

Blood Is Thicker than Water: Family Size and Leader Deposition in Medieval and Early Modern Europe

Andrej Kokkonen, University of Gothenburg

Suthan Krishnarajan, Aarhus University

Jørgen Møller, Aarhus University

Anders Sundell, University of Gothenburg

Are large families a liability or an asset for an autocratic ruler? In this article, we show that in medieval and early modern Europe, relatives protected monarchs from challenges from their elite groups, thus reducing their risk of being deposed. Women reduced the risk of both depositions from outside and from within the family, whereas men primarily reduced the risk of outside depositions (as well as the risk of civil wars breaking out). This is demonstrated in a statistical analysis of 27 European monarchies spanning the time period 1000–1799, which enlists new data on royal offspring, siblings, and paternal uncles and aunts. These findings not only elucidate power dynamics in the medieval and early modern world of dynastic politics but also have implications for present-day authoritarian states where institutions are weak and personal relationships retain their importance.

I against my brothers; I and my brothers against my cousins; I and my brothers and my cousins against the world.

—Bedouin proverb

Autocracy literally means a system of “government in which one person possesses unlimited power,” but in practice, no one rules alone.¹ All regimes, even the most repressive, build on the cooperation of myriad individuals; the autocrat is simply the person at the top of the pyramid. Without the loyalty or obedience of the people under him, he is powerless. The choice of whom to entrust with power and high office is therefore a constant concern for autocrats (Geddes, Wright, and Frantz 2018; Mesquita et al. 2005; Svulik 2012). The apparent paranoia of many dictators has a rational basis: most dictators who lose power through nonconstitutional means do so at the hands of regime insiders (Svulik 2012).

To avoid this fate, autocrats throughout history have relied on their family, using children, siblings, and other relatives as advisors and agents (Brownlee 2007; Tullock

1987). That members of the same family are more loyal to each other is often taken for granted in the literature on autocracies (e.g., Geddes et al. 2018; Wang 2019). However, strife between relatives is a recurrent theme in autocratic politics. Recently, Kim Jong-un (presumably) had his half brother assassinated. History provides many other examples. Richard III of England famously had his young nephews, Edward V and Richard Duke of York, killed in the Tower of London. Peter the Great of Russia let his son languish and die from torture in jail. In contests for supreme power, is blood really thicker than water?

In this article, we investigate this timeless problem in a particular historical setting. Using original data on offspring, siblings, and paternal uncles and aunts of 700 monarchs from 27 European states during 1000–1799, we find that monarchs with more legitimate children, siblings, and

Andrej Kokkonen (andrej.kokkonen@pol.gu.se) is an associate professor at the Department of Political Science, University of Gothenburg. Suthan Krishnarajan (suthan@ps.au.dk) is an assistant professor at the Department of Political Science, Aarhus University. Jørgen Møller (JM@ps.au.dk) is a professor at the Department of Political Science, Aarhus University. Anders Sundell (anders.sundell@pol.gu.se) is a senior lecturer at the Department of Political Science, University of Gothenburg.

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1. See *Merriam-Webster*, s.v. “autocracy,” <https://www.merriam-webster.com/dictionary/autocracy>.

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paternal uncles and aunts had a lower risk of being deposed. Although some monarchs were deposed by relatives, the positive effects of family clearly trumped the negative effects. The cases of familial infighting cited above thus seem to reflect the fact that relatives were often in a better position than strangers to challenge monarchs, not that they were less trustworthy. These findings increase our understanding of dynastic politics, which characterized medieval and early modern Europe (Sharma 2017), and of the dynamics of power struggles between a ruler and his closest associates inherent to authoritarian systems throughout history (Mesquita et al. 2005; Svolik 2012).

THE ARGUMENT

To stay in power autocrats need the support of individuals and groups who back them with force and influence. In medieval and early modern Europe, that was powerful nobles and high clergy, controlling land and fielding armies; in modern autocracies, it might be high-ranking officers, party officials, or businessmen. The problem for autocrats is that members of the elite can be lured away by better offers made by potential challengers or because they are afraid that the ruler will sideline them. What were once brothers-in-arms can turn into dangerous rivals, once their interests diverge.

In several influential theories of authoritarian politics, the autocrat's key to controlling elite groups is the sharing of power and spoils (Boix and Svolik 2013; Mesquita et al. 2005; Svolik 2012). However, in more general terms, the problem is one of delegation, where a principal (the autocrat) delegates a task to an agent (a member of the elite). The central issue for the principal is how to make sure that the agent acts in accordance with the principal's interests.

The principal can monitor the behavior of the agents and sanction them if they deviate, and a large surveillance apparatus is therefore an inherent part of any modern authoritarian state. However, monitoring is costly and can never be complete, especially not in premodern contexts characterized by slow communications and weak state apparatuses (e.g., Stasavage 2010). One of the central results from the delegation literature is therefore that the principal is wise to follow the *ally principle* (Bendor, Glazer, and Hammond 2001; Huber and Shipan 2006). If the principal chooses an ally—an agent with the same preferences as the principal—direct monitoring or detailed instructions become less important.

The problem is to identify these allies; individuals who can be expected to work in the interests of the autocrat. This is where family comes to the fore. There are a number of reasons why it makes sense for authoritarian leaders to trust their family more than nonrelatives. First, there are biological reasons. According to the principle of kin selection (Hamilton 1964),

a gene can be reproduced not only by increasing its bearer's fitness but also by increasing the fitness of the bearer's genetic relatives, because relatives carry replicas of the same gene. This means that altruism toward relatives may pay off from an evolutionary perspective. A large body of observational and experimental evidence confirms that humans behave more altruistically toward close kin than toward distant kin and strangers (Essock-Vitale and McGuire 1985). Near relatives have also been shown to be less likely than strangers and more distant relatives to kill each other over political office and to break up political alliances (e.g., Dunbar, Clark, and Hurst 1995).

Second, there are social reasons for trusting relatives. High frequency of close contact is conducive for the formation of strong social ties (Verbrugge 1977). Growing up together in a nuclear family is particularly likely to increase the chances that siblings develop strong emotional ties with—and a willingness to sacrifice themselves for—each other.

Third, there are external reasons for trusting family, stemming from how the leader and his family are viewed by others. Blood relations can be important simply because others believe them to matter (Greif 2006). Rivals will likely see the leader's relatives as a potential threat and try to eliminate them as a part of an attempt to take power. This means that regardless of whether there is any affinity between the ruler and his relatives, their destiny might be tied: they will hang together or hang alone, as the saying goes.

For some of the same reasons, relatives also pose a bigger threat to rulers. They know more about the ways of the ruler, they are crucial parts of his support coalition, and often they have a better claim to power than strangers because they are members of his family. Still, apart from the claim to power, similar problems are bound to arise when nonrelatives are brought into positions of power. Therefore, our main hypothesis is that a large family constitutes a pool of more (although not completely) reliable supporters who can be used in various capacities. These functions have been especially important in historical periods when dynastic relations were seen as legitimating claims to power and when rulers could not lean on an impersonal state apparatus but had to rule on the basis of interpersonal ties. Rulers with large families were thus more likely to prevent depositions because potential coup makers knew that they risked retribution from the rulers' relatives, and when coup attempts took place, they had more loyal supporters to rely on.

Below, we detail the more specific functions that family members played in medieval and early modern Europe. To do so, we first need to say a bit about this context, which differs from many other historical contexts in two key respects. First, for most of the period we analyze, European rulers reigned over extremely weak and personalized state

apparatuses (Bisson 2015; Stasavage 2020; Wickham 2009). In the ninth and tenth centuries, this area experienced a virtual breakdown of public authority (Bisson 2015; Moore 2000; Wickham 2009, 444; 2016, 78–79). For centuries thereafter, royal administrations were feeble and power was decentralized and personalized, based on a cellular structure of local lordship and local communities such as towns.

Second, European heirship practices and family structures had been transformed in late antiquity and the early Middle Ages due to the influence of the Catholic Church. The church, the only institution that survived the collapse of the western Roman Empire (Wickham 2009, 59, 74), had prohibited formerly common practices such as cousin marriage, divorce, concubinage, and adoption, while allowing widows to inherit and bequeath property (Goody 1983). These prohibitions completely “redefined the notion of legitimacy, that is, of what constitutes a legitimate union and legitimate offspring” (205). By the period when we begin our analysis, this had brought about the European monogamous family. Over the next centuries, the church-sponsored changes in family structures and heirship practices paved the way for the introduction of primogeniture, according to which the oldest son took over the family’s possessions (Goody 1983; Moore 2000, 87–90), as well as the practice of female inheritance in situations in which lineages had died out in the male line (Sharma 2015).

Family as trusted agents

In a world without efficient communications, geographical distance made it difficult to project power and to monitor the behavior of agents (Stasavage 2010). The lack of an impersonal administration also increased the importance of interpersonal ties between the ruler and the elite groups, especially after the spectacular collapse of public authority in the tenth century (Bisson 2015; Moore 2000; Wickham 2009, 2016). In this situation, the personal presence of the monarch was often required to bolster his power. Medieval and early modern monarchs spent a lot of their time traveling around the realm, making sure to be seen and maintaining relationships. However, rulers often also used members of the immediate and extended family as representatives (governors, viceroys, generals, ambassadors, etc.), as they could be trusted more than others and could be believed to speak with the authority of the ruler. This use of relatives as agents was especially logical where primogeniture had removed competing claims on the throne by, for example, uncles and younger brothers, meaning that the monarch did not risk nurturing a potential pretender by entrusting kin with offices or men-at-arms (Moore 2000). Illustrating this reasoning, Habsburg emperor Charles V in 1549 directly instructed his

son, the future Philip II, that it was “his duty to sire offspring who would be a ready supply of royal governors and viceroys” (Fichtner 1976, 245).

However, not all family members were suited to work as trusted agents. Political offices were usually a male privilege in medieval and early modern Europe (Acharya and Lee 2019; Wickham 2016, 191–95). Queens occasionally came to power but normally only in situations in which there were no male heirs. Hence, it was mainly a monarch’s male relatives who could help him as trusted agents.

Succession

The most important task to delegate was the role of crown prince. Failing to plan for the succession generates uncertainty about the future, including whether members of the elite will remain in an advantageous position after a transfer of power. This creates an incentive to scheme in advance of an expected power struggle and maybe even to depose the incumbent ruler to forestall other actors’ maneuvers (Tullock 1987). It was thus important for monarchs to provide predictability and stability by appointing an heir.

However, a designated heir is also a dangerous person for the incumbent ruler, as that person has an interest in the monarch dying, what has been termed the “crown prince problem” (Herz 1952). It is therefore preferable that the designated successor is someone who is well known by the monarch, has broadly similar interests, and can afford to wait for his turn. The sons of the ruler fulfill all these criteria. Their father knows them well, and as heirs, their interests in perpetuating the family’s rule coincide with his. They are also usually young enough to be willing to wait until their father has died. Sons thus signal to the elite that it can count on the royal line being perpetuated in an orderly way (Acharya and Lee 2019).

In the absence of sons, brothers often functioned as heirs. However, they would normally be more dangerous as they could not afford to wait as long as sons, for two reasons: first, because they tended to be closer in age to the monarch and, second, because—especially as European monarchies came to practice *de jure* or *de facto* agnatic (or male preference) primogeniture (Acharya and Lee 2019; Kokkonen and Sundell 2014)—they would fear that the queen might give birth to a son who would replace them in the line of succession. For the same reasons, uncles posed an even bigger threat to monarchs. They would almost certainly be unable to come to power without a deposition, and they did not have the strong emotional ties with the monarchs that siblings had developed by virtue of being raised together.

The great efforts of rulers such as Philip I of France and Henry VIII of England to produce a legitimate son are telling

examples of how important it was for monarchs to provide the regime with a male heir. Acharya and Lee (2019) have shown that a shortage of male heirs caused political instability in medieval Europe. The existence of multiple children and siblings, who, in turn, could have offspring of their own, also meant that a rival could not dislodge the dynasty from power by assassinating the monarch, as the crown would simply pass on to one of his relatives who would have an ancillary claim to the throne. In such cases, a full-scale coup would be necessary, whereas the assassination of a monarch without heirs would open up for rival claimants. Using a modern term, the existence of a large family means that it is not a “one-bullet” regime (Herb 1999, 237). With respect to the problem of succession, men again mattered more than women. Women were only appointed heirs in exceptional circumstances, usually when a dynasty had died out in the male line.

Marriage alliances

Given that medieval and early modern politics were dynastic and interpersonal in nature, commitments were often made credible by sealing them with a marriage. Children and younger siblings could therefore be used as commitment devices when entering alliances with either royal and noble families in other realms or noble families in one’s own realm. In-married relatives (i.e., wives and husbands and their relatives) are likely to have supported the monarch, as they shared an interest in protecting the progeny who arose from the marriage that united the royal family with theirs (e.g., Burton-Chellew and Dunbar 2011).

In this respect, female relatives are likely to have been more valuable than male relatives, as they could be married to men, who in context of the gendered roles of medieval and early modern Europe usually exercised more power than women. A prominent example is Rudolf of Habsburg’s marriage politics. As the first Habsburg king of the German nation, Rudolf strategically married four of his daughters to prominent princes who supported his election (Fried 2015, 318). Rudolf thereby laid the foundation stone of a dynasty that managed to hold the throne of Austria for six centuries and that, over the years, excelled in the game of marriage politics, reflected in the famous early modern saying “*Bella gerant alii, tu felix Austria nube*” (Let others wage war: thou, happy Austria, marry).

Married members of the family would often function as the lineage’s advocate abroad. Female relatives were likely to possess their own material resources as queens, and noblewomen controlled at least part of their dowry. They also often wielded influence both with their husbands and, most importantly, their sons. Queens also often dominated royal regencies when their husbands had died while their sons were

still underage. Sons or younger brothers of the monarch, while less important as marriage partners, would sometimes be married to an heiress. In this way, additional resources would fall under the direct control of the lineage. A monarch might even successfully install a son or a brother as monarch in another realm because of openings created by dynastic politics, in a situation in which female inheritance enabled royal cadets to become monarchs via marriage (Sharma 2015, 167–68; 2017).

Observable implications of the argument

Given the arguments above, there are a number of reasons why a large pool of legitimate offspring and siblings was an important asset for medieval and early modern European rulers. Monarchs had better reasons to trust close relatives, both because they in all likelihood knew each other well and because they had a shared interest in keeping the lineage in power. A large reserve of relatives thus meant an ample supply of agents, heirs, and material for marriage alliances. Our main hypothesis is therefore:

H1. A larger family size reduces a monarch’s risk of deposition.

As pointed out above not all relatives could fulfill these roles in a similar manner. Males could fulfill all three, whereas—in normal circumstances—females could only fulfill the third role (as marriage partners and behind-the-scenes agents in their new household) but with the important qualification that they were more important than men in this respect. Using family members as trusted agents and to ensure future succession is particularly likely to reduce the risk of depositions against challengers from outside a monarch’s inner circle. We therefore expect male relatives to be more useful than female relatives when it comes to preventing coups from outside the family, leading to the following subhypothesis:

H1a. Male relatives reduce the risk of depositions from outside the family to a higher extent than female relatives do.

However, male relatives, especially brothers and uncles, also increase the monarch’s risk of being deposed from within the family, as argued above. The same is not the case with female relatives, who solely bolster the monarch’s position. For instance, having your mother as regent normally posed less threat to the underage ruler than having male relatives (say, uncles) fulfill this function, for the simple reason that it was more difficult for queens to rule in their own name. We thus formulate a second subhypothesis:

H1b. Male relatives increase the risk of depositions from inside the family, whereas female relatives do not increase this risk.

DESIGN AND DATA

In the main analysis of the article, we examine the effect of monarchs' number of children, siblings, and paternal uncles and aunts on the likelihood of being deposed. To this end, we employ detailed information on monarchs, their families, and their political fates from 27 major European monarchies spanning 1000–1799.² The main estimation strategy uses linear probability models taking the following form:

$$D_{i,j,t} = \beta F_{i,j,t} + \gamma \mathbf{X}_{i,j,t} + \alpha_j + \lambda_t + \varepsilon_{i,j,t}, \quad (1)$$

for $i = 1, \dots, n$ monarchs, $j = 1, \dots, n$ countries, and $t = 1, \dots, T$ years.³ The linear probability model estimation method ensures that countries in which no deposition has taken place remain in the analyses. This is a clear advantage over traditional logit regression models that, when including country fixed effects, drop all countries that have no variance on the dependent variable. This is particularly relevant in the models where we include country-century fixed effects (see below). Standard errors are clustered on monarchs in all analyses.

Depositions

The dependent variable, $D_{i,j,t}$, takes the form of a binary indicator with 0 given for years without a deposition and 1 given for years with a deposition. To measure depositions, we use a data set gathered by Kokkonen and Sundell (2014), which contains detailed information on how monarchs left office. As our focus is on internal political stability, we count monarchs who were removed in coups, died in battle in civil war, or were murdered by domestic enemies as deposed. Monarchs who died naturally in office, abdicated voluntarily, or died in battle or on campaign against foreign enemies are not counted as deposed. Table 1 describes the fates of the 709 different reigns included in our data set, of which 186 (26.2%) ended in a deposition.

2. The states are listed in table A1 (tables A1–A15 are available online). The sample selection has been guided by three criteria. First, we focus on monarchies, excluding republics such as Venice. Second, we focus on states that were autonomous in the sense that they had their own political institutions (e.g., councils and laws) and had monarchs who were not obviously subordinate to other monarchs. Third, we have concentrated on states and time periods for which we have reliable sources for our main variables. Generally speaking, such sources are more available for larger polities and less available early in the period (especially for Eastern Europe and the Balkans).

3. We have rerun all our analyses with logistical regression (table A3) and Cox regression (table A4), with very similar results.

Children, siblings, and paternal uncles and aunts

The main independent variable, $F_{i,j,t}$, is family size, that is, a monarch's total number of legitimate children, siblings, and paternal uncles and aunts.⁴ We have used two sources to compile this information. The first is the Medieval Lands database, compiled by Charles Cawley (2006). In cases when data were missing, we have used the genealogical compilation *Europäische Stammtafeln* (Isenburg and Loringhoven 1975; Schwennike 1998). When these sources lack information, we have supplemented them with other secondary sources. On this basis, we have constructed time-varying variables that at each point in time (i.e., for every year) show the number of living sons, daughters, brothers, sisters, and paternal uncles and aunts for each monarch.

The family variables change value each time a child, a sibling, or an uncle or aunt is born or dies. It is important to note that mortality rates were much higher in medieval and early modern Europe than they have been after the advent of modern medicine. This is illustrated in figure 1A, which shows the distribution of the length of royal children's life span. The highest risk of dying was during the first three years. After that the risk dropped steeply, but it remained relatively high during the whole life span. There was thus a real risk that a monarch's children would die before he did. There are several instances in our data when only one or two out of 10 children survived their father.

Figure 1B shows that monarchs' likelihood of having children increased drastically after they turned 15 and peaked at 25, after which it began to decline. In contrast, the likelihood of children dying increased up until age 30 after which it remained relatively constant—and high from a modern perspective. The high mortality rate ensures that the number of children a monarch has is not only a product of how long he has stayed in power, even though there is a strong correlation.

Figure 2 shows the average number of sons and daughters, brothers and sisters, as well as paternal uncles and aunts alive at each point in time of the monarchs' lives. While the number of children increases over time, the number of siblings and paternal uncles and aunts declines. Much of the data are the same, but the figures for brothers and sisters are lower than for sons or daughters. One reason is that the monarchs themselves are not included in the sibling numbers. Another reason is that most monarchs ascend the throne as adults, after

4. The choice to focus on paternal uncles and aunts only is guided by data considerations. Medieval and early modern genealogies were primarily concerned with recording lineages in the male line. If it died out, so did the lineage. Hence, it is more difficult to track monarchs' maternal lineages.

Table 1. Outcomes of Monarchs' Reigns

Outcome	<i>N</i>	%	Deposed
Natural death	453	63.9	0
Coup d'etat/forced abdication	125	17.6	1
Assassination/murder	38	5.4	1
Death in battle against foreign enemies	31	4.4	0
Abdication	29	4.1	0
Death in battle against domestic enemies	19	2.7	1
Death from sickness on military campaign against foreign enemies	10	1.4	0
Death from sickness on military campaign against domestic enemies	4	.6	1
Total	709	100	

many of their siblings have already died. The number of uncles and aunts is very low (it has already dropped below one as monarchs turn 20), as they normally belong to the prior generation, which in the medieval age pyramid is much smaller.

Controls

A set of control variables is included in $X_{i,j,t}$. First, we control for the effect of marriage with a dummy variable that measures whether a monarch at each point in time is married (1) or not (0), using the same sources we use for the family variables. This variable both captures an additional aspect of close relatives' importance for monarchs' chances of surviving in office and functions as an important control variable: only married monarchs could have legitimate children. Figure A1 (figs. A1–A4 are available online) shows that most monarchs were married for most of their adult life, as it was common

to remarry after the death of a spouse. We also control for whether the monarch was born out of wedlock and thus is counted as having no legitimate relatives.

Second, we include a control for whether a country had a succession based on primogeniture (1) or not (0), as it has been demonstrated that primogeniture reduced monarchs' risk of being deposed (Kokkonen and Sundell 2014). Third, we control for whether a polity had at least one parliamentary meeting during a century (1) or not (0), building on data from Van Zanden, Buringh, and Bosker (2012) to account for the finding that parliaments reduced monarchs' risk of being deposed (Blaydes and Chaney 2013). Fourth, we control for the monarch's sex, as previous research has shown that ruling queens and kings were treated differently by contemporaries (Dube and Harish 2020). We also control for whether the monarch was born out of wedlock. Finally, we control for a monarch's age and tenure each with linear,

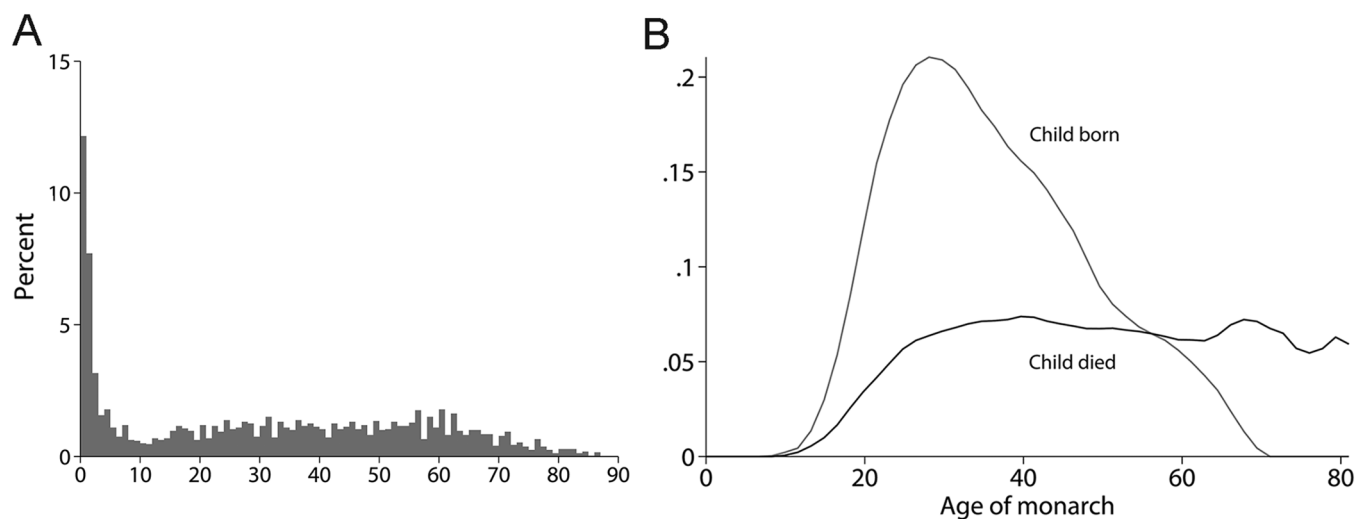


Figure 1. Histogram of length of life spans of monarchs' children (A) and proportion of years of a monarch's life in which a child was born or died (B).

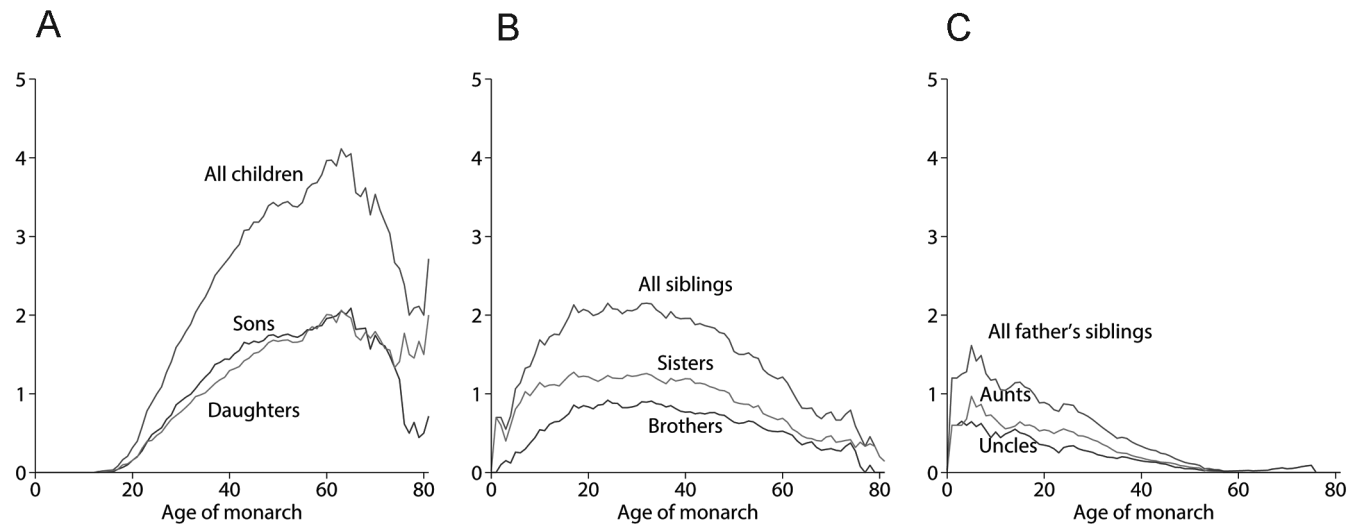


Figure 2. Average number of living children (A), siblings (B), and paternal uncles and aunts (C) over a monarch's lifetime. Color version available as an online enhancement.

squared, and cubic functions (t , t^2 , t^3 ; Carter and Signorino 2010), as both variables influence the risk of being deposed (Abramson and Rivera 2016).

The inclusion of country fixed effects, α_j , is pivotal in addressing endogeneity issues: different countries may have different fixed, unobservable characteristics (such as geography and culture) that affect both the potential for children being born and surviving and the general level of political stability. The included century dummies, λ , control for common shocks across centuries, such as medical advances, and common disease environments (e.g., the Black Death). To account for such issues in an even more fine-grained manner, in the appendix we present additional analyses with combined country-century fixed effects, which control for

all time-invariant country-specific factors within each century (table A5). These account for country-specific factors that change over centuries. They produce results very similar to our main models'. We address endogeneity concerns further below.

RESULTS

Our main hypothesis is that monarchs with larger families had a lower risk of being deposed (hypothesis 1). As a first test, we look at the observed frequencies of depositions by number of children and siblings at each point in time (there are too few uncles and aunts to warrant a similar comparison for them). Figure 3 presents these frequencies. In general, monarchs with smaller families tended to be deposed

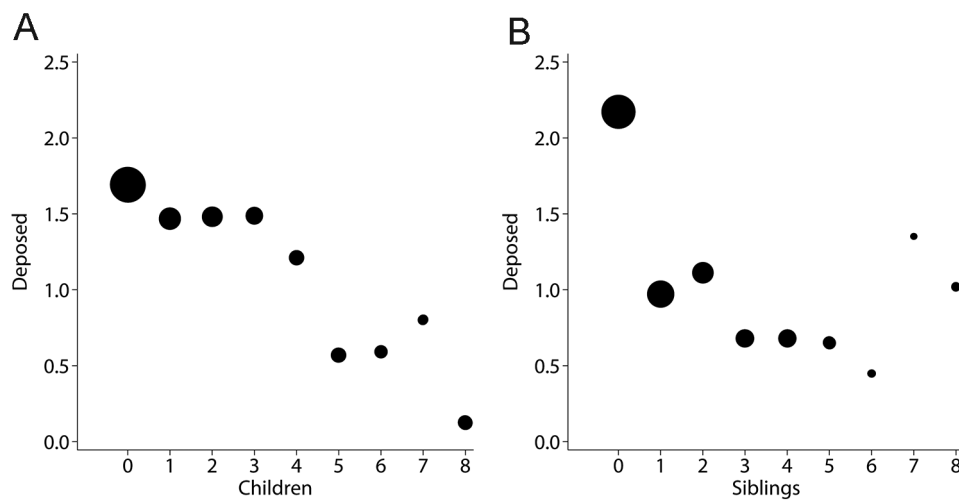


Figure 3. Percentage of monarchs deposed in a year, over number of living children (A) and siblings (B). Circle sizes show number of observations.

more often. While the overall yearly risk of deposition was quite low, the difference in rates is still substantial. Comparing monarchs with no children (38% of the monarch-years in the sample) and monarchs with five or more children (22%), the average rate of deposition is about a third for those that had more children.

Table 2, which presents our main results (with all coefficients multiplied by 100 to improve readability), shows that family size is significantly associated with lower rates of deposition. For each additional child, sibling, paternal uncle or aunt the annual risk of being deposed decreases by 0.13 percentage points (model 1). Considering that the average risk of deposal in a given year is around 1.3%, the stabilizing effect of family size is substantial. Each additional family member reduces the average deposition risk by 10%.

In model 2, we separate the variable into children, siblings, and paternal uncles and aunts, respectively. Children and siblings contribute to reducing the risk of depositions, with no significant difference in coefficient sizes. In accordance with our argument, this suggests that the stabilizing effect of family size is driven by the number of children and siblings. However, uncles and aunts do not reduce the risk of depositions significantly.

Finally, in model 3, we subdivide the variable further by the gender of the children, siblings, and paternal uncles and aunts. Here, we see that the coefficients for all groups except uncles are negative. However, only the coefficients for brothers and sisters are significantly different from zero, and none of them differ significantly from the others. This is unsurprising given that the number of male and female children as well as the number of male and female siblings correlate strongly and that we now estimate six coefficients for what seems to be one main effect. Still, the fact that five out of six coefficients further corroborate our theoretical focus is reassuring. Figure 4 summarizes and illustrates the main coefficients from table 2.

Previous research has found that European and Chinese rulers who had at least one son were less likely to be deposed (Wang 2018) and interpreted this as an effect of the succession being stabilized. Our results, which take more family categories into account, cast doubt on this interpretation. Had succession been the main mechanism, we should expect to see stronger effects of sons than daughters and stronger effects of children than siblings. A larger family likely contributed to leader survival in other ways as well, at least in the European context we analyze. Considering the relatively clear effects of daughters and sisters, marriage alliances and female relatives' subsequent influence in their new household may in fact be the most important stabilizers among the functions we listed in the theoretical section.

Table 2. Determinants of Depositions

	(1)	(2)	(3)
Family size	-.131*** (-3.91)		
Children		-.109** (-2.80)	
Siblings		-.207*** (-3.55)	
Uncles and aunts		-.026 (-.36)	
Sons			-.103 (-1.36)
Daughters			-.114 (-1.66)
Brothers			-.205* (-1.98)
Sisters			-.207** (-2.88)
Uncles			.056 (.34)
Aunts			-.085 (-.70)
Female	-.798 (-1.44)	-.868 (-1.56)	-.859 (-1.53)
Married	-.064 (-.23)	-.090 (-.33)	-.090 (-.33)
Primogeniture	-1.807*** (-4.28)	-1.810*** (-4.27)	-1.792*** (-4.23)
Illegitimate	.720 (.85)	.634 (.74)	.637 (.74)
Parliamentary meeting	.041 (.11)	.009 (.03)	.009 (.02)
Constant	2.525* (1.99)	2.432 (1.90)	2.380 (1.85)
Age controls	Yes	Yes	Yes
Tenure controls	Yes	Yes	Yes
Century fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Adjusted R ²	.016	.016	.015

Note. Ordinary least squares regression. All coefficients multiplied by 100 to improve readability; *t*-statistics in parentheses. *N* = 13,641.

* *p* < .05.

** *p* < .01.

*** *p* < .001.

We cannot test these mechanisms directly with our data. But historians have noted that dynastic unions were important stabilizers of power relationships in European history (Greengrass 2014; Sharma 2015, 2017; Wickham 2016). Wars were, for example, normally ended by treaties sealed with a princely marriage (Greengrass 2014, 561). Once they were

married, queens were central figures in the royal administration (Huneycutt 1989) and could function as their families' agents. A queen's influence would peak in situations in which her husband died and she became the linchpin of a royal regency because her sons were still minors (Earenfight 2007). Such female regencies were more frequent in Europe than is often acknowledged today, for instance, totaling around 140 years in the sixteenth and early seventeenth centuries (Greengrass 2014, 304). Women also often stood in for their husbands when they were traveling or were otherwise occupied. Maria of Castile, for example, ruled the Crown of Aragon as regent in 1420–23 and 1432–58, while her husband, Alfonso V, campaigned in the Italian peninsula (Earenfight 2007).

We next estimate a separate regression in which we include dummy variables for each number of family size (children, siblings, uncles and aunts combined). Figure 5 plots the predicted values of the annual risk of being deposed over 0–10 family members (there are very few observations per value for values above 10), holding all other variables at their means. In general, there seems to be a decreasing trend until six family members.

In the appendix (see table A2) we change the dependent variable to onset of civil war (data taken from Kokkonen and Sundell 2019). This variable plausibly captures failed attempts to depose the monarch by force. The results are broadly similar

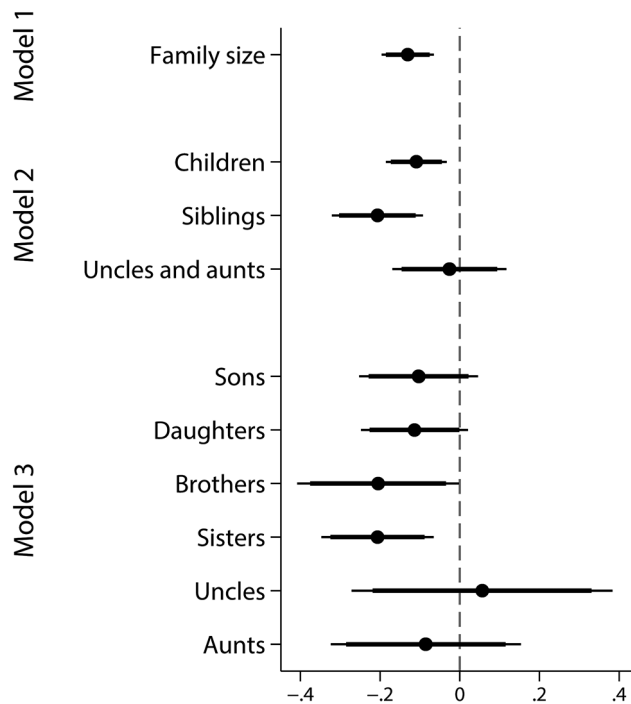


Figure 4. Estimated coefficients and associated confidence intervals (thick lines, 90%; thin lines, 95%) for the main variables (based on table 2). Coefficients multiplied by 100 to improve readability.

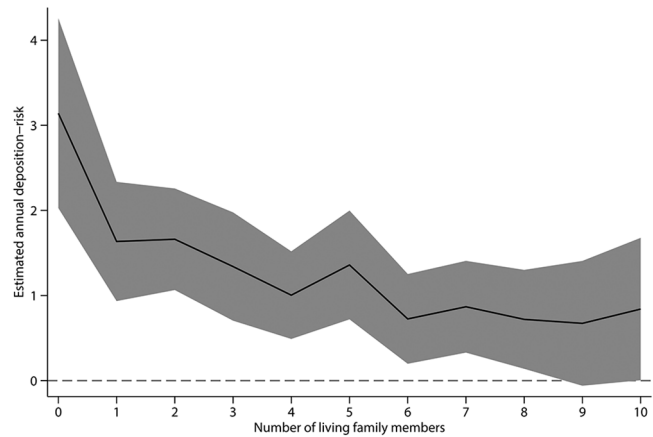


Figure 5. Estimated annual deposition risks for monarchs (with 95% confidence intervals), over different family sizes.

to the models in which deposition is the main variable. All family variables, except uncles, have a negative effect (although the sisters and aunts variables are very close to zero). Brothers have the strongest effect, with each additional brother reducing the risk of a civil war breaking out in a year by 0.4 percentage points. This indicates that brothers often shielded the monarch militarily, a role sisters could not fulfill in a context in which military command was a male prerogative. These findings suggest that the stabilizing effect of family size pertains not only to successful depositions but to attempts as well.

Addressing endogeneity

We see three additional ways in which endogeneity may bias our results. First, monarchs may have had fewer opportunities to procreate in unruly times. We can probably assume that most monarchs wanted to have children, as they needed to secure the succession. However, monarchs who were forced to go on military campaigns may have spent less time with their spouses, meaning that political stability could affect family size.⁵ Second, a monarch's relatives could be killed in advance of a deposition, as part of an ongoing struggle for power. This means that family size might drop up until the deposition, with both phenomena reflecting the same underlying conflict. Third, monarchs with bad health may both have had a harder

5. This is mainly a problem for us if monarchs had fewer children because they were campaigning in their own country against domestic foes, as we are primarily interested in the relationship between family size and domestic political instability. Military campaigns on foreign territory against foreign enemies did not necessarily imply domestic political instability, especially not if the purpose was to defend or increase the glory of the realm. The most obvious example here is undertaking crusades, something that normally bolstered the domestic standing of a monarch and his lineage (e.g., Jordan 2004, 231–33).

time procreating and have been more likely targets for removal. In the appendix, we present an array of analyses that attempt to address these issues of endogeneity. We briefly discuss these additional analyses here and refer to the appendix for full results.

To account for the first factor, we undertake three analyses. First, we control for the average number of civil war years in the previous one to five years (table A13). This accounts for the possibility that monarchs' diverted attention from procreation to warfare could affect the number of children. We find that larger families are associated with a lower risk of deposition, even when controlling for previous instances of civil war. Second, we show that monarchs were as likely to have children during times of civil war as when there was peace (app. sec. 3.1). Third, we proxy the number of children with the monarch's accumulated years of marriage (table A15). As long as the monarch married early on and the spouse lived, further instability that could keep the monarch from having children will not affect this variable. The analysis shows that monarchs who had been married longer were less likely to be deposed. Overall, these additional analyses suggest that our results are not simply an artifact of reverse causality stemming from the effect of instability on family size.

These analyses to some extent also address the second source of endogeneity, namely, the risk that the violence surrounding depositions can affect family size through killings of family members. Still, to further account for this factor, we have run five additional analyses. First, we look at descriptive patterns of family members' deaths. There is no indication that family members died at higher rates just before depositions (app. sec. 3.4). Second, we conduct analyses in which we control for the death of family members in the previous one to five years (table A12). Third, we lag our main independent variable, family size, with lags of one to five years (table A14). Fourth, we run analyses in which instead of living family the accumulated sums of births of family members are used as independent variables. Fifth, the results are robust to using family size at the start of the monarch's reign as the independent variable (table A15). None of these analyses alter the conclusion that larger families were associated with lower risks of deposition, which rules out the possibility that the association was caused by the death of family members in advance of depositions.

The third source of endogeneity is more difficult to address directly as we have no systematic data on the health of monarchs. Still, we attempt to do so in two ways. First, we treat the unobserved health of monarchs as a censoring mechanism in split-sample models. Specifically, using our main model specifications, we assess the effect of family size for monarchs who died after turning 65 (75th percentile), assuming that

longevity signifies good health during a monarch's life, as well as monarchs who died before turning 47 (25th percentile), presumably unhealthy for parts of their short lives, in separate models (table A11). In both analyses, family size significantly reduces the risk of depositions.

Second, we test whether family size affects monarchs' risk of dying of natural causes (see table A10), which it should do if it is an indicator of monarchs' health. We find no evidence that it does so, which reduces the risk that our results are driven by monarchs' health.

Admittedly, we account for monarchs' health in an indirect way. However, we are confident that our results are not an artifact of endogeneity stemming from this issue. In the main analyses, we show that the stabilizing effect of family size is due to both the number of children and the number of siblings and paternal uncles and aunts. Whereas a monarch's health might affect his or her ability to have children, the number of siblings, uncles, and aunts should generally be unaffected by such circumstances (except if disease runs in the family). The fact that we find significant effects not only for the number of children but also for the number of siblings therefore further alleviates such concerns. The same logic applies to the possible objection that homosexual monarchs might have had fewer children and also have had a weaker political position (due, e.g., to strong norms against homosexuality in the period we study). If this was an omitted variable driving the results, we should not see the same effect of siblings. Moreover, given the strong norms against homosexuality in the period and the expectation that monarchs would produce heirs, even homosexual monarchs would have felt strong social pressure to marry and have children.

Perpetrators

To investigate hypotheses 1a and 1b, we have coded the perpetrator of each deposition using historical sources: specifically, whether the perpetrator was a member of the family—meaning parent, child, sibling, uncle, aunt, nephew, or first cousin. When the sources gave no indication that the monarch and the deposer were related or when they were more distantly related than outlined above, the “perpetrator” of the deposition has been coded as unrelated.

Table 3 shows the descriptive statistics. In the “normal” case, where the monarch was not deposed, most monarchs left power to their sons or, in some cases, their grandsons. About one-fourth of the monarchs were followed by someone unrelated—most of the time probably because there was no living male heir. Eighty percent of those who left power to a nonrelative did not have a living son at the time of leaving the throne. The contrast to the deposed monarchs is striking.

Table 3. Relationship of Monarchs to Successors and Coup Perpetrators (%)

Relation	Successor		Perpetrator Monarch Deposed
	Monarch Not Deposed	Monarch Deposed	
Son/grandson	56.8	18.3	5.4
Brother	11.5	11.8	10.2
Uncle/nephew	4.0	10.2	.5
Other relative (cousin, spouse, father)	4.2	4.8	9.7
Unrelated	23.5	54.8	74.2
N	523	186	186

Here, a majority, 55%, were followed by nonrelatives and only 18% by their sons or grandsons. The explanation is to be found in the final column of table 3, where we see that more than two-thirds of the depositions were led by nonrelatives. In most cases in which the perpetrator was a relative, the relatives took the throne for themselves, but there are also several instances in which the intent of outside depositions was not to overthrow the dynasty but rather to replace a specific—unwanted—monarch with another member of the family. Only half of the unrelated perpetrators grabbed power themselves.

To examine this pattern in more detail, we regress the perpetrator variable on the same covariates as in the main models above. Specifically, we divide the deposition variable according to whether the deposition was carried out by a nonrelative or by a member of the family (son, father, grandson, brother, uncle, nephew, cousin, spouse, etc.) and conduct a multinomial logit analysis with three potential outcomes: no deposition, deposition by a relative, and deposition by a nonrelative. Figure 6 presents the main coefficients (for the full data, see table A8).

In model 1, we see that a larger family is primarily associated with a reduced risk of a monarch being deposed from the outside. However, the effect is negative for depositions by relatives as well, even though it is not statistically significant. A somewhat different pattern shows up in model 2, where we separate the members of the family according to whether they are children, siblings, or paternal uncles and aunts. Children reduce the risk of depositions from both outside and within the family. Siblings significantly reduce the former risk, whereas they do not affect the latter risk. Paternal uncles and aunts also reduce the risk of depositions from outside the family, but they increase the risk of depositions from within the family.

In model 3 we examine our two secondary hypotheses and separate sons, brothers, and uncles (male relatives) from

daughters, sisters, and aunts (female relatives). We find no support for hypothesis 1a, as both male and female relatives seem to reduce the risk of deposition from outside the family to a similar extent. This is somewhat surprising given that we expected stronger effects for male relatives. These findings again indicate that the stabilizing effect of having sisters and daughters who could be used to enter into marriage alliances and who could exert influence in their husbands' households might be the most important of the functions discussed in the theoretical section, at least when the dependent variable is depositions: brothers were more valuable when it came to avoiding civil wars (a result more in line with hypothesis 1a).

Paradoxically, the value of female relatives might partly be a consequence of the advent of male preference primogeniture at the beginning of the period we analyze, which meant that a successful marriage could empower a daughter or sister when their husband died while their male children were underage: “The growth of male-line lineage actually increased the number of queens- and countess-regents for male children, who were all more essential because there was less choice as to who would be a legitimate heir” (Wickham 2016, 194).

The intuition behind hypothesis 1b is the distinction that male relatives had a stronger claim to rule, which could make

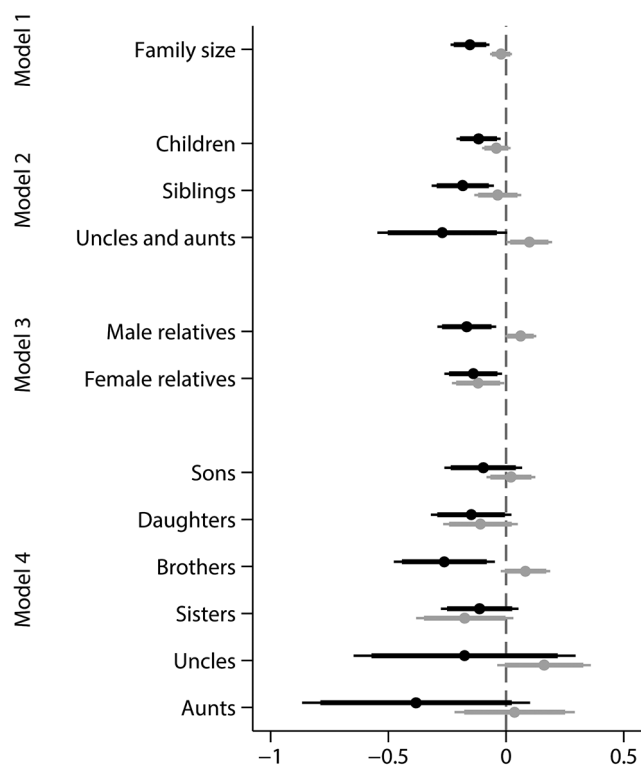


Figure 6. Estimated coefficients and associated confidence intervals (thick lines, 90%; thin lines, 95%) on the risk of deposition perpetrated by others (black) or family (gray), based on multinomial logit estimation.

them more dangerous to the monarch. In support of this intuition, we find that female relatives reduced both the risk of depositions from outside the family and the risk of depositions from within the family, whereas male relatives only reduced the former risk and actually increased the latter. Model 4 further elaborates and shows that the increased risk of depositions from inside the family is driven mostly by brothers and uncles (albeit the effect of brothers is only borderline significant and the effect of uncles is not significant at conventional levels). Here, it is important to note that the reference category is “not being deposed,” so it is not the case that within-family depositions substitute for depositions by outsiders.

The main takeaway thus seems to be that monarchs with larger families generally had a lower risk of being deposed, a stabilizing effect that is driven by males and females to an equal extent, but male relatives only reduce the deposition risk from outsiders and actually increase the risk of deposition from insiders.

CONCLUSION

It is a common claim that politics was a family affair in medieval and early modern Europe. In this article, we have presented new evidence that corroborates this claim. Our analysis shows that in a context of weak and personalized state apparatuses and monogamous family structures, having legitimate children and siblings—both female and male ones—reduced monarchs’ risk of being deposed.⁶

The fact that women emerge as equally stabilizing as men might seem surprising, considering that this was a patriarchal world where there was “no secure public space for women” (Wickham 2016, 193). However, paradoxically, the stress on the male line of lineage often empowered women in a world of high mortality rates and dynastic politics where regencies for underage male heirs, both royal and noble, were quite common. As Greengrass (2014, 304) puts it, “there was a political paradox in Christendom’s dynastic states. They were patriarchies, but women were essential to their dynastic strategies.” Our results indicate that prior research has been too quick to infer that male relatives were more important than

female relatives for a ruler’s fortunes, on the basis of the fact that the gender roles of the day were hugely suppressive of women.

To what extent do these findings travel outside of Europe? As noted, Europe was particular in two ways: first, it was characterized by nuclear or at least monogamous family structures enforced by the church, which paved the way for the introduction of primogeniture; second, it was characterized by state weakness. These two scope conditions limit the extent to which our results can be generalized to other historical contexts. Muslim, Mongol, and Chinese dynasties, for example, practiced polygamy and concubinage and often treated children born to concubines as of similar rank to children born in wedlock. As a consequence, Muslim sultans, Mongol khans, and Chinese emperors usually had much larger families than their European counterparts. It is unlikely that fathers forged as strong emotional ties with their offspring in these circumstances, if for no other reason than time constraints. Siblings also usually had different mothers, who often raised them separately from one another during their formative years. Add to this that the absence of primogeniture made all (male) relatives potential heirs to the throne, and you get a perfect breeding ground for sibling rivalry. For instance, in the thirteenth and fourteenth centuries, the four principal Mongol khanates (the Yuan Dynasty in China, the Golden Horde in Russia, the Central Asian khanate, and the il-Khanate in Iran) were regularly convulsed by succession wars between male descendants of Genghis Khan (Rossabi 2012). The Ottoman Empire was also frequently torn by succession wars. Rule passed in the family, but there was no institutionalized succession mechanism (Imber 2019, 75). The deceased sultan’s sons would therefore regularly fight it out, and the eventual victor would often execute his surviving (half) brothers upon taking the throne.

The Byzantine Empire, Muslim states in the Middle East and North Africa, and China have furthermore historically been characterized by much higher levels of central state capacity (Stasavage 2020; Wickham 2009, 2016), which has probably substituted for the importance of relatives. Together these observations point to the conclusion, that in these other parts of Eurasia in historical times, family members were probably less of an asset (and more of a liability) than in the European context we study.

However, our empirical findings are likely to be more relevant for non-European autocracies today than for historic empires. European family structures have traveled far beyond Europe in recent centuries. Most autocrats today have families that are similar in size to or smaller than those of European medieval and early modern monarchs. Meanwhile,

6. Relatives thus substituted for state capacity. Does this mean that having many relatives delayed the development of modern bureaucracies? Monarchs with few relatives were forced to delegate power to (less trusted) nonrelatives, which might well have incentivized them to create more impersonal administrative structures. However, Acharya and Lee (2019) have shown that an abundance of male heirs, by creating political stability, facilitated long-run state building. Similarly, the stabilizing effect of many relatives is likely to have trumped any need to augment administrative structures to rein in nonrelatives.

authoritarian regimes continue to be plagued by the fundamental problem that no independent authority can guarantee that deals between the leader and the elite will be upheld (Boix and Svoblik 2013; Svoblik 2012). Virtually all modern authoritarian states have tried to make commitments credible by adopting constitutions and establishing power-sharing institutions such as parties, legislatures, and elections. However, power-sharing agreements become less credible as an autocrat gains more power, or as De Montesquieu (1989, 118) famously put it, “as the monarch’s power becomes immense, his security diminishes.”

Personal relationships and loyalty between individuals in the regime therefore remain important today, especially in situations in which—as in Europe’s past—we do not find strong impersonal state apparatuses. Authoritarian leaders such as Saddam Hussein, Hosni Mubarak, Fidel Castro, and Hafez al-Assad have all placed male relatives in important positions (Brownlee 2007). And Ugandan president Yoweri Museveni is allegedly grooming his son Muhoozi, while president Emomali Rahmon of Tajikistan seems to be doing the same with his son Rustam. Our results suggest that authoritarian rulers have good reason to lean on family in this way. Apart from biological reasons to behave altruistically toward each other, the leader will probably know relatives better, and they are more likely than strangers to have interests and ambitions that are in line with the leader’s. In the nasty and brutish world of authoritarian politics, modern dictators arguably have much in common with their medieval and early modern forerunners.

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