that no intentional bias distorts the sample, and that leaders from all regions of the world and from all types of political systems are included.

Aside from birth order, each leader's scores on the eight personal characteristics (derived from content analysis), the six foreign policy orientations (derived from the scores on characteristics using M. Hermann's formulae), and the foreign policy attributes of expressed affect and level of commitment (gleaned from the CREON events data[4]) were noted. Because of the unbalanced distribution of the categories across birth order categories, it was undesirable to use straightforward analysis of variance techniques. Therefore, the GLM (general linear models) variant of the analysis of variance was used to test whether significant differences in the means of the categories existed on the variables examined.

RESULTS

The results of the empirical test substantiated the general expectations of birth order theory in a few instances, seemed to contradict them in others, and produced in still others some interesting findings not anticipated in the literature.

[4]Because of the limitations of the events data set employed, the hypotheses concerning affect and commitment could only be checked for a subset of the sample. That subset contained 30 leaders, with the exclusions being those mentioned in Footnote 3, plus Frei, Mugabe, Nyere, Adenauer, and Lin.

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Table I. Sample of World Leaders

Name	Nation	BO Code[a]	BO Information
Jose Napoleon Duarte	El Salvador	3	2nd of 3 sons
Moammar Qaddafi	Libya	2	FFFM
Fidel Castro	Cuba	3	2nd son, not last
Gerald Ford	USA	1	Only
Masayoshi Ohira	Japan	3	2nd son, not last
Margaret Thatcher	UK	4	FF2
Pierre Trudeau	Canada	2	FM2M
Richard Nixon	USA	3	2nd son, not last
V. Giscard d'Estaing	France	2	2nd of 5, 1st son
Menachem Begin	Israel	4	Last born, 2nd son
Ronald Reagan	USA	4	MM2
Andreas Papandreou	Greece	2	Firstborn, 1st son
Jimmy Carter	USA	2	Firstborn, 1st son
Chou En-lai	PRC	1	Raised as only
Charles DeGaulle	France	3	2nd son, not last
Ludwig Erhard	FRG	2	First son
Indira Gandhi	India	1	Only child
Hayato Ikeda	Japan	4	2nd son, last born
Kurt Kiesinger	FRG	1	Only child
Nikita Khruschev	USSR	2	M1F
Habib Bourguiba	Tunisia	1	Last, sibs 7 yrs >
Kwame Nkrumah	Ghana	1	Mother's only child
Josip Broz Tito	Yugoslavia	3	2nd son, 4 lived
Dwight D. Eisenhower	USA	3	3rd son, not last
John F. Kennedy	USA	3	2nd son, not last
Lyndon Johnson	USA	2	Firstborn, 1st son
Konrad Adenauer	FRG	3	3rd of 5 sons
Suleiman Demirel	Turkey	2	Oldest of 4
Nobusuke Kishi	Japan	3	2nd son, not last
Ferdinand Marcos	Philippines	2	Oldest of 4
David Ben-Gurion	Israel	3	3rd son
Kenneth Kaunda	Zambia	4	Youngest of 8
Romulo Betancourt	Venezuela	2	FM2F
Jomo Kenyatta	Kenya	2	Eldest son survived
Milton Obote	Uganda	3	3rd of 9
Felix Houphouet-Boigny	Ivory Coast	2	"Father's heir"
Jawaharlal Nehru	India	1	M1FF; 11 yrs older
Gamal Abdel Nasser	Egypt	2	Firstborn of 11
Lester Pearson	Canada	3	MM2M
Francisco Franco	Spain	3	2nd son, not last
Lin Piao	PRC	3	MM2MM
Walter Ulbricht	GDR	2	Oldest of 3
Eduardo Frei	Chile	2	Oldest of 3
John Diefenbaker	Canada	2	Oldest, not last
Robert Mugabe	Zimbabwe	3	3rd son, not last
Julius Nyere	Tanzania	3	5th wife's son

[a]BO Code = birth-order code: 1 = only; 2 = firstborn child or son; 3 = middle child; 4 = last born.

First, Table II provides the distribution of leaders in the sample across the four birth order categories. While keeping in mind the limitations of the

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Table II. Distribution of Leaders Across Birth Orders for the Sample and for a Larger Population Group[a]

Sample of Leaders $N=46$			
Only	First Born	Middle Born	Last Born
7	17	17	5
(15.2%)	(37.0%)	(37.0%)	(10.9%)
Larger Population Group[b] $N=7665$			
Only	First Born	Middle Born	Last Born
763	1263	3976	1663
(10.0%)	(16.5%)	(51.9%)	(21.7%)

[a]t test results: $t = 3.5$: for a two-tailed test, $p < 0.002$.
[b]Data on this larger population were taken from the National Survey of Families and Households, a survey of randomly selected Americans performed in 1987 and 1988. This survey, funded by a grant from the Center for Population Research of the National Institute of Child Health and Human Development, was designed and carried out at the Center for Demography and Ecology at the University of Wisconsin-Madison under the direction of Larry Bumpass and Janet Sweet. The field work was done by the Institute for Survey Research at Temple University (see Sweet *et al.,* 1988).

sample, it is interesting to note that the sample distribution confirms the expectation that firstborns and middle-borns will predominate in leadership positions. Even if we conclude that because of our intuitive understanding that only-borns are a smaller percentage of the overall population than other birth orders, which accounts for their relative infrequency in the sample, that does not explain why last-borns should be even fewer in number. As argued earlier, the population sizes of firstborns and last-borns must be about the same. Thus, the difference in number of these two sample groups is a finding we may tentatively ascribe to birth order effects, pending further investigation.

An exploratory comparison of the distribution of leaders in the sample across birth orders and the distribution of a larger population is quite interesting. The results cannot be considered confirmatory, as the sample and the population may not be strictly comparable. The larger population referred to is that of Americans who took part in the National Survey of Families and Households in 1987/88, and who were at least 35 years of age at that time. (See note at bottom of Table II for particulars about this survey.) It is clear that Americans are in the minority in our sample of leaders, and assuming we cannot equate American fertility patterns with world fertility pat-

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terns, the findings reported in Table II must be viewed with caution. By examining only those respondents who were at least 35 years of age, it is hoped that some dampening of the disparity between American and world fertility rates would occur.

With these caveats in mind, it is nevertheless noteworthy that the sample distribution differs significantly from that of the larger comparison group ($p < 0.002$). It also appears that firstborns and only-borns are overrepresented in the sample of leaders, with middle-borns and last-borns underrepresented in that same sample. This is important, as the findings for firstborns and last-borns are predicted by the birth order literature, whereas the findings for only-borns contradict theoretical expectations. The figures for middle-borns may or may not conform to the hypotheses of birth-order theory, depending upon the interpretation of how overrepresented and underrepresented the other three birth order groups should be in a sample of world leaders. These empirical findings suggest further research is needed on this question of birth order prevalence, and may require refinement or modification of birth order theory in some instances.

Relating the birth order categories to M. Hermann's eight personal characteristics provided a few surprises, but otherwise offered no overall support for the general expectations put forward by birth order theorists (please refer to Table III). Using a significance level of .10, the research shows that last-borns as a group were significantly higher than the other birth-order categories on the trait of nationalism. They were also significantly higher in their need for power, need for affiliation, distrust of others, and affectual orientation. Firstborns and only-borns, taken as a group, did display significantly higher self-confidence than the other birth order categories as predicted, but probably the most interesting finding was a "non-finding": in general, there were no significant differences between only-borns, firstborns, and middle-borns on the eight personal characteristics. No differences among any of the groups—even the last-borns—could be found on the foreign policy orientations. Furthermore, no statistically significant differences in foreign policy behavior could be found among the four groups.

DISCUSSION

The findings and the "nonfindings" of this test are quite provocative. Substantiation for only two expectations of birth order theory could be found: the relative likelihood of firstborns and last-borns attaining a leadership position and higher self-confidence for only-borns and firstborns.

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Table III. Analysis of Variance Results for the Dependent Variables

A. Results for Nationalism
(N = 46; mean = 50; sd = 10)

BO	Mean	Results of GLM ANOVA*				
1	45.9	BO	*F* value	2.30	PR > *F*	0.09**
2	49.0	PS		2.07		0.16
3	49.9	P4		6.06		0.02**
4	59.9	**statistically significant, $p = 0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

B. Results for Beliefs in One's Own Ability to Control Events
($N = 46$; mean = 50; sd = 10)

BO	Mean	Results of GLM ANOVA*				
1	50.7	BO	*F* Value	0.49	PR > *F*	0.69
2	52.1	PS		1.36		0.25
3	48.5	P4		0.43		0.52
4	47.2	**statistically significant, $p = 0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

C. Results for Need for Power
($N = 46$; mean = 50; sd = 10)

BO	Mean	Results of GLM ANOVA*				
1	47.0	BO	*F* Value	2.01	PR > *F*	0.13
2	48.8	PS		1.59		0.21
3	49.6	P4		5.85		0.02**
4	59.7	**statistically significant, $p = 0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

D. Results of Need for Affiliation
($N = 46$; mean = 50; sd = 10)

BO	Mean	Results of GLM ANOVA*				
1	46.7	BO	*F* Value	1.35	PR > *F*	0.27
2	49.9	PS		0.68		0.41
3	49.4	P4		3.61		0.06**
4	57.8	**statistically significant, $p = 0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

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Table III. Continued

E. Results for Conceptual Complexity
($N=46$; mean = 50; sd = 10)

BO	Mean	Results of GLM ANOVA*				
1	45.7	BO	*F* Value	0.72	PR > *F*	0.54
2	50.1	PS		0.96		0.33
3	50.9	P4		1.08		0.35
4	53.4	**statistically significant, $p=0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

F. Results for Self Confidence
($N=46$; mean = 50; sd = 10)

BO	Mean	Results of GLM ANOVA*				
1	55.2	BO	*F* Value	2.00	PR > *F*	0.13
2	51.8	PS		4.62		0.03**
3	47.8	P4		2.46		0.12
4	43.5	**statistically significant, $p=0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

G. Results for Distrust of Others
($N=46$; mean = 50; sd = 10)

BO	Mean	Results of GLM ANOVA*				
1	46.6	BO	*F* Value	2.15	PR > *F*	0.11
2	49.8	PS		0.85		0.36
3	48.9	P4		6.05		0.02**
4	59.8	**statistically significant, $p=0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

H. Results for Task/Affect Orientation
($N=46$; mean = 50; sd = 10)

BO	Mean	Results of GLM ANOVA*				
1	53.3	BO	*F* Value	1.47	PR > *F*	0.24
2	51.8	PS		2.72		0.11
3	48.9	P4		3.16		0.08**
4	42.7	**statistically significant, $p=0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

I. Results for Expressed Affect
($N=46$)

BO	Mean	Results of GLM ANOVA*				
1	0.89	BO	*F* Value	0.10	PR > *F*	0.96
2	0.93	PS		0.22		0.64
3	0.84	P4		0.00		0.96
4	0.90	**statistically significant, $p=0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

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Table III. Continued

J. Results for Level of Commitment
($N = 46$)

BO	Mean	Results of GLM ANOVA*				
1	3.2	BO	*F* Value	1.03	PR>*F*	0.40
2	3.4	PS		1.76		0.20
3	3.5	P4		1.32		0.26
4	3.8	**statistically significant, $p = 0.10$ level				

* ANOVA categories: BO = (1) (2) (3) (4)
PS = (1,2) (3,4)
P4 = (1,2,3) (4)

Despite the limitations of the sample, the nonfindings may be the most perplexing for birth order theorists. Except for self-confidence, there were no discernible differences among only-borns, firstborns, and middle-borns on the personal characteristics.[5] The only group possessing a quite marked and divergent pattern was the group of last-born leaders. These leaders were quite extreme on several traits—nationalism, need for power, need for affiliation, distrust of others, and affectual orientation.

A possible explanation might be as follows: the birth order literature tells us that lastborns are more likely to be leaders of the rebellion than leaders of the establishment. As a result, many of us automatically think of them as being anti-conservative—that is, more liberal. But what if the individual perceives the establishment as being liberal, too liberal? The rebellion would then be made up of anti-liberal forces—a rebellion of conservatives. The establishment would be blamed for allowing the nation to become soft and weak under liberalism. If their rebellion were successful, they would dedicate themselves to restoring national strength and steadfastness. Thatcher, Reagan, Begin, Kaunda, and Ikeda all meet this description to one degree or another. This may explain the high nationalism and high distrust of others. Leman (1987) argues, too, that last-borns typically avoid leadership because of the responsibility, but when they do have power, their attitude tends to be, "Now I'll show them they can't kick 'little Johnny' around anymore!" This reaction might also explain the high need for power manifested by last-borns who actually assumed positions of national leadership. Yet, like typical last-borns, they are also low in self-confidence and very high in their need for affiliation. Last-borns who do strive for and attain national leadership in opposition to the natural inclinations of their birth order, then, are a complex and intense lot.

[5]It is possible that classifying firstborn sons who were not firstborn children as firstborns may have muddied these waters. Further research using strict ordinal position would reveal if this were the case. Also, further research attempting to control for cultural or regional differences would be enlightening. However, such research demands a larger sample size than we had here.

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Finally, it is important to note that despite some differences on characteristics, there are no significant differences among any of the birth order groups on foreign policy orientations and foreign policy behavior. This finding suggests that national leaders—even last-borns!—may be rather constrained in their choice of foreign policy behavior, despite their own beliefs, styles, and motivations. This is unfortunate for those who research world leaders, because it implies that a direct link between birth order (a relatively accessible statistic) and behavior (prediction of which is highly prized) cannot be found at the leadership level.

In conclusion, then, this exploratory test of the effects of birth order on world leaders yields complex findings. There seem to be some real and striking differences in the characteristics of leaders who are last-born children. The findings also substantiate theoretical expectations regarding the likelihood of firstborns and last-borns becoming national leaders, and which birth-order groups are most self-confident. However, no other theoretical expectations of birth order theory are substantiated here. Only further research will reveal whether birth order is of any real significance in understanding world leaders and their behavior.

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