

# Big Brother Sees You, but Does He Rule You? The Relationship between Birth Order and Political Candidacy

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While recent research finds strong evidence that birth order affects outcomes such as education, IQ scores, earnings, and health, the evidence for effects on political outcomes is more limited. Using population-wide data from Sweden, our within-family estimates show that firstborns are significantly more likely to run for and be elected to political office. In addition, for the males in our sample we test whether a number of potential mechanisms account for the relationship between birth order and political participation. Disconfirming our expectations, the birth order effects are only marginally smaller when controlling for occupational economic status, cognitive ability, and leadership skills. Our results suggest that big brother, or for that matter big sister, not only sees us; to a certain extent he or she also rules us.

**W**hat motivates citizens to run for office? Previous research has identified the importance of structural conditions, such as the number of open seats or the partisan composition of the electorate (Rohde 1979), as well as personal characteristics of the candidate, such as life experiences as well as cognitive and noncognitive traits (Dal Bó et al. 2017). Among these factors, family socialization has been shown to be one of the strongest predictors of who becomes a political candidate (Lawless 2011).

While convincingly demonstrating the importance of family socialization, previous research on who becomes a politician has not taken into account that growing up in a specific family can be a different experience for children depending on their birth order.<sup>1</sup> Extant theories posit that birth order influences parent-child and sibling-sibling interactions, suggest-

ing that birth order may affect the political socialization process and thus later political behavior, including the likelihood of running for office. According to the confluence theory, earlier born siblings will be advantaged because the intellectual environment in the family is negatively related to the number of children (Zajonc and Markus 1975). That is, firstborns will spend their first years of life alone with their parents whereas laterborns must also interact with their older siblings, which, arguably, compose a less intellectually stimulating environment. The resource dilution theory makes a similar prediction about how birth order affects the cognitive development process but stresses a different mechanism: the fact that the share of parental attention and resources each laterborn child receives decreases as the size of the family grows (Blake 1981). Finally, according to Sulloway (1996), competition among

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1. But see Bratsberg et al. (2020) for an accompanying study on voter turnout.

siblings for parental resources induce children to sort themselves into unique “family niches.” Under this theory, firstborns develop skills and attitudes that allow them to preserve their dominant status in the sibling hierarchy. These skills and attitudes may be relevant for later political engagement.

In addition to affecting the political socialization process within families, birth order may influence political behavior indirectly by shaping traits known to be correlated with running for office (Dal Bó et al. 2017; Lawless 2011). For instance, recent work based on large population registers indicates that birth order is related to things such as educational attainment (Black, Devereux, and Salvanes 2005), occupational status (Black, Grönqvist, and Öckert 2018), cognitive ability (Barclay 2015; Rohrer, Egloff, and Schmukle 2015), and certain personality traits (Black et al. 2018). Yet, both the magnitude and generalizability of these birth order effects are still a matter of discussion as not all studies have found birth order to influence the outcomes of interest (e.g., Damian and Roberts 2015; Lejarraga et al. 2019).

To some extent, the variation in the empirical findings of previous birth order studies can be attributed to the methodological challenges associated with this type of research. A problem with much of previous birth order research is that it is based on small samples and compares the outcomes of individuals from different families (between-family design) rather than comparing siblings of different birth order within the same family. As a result, these studies suffer from low statistical power, which makes it difficult to detect subtle birth order effects, and they risk conflating the effect of birth order with that of other confounding variables that vary across families (Rohrer et al. 2015).

Previous research that has sought to establish an empirical link between birth order and elective office holding is subject to similar problems. Typically, scholars have examined the effect of birth order simply by comparing the share of firstborns among politicians to that of a suitable reference population. This type of design has been used to study birth order effects among US presidents (Somit, Peterson, and Arwine 1994), congressmen (Zweigenhaft 1975), and governors (Newman and Taylor 1994). In addition, studies have examined British (Somit, Arwine, and Peterson 1994) and Australian (Newman and Taylor 1994) prime ministers, Dutch local councilors, aldermen, members of parliament and cabinet ministers (Andeweg and Berg 2003), and various national leaders throughout history (Hudson 1990).

Most of these studies purport to find a negative relationship between birth order and the likelihood of holding elective office, but the results have been called into question by other scholars who point to the serious methodological and data limitations plaguing this research (Somit, Arwine, and

Peterson 1996). Of particular importance is the inability of previous studies to separate the influence of birth order from confounding factors like family size and birth cohort. In this study, we seek to overcome these problems by applying a within-family design to detailed population-wide data from Sweden. Doing so, we found strong support for the view that being a firstborn substantially increases the chances of making a political career. In fact, the effect of birth order is greater than the impact of well-known predictors of political candidacy such as sex and education.

The findings of this study have important theoretical and policy implications. In terms of theory, our study highlights the need for scholars to put greater focus on within-family dynamics in political socialization. For example, Fox and Lawless (2014) find that parental encouragement strongly influences whether children develop an interest in running for office, however, encouragement differs on the basis of the gender of the child. Our results suggest birth order may be another source of heterogeneity. Our findings also have important policy implications since the composition of who runs for office likely has consequences for representation. For example, Carnes and Lupu (2015) show that elected officials from different social classes have different economic policy preferences. However, since legislatures are disproportionately made up of individuals from privileged backgrounds, legislative outcomes tend to be biased in favor of privileged citizens. Along the same lines, legislatures dominated by firstborns may also result in biased policy making. There are, for instance, some recent studies suggesting that firstborn siblings tend to be more politically conservative (Barni et al. 2014; Urbatsch 2014), although some earlier studies have failed to find such an effect (Førland, Korsvik, and Christophersen 2012; Freese, Powell, and Steelman 1999).

## DATA AND EMPIRICAL FRAMEWORK

To study the importance of birth order on elite political participation we use administrative data from Statistics Sweden on all nominated and elected candidates in the five elections held between 1998 and 2014.<sup>2</sup> We merge these data with various administrative registers using unique personal identifiers. The linked data sets contain detailed information on family relations, including birth order (measured on the maternal side), as well as various demographic and socioeconomic characteristics and information on cognitive abilities and leadership skills (for males only) from mandatory conscription (see the appendix, available online for a more detailed description of the registers and the data).

2. In Sweden, the national and the two regional (county- and municipal-level) elections are held simultaneously on the second (third before 2014) Sunday in September every four years.

To increase comparability across elections, we focus on people between ages 18 and 47 at the time of each election—that is, we study the political activity of young and middle-age individuals. Because we study elections from 1998 to 2014, our sample will thus include individuals born between 1951 and 1996.<sup>3</sup> The sample is further restricted to individuals who have at least one and at most four siblings and excludes families with twin siblings. Table A1 (tables A1–A13 are available online) reports descriptive statistics for our estimation samples.

An important advantage of the present study is that we have access to information on the entire population, rather than on just a subsample of the most politically engaged citizens as has been the case in many previous studies (Andeweg and Berg 2003; Somit et al. 1996). This means that the impact of birth order can be studied by standard regression techniques, which makes it more straightforward to control for potential confounders such as family background and cohort trends. To handle these challenges, we rely on a within-family regression model of the following type:

$$y_{ij} = \alpha + \sum_{k=2}^m \beta_k I(\text{BO}_{ij} = k) + \mathbf{\Gamma}'\mathbf{X}_{ij} + \mu_j + \epsilon_{ij}, \quad (1)$$

where  $y_{ij}$  denotes the outcome of interest for individual  $i$  in family  $j$ ,  $\text{BO}_{ij}$  records the birth order of the individual,  $\mu_j$  represents family-level (mother) fixed effects, and  $\epsilon_{ij}$  is an individual level error term. The fixed effects account for the importance of all family characteristics shared by siblings—including, but not restricted to, sibship size, parental age, and socioeconomic status—and thereby assure that there are no confounding across-family processes at work. Even with the within-family design, it will, however, be necessary to control for potential confounders that vary between siblings. For this reason, we also include the vector  $\mathbf{\Gamma}'\mathbf{X}_{ij}$  in the equation with controls for birth cohort, age at election, and gender. Finally, the models include fixed effects for election year.

In this study, we will focus on political candidacy at the municipal level. Sweden has 290 municipalities and the municipal councils have between 21 and 101 seats. Much like the national parliament and county-level assemblies, the municipal councils are elected using a party-list proportional system. The voters can also cast an optional preference vote for one candidate on the party list, but most do not use that opportunity, and those who do tend to cast their vote for a top candidate. In each of the five municipal elections of 1998–2014, between 51,000 and 54,000 candidates ran for public office, and of them, around 13,000 were elected. We use our

3. The upper age limit is restricted by the fact that the 1951 cohort is the first for which we have information from the conscription tests.

data to construct three outcome measures in increasing order of exclusiveness: (i) running for office, (ii) getting elected, and (iii) being placed first on the ballot and elected for office in any of the five elections between 1998 and 2014.

## RESULTS

We present the results from the within-family OLS regression models in table 1. All estimates are rescaled by a factor 100 and can be interpreted as effects in terms of percentage points. There is clear evidence of a negative effect of birth order on all three outcomes, and the effect is also evident when comparing siblings of higher birth order.<sup>4</sup> The magnitude of these effects should be considered large in light of the low baseline probabilities (reported at the bottom of the table). In the appendix (table A3) we provide further evidence of the size of these effects by comparing them to the estimated impact of well-known predictors of political candidacy such as sex and education. The results show that the birth order effect is greater than that of these other factors for all three outcomes.

The estimates also suggest that the relative effect sizes grow stronger for the more exclusive outcomes. This can be seen by comparing the coefficient estimates to the average of each outcome. Moreover, in the appendix we reproduce the models in table 1 using a logit estimator. The logit coefficients show that the relative influence of birth order is greatest for being listed first on the ballot and smallest for running for office.

Above, we argued that occupational economic status, cognitive ability, and personality traits may mediate the relationship between birth order and political candidacy. In figure 1 we examine to what extent the observed relationship between birth order and running for office is accounted for by these factors. The light gray bars in the figure show baseline effects corresponding to the estimates displayed in table 1, and the dark gray bars indicate estimates when controlling for education (fixed effects for six attainment and 10 content categories), occupation (fixed effects for 52 categories), cognitive ability (fixed effects for nine categories summarizing the results from four subtests intended to capture logical, verbal, spatial, and technical abilities taken at conscription), and leadership skills (fixed effects for nine categories based on interviews with the conscripts conducted by psychologists). For data availability reasons, the sample used to produce the results in figure 1 is restricted to males born between 1951 and 1980 ( $N = 2,688,132$ ).

4. There is a total of 10 possible pairwise comparisons among the five siblings for each outcome. Only one of these 30 comparisons fails to reach statistical significance at the .05 level: the difference in probability of being placed first on the ballot between the third and fourth sibling ( $p = .297$ ).

Table 1. Baseline Results

	Nominated	Elected	First on Ballot
Second born	-.270** (.012)	-.075** (.006)	-.014** (.002)
Third born	-.382** (.023)	-.100** (.012)	-.025** (.005)
Fourth born	-.559** (.038)	-.152** (.019)	-.030** (.008)
Fifth born	-.748** (.064)	-.251** (.031)	-.064** (.013)
Female	-.108** (.009)	-.004 (.005)	-.012** (.002)
Average	.579	.148	.025

Note. OLS regression estimates using as outcomes (i) running for office, (ii) winning office, and (iii) being placed first on the ballot in the five municipal-level elections held between 1998 and 2014. The upper entries display coefficient estimates and the lower (in parentheses) display standard errors clustered by family. All models include fixed effects for family (birth mother), birth year, age at election, and election year.  $N = 11,055,539$ .  
<sup>+</sup>  $p < .10$ .  
<sup>\*</sup>  $p < .05$ .  
<sup>\*\*</sup>  $p < .01$ .

The estimates displayed in figure 1 suggest that controlling for these factors only marginally alters the magnitude of birth order effects. Consequently, education, occupational status, and cognitive and noncognitive skills as measured by

the conscription tests can, at most, account for about a tenth of the overall effect of birth order on the probability of running for office. In the appendix we provide corresponding results for the other two outcomes: winning political office and being placed first on the ballot.

In the appendix we also report a set of auxiliary analyses and robustness checks. Exploiting the fact that some families experienced the death of an older sibling or that an older sibling was put up for adoption, we estimate models separating biological and social birth order effects (table A4). In line with previous studies on cognitive and noncognitive abilities, we find that the bulk of the birth order effect is postnatal and social in nature (Black et al. 2018). Moreover, we show that the results are similar for men and women (table A7) and without any restrictions on individuals' age (table A8) or elections included in the sample (table A9). While somewhat more imprecise on the basis of the sample with the fewest observations, we also find the pattern of estimates to be similar in families of different sizes (tables A10–A12).

**CONCLUSION**

Our results show that birth order is related to becoming a political candidate. We find that firstborn children are significantly more likely to run for public office, be a top candidate, and win a seat than their younger siblings. Up to this point, research exploring birth order and political behaviors and attitudes have suffered from serious flaws. Previous studies have been based on small unrepresentative samples

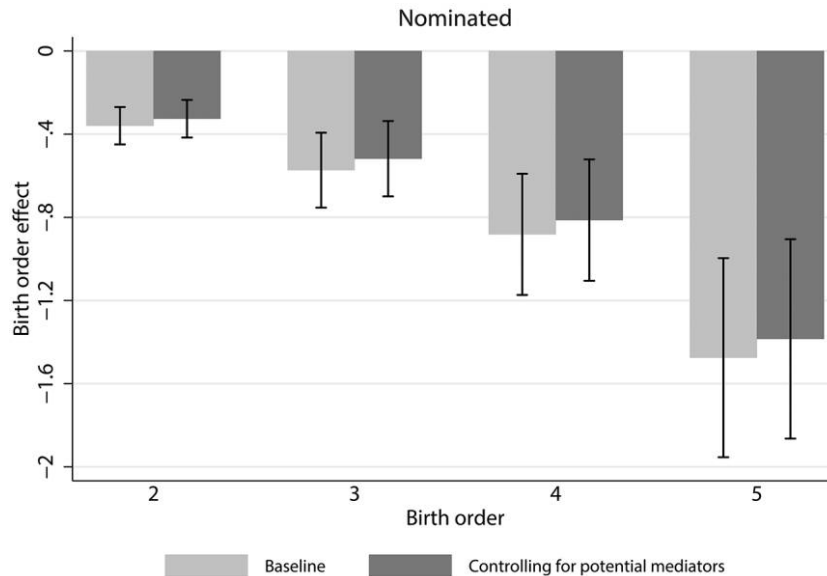


Figure 1. Conditional birth order effects. Light gray bars display coefficient estimates (and 95% confidence interval) for birth order effects from models including fixed effects for family (birth mother), birth year, age at election, and election year. Dark gray bars display corresponding birth order effects from models including additional controls for education, occupational status, cognitive ability, and leadership skills. The sample is restricted to males born between 1951 and 1980.

and have failed to adequately account for family size, occupational status, or cohort differences. The fact that we analyze several cohorts of Swedish population data and utilize a within-family research design enables us to overcome all of these limitations. Therefore, our study provides the first credible evidence of a relationship between birth order and political candidacy. In addition, we show that the birth order effect is also visible among siblings of higher birth order, which indicates that there is more to this relationship than a simple difference between firstborns and their younger siblings.

The results of this study suggest several avenues for future research. First, we were not able to establish the causal mechanisms linking birth order and political participation. Extant theory suggests that sibling competition, parental attention, and parental expectations foster factors relevant to politics. While we did not find evidence that occupational status, cognitive ability, or leadership skills represent such factors, future research should test other potential causal pathways. We also recognize that since our analysis is based on the single case of Sweden, there is the question of whether our findings travel to other contexts. In particular, earlier research on other outcomes indicates that the birth order effects may be contingent on the economic and cultural context (e.g., Tenikue and Verheyden 2010). Ideally, future research will replicate our analysis in other national settings. Finally, birth order likely influences other political behaviors and attitudes that we were not able to study as part of this research note. Hopefully, our findings will inspire others to do work in this area.

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