

Introducing the LEAD Data Set

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The Leader Experience and Attribute Descriptions (LEAD) data set provides a rich source of new information about the personal lives and experiences of over 2,000 state leaders from 1875–2004. For the first time, we can combine insights from psychology and human development with large-N data on interstate conflict for a new theory of leadership and interstate relations. The data set provides details about military experiences, childhood, education, personal and family life, and occupational history before leaders assumed power. The data are available in leader-year format and are compatible with existing tools for analysis such as EUGene (Bennett and Stam 2000). This research note discusses the motivation for the creation of the LEAD data set and discusses the coding decisions for most of the key variables. We provide a series of descriptive statistical illustrations of the data and illustrate the depth of the available information with cases from Latin American leaders, showing the durability of these personal experiences across space and time.

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The Leader Experience and Attribute Descriptions (LEAD) data set provides a rich resource of practical use to scholars in both comparative politics and international relations (IR). The LEAD data set links together

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growing interest in leaders within political science with developments in psychology demonstrating how life experiences shape the behavior of individuals throughout their lives. In *Theory of International Politics* (1979), Kenneth N. Waltz argued that psychological claims of the time were based on insufficient standards of proof. In the 1970s, the field of psychology was in transition, and political psychology tended to rely on psychobiographies and the subjective interpretations of political scientists about the mental meaning behind observed actions. Cognitive neuroscience was in its infancy, and researchers had not yet developed modern tools—such as fMRIs—to deductively understand how basic brain functions related to emotion and psychological response. With the development of modern neuroscience, that has all changed (McDermott 2004). Moreover, there is growing evidence from other parts of psychology that life experiences play a crucial role in shaping behavior, influencing everything from risk propensity to political behavior (Blattman 2009; Roberts, Caspi, and Moffitt 2003; Voors, Nillesen, Verwimp, Bulte, Lensik, and Van Soest 2010). Now, an ever-greater number of scholars are returning to Waltz's first level of analysis—the individual—to explain observed variation in conflict outcomes. In what follows, we lay out the LEAD data set, which provides scholars with new cross-national, time-series data on the backgrounds of leaders around the world from 1875–2004. This data set will allow researchers to advance scientific research in international politics in several areas, including potential applications in understanding the selection of leaders into office (Chiozza and Goemans 2011), how the experiences of leaders shape the military behavior of countries (Horowitz and Stam 2014), how the education of leaders influences domestic political choices (Besley and Reynol-Querol 2011), and even potentially how gender shapes policy decisions (Glynn and Sen 2015).

PURPOSE OF THE LEAD DATA SET

Our contribution to this type of research is twofold. First, the LEAD database provides information about key background variables that can be expected to influence executive decision making for an extremely large group of cases—all leaders worldwide from 1875–2004. The LEAD data partially draw from and dovetail with existing IR data sets, such as Correlates of War (Singer 1987) and Militarized Interstate Disputes (Ghosn, Palmer, and Bremer 2004; International Crisis Behavior Project 2010), making it easy for conflict scholars to use with tools such as EUGene (Bennett and Stam 2000). Moreover, since the backbone of the LEAD data set is based on Archigos (Goemans et al. 2009), it makes linking it to that data set easy as well. The data set is set up to facilitate easy merging with existing IR data

sourcing, helping us evaluate which leader characteristics are systematically significantly correlated with conflict outcomes across space and time.¹

Second, many past studies of leaders tend more toward the History of Great Men, with a focus on particular leaders who ruled their countries during times of war, such as U.S. presidents Lincoln or Wilson. In contrast, the LEAD data set, by making the life experiences of more than 2,000 heads of states accessible to scholars, will allow future research to study both those leaders whose countries go to war—and those whose countries remain at peace. Although cases of conflict are often the most interesting, selecting on the dependent variable by focusing on these cases to the exclusion of others creates a bias in our understanding of when and how militarized behavior occurs. The inclusion of leader background experiences and beliefs is particularly important at this level of analysis. Initial research looking systematically at leaders already suggests that the age of leaders plays a significant role in influencing their conflict behavior (Horowitz, McDermott, and Stam 2005), as does their military experiences (Horowitz and Stam 2014).²

Previous analyses have given recognition to the importance of leaders and their personal characteristics in high-risk situations (Allison 1971; Saunders 2011). Such case studies are meaningful for shedding light on the role that personal characteristics play in conjunction with other factors. These studies are particularly important for indicating how beliefs and behavioral tendencies are expressed in situations of extreme stress (Khong 1992; Lebow 1981).

By providing a comprehensive set of variables on leader backgrounds for world leaders, the LEAD data set is an important step in addressing a number of questions left unanswered by earlier research. There is renewed interest among quantitative conflict scholars in First Image arguments and the potentially unique role of leaders in war escalation and initiation.

Focusing just on the American presidency, authors such as Potter (2007) and Gallagher and Allen (2013) have uncovered important systematic connections between leader characteristics such as age and personality and the propensity for international risk taking. Looking at a broader set of world leaders, recent work has focused on the connection between leaders with rebel backgrounds and international disputes. Colgan and Weeks (2015), for example, find that leaders with rebel backgrounds in personalist regimes are more willing to upset the status quo, due to reduced institutional constraints and extended tenure. Horowitz et al. (2005) explore the connection

¹Linkages to other popular data sets that do not use the COW or ISO country coding schemes are also in development.

²Looking closely at cases where international conflict is expected to occur based on realist and institutional theories of international politics, but does not, can show the specific importance of the role of leaders as individuals with substantial agency and power over the outcome of international affairs (Horowitz, Stam, and Ellis 2015).

between the age of world leaders and the propensity to select violent conflict as a means of dispute resolution. Chiozza and Choi (2003) and Horowitz and Stam (2014) find a systematic connection between the military experience of leaders and their likelihood of initiating and escalating disputes. Even in the field of international political economy, scholars such as Hira (2007) use analysis at the leader level to analyze the economic effects of leaders with advanced educational backgrounds in business, economics, and finance.

The LEAD data set should also be of interest to any scholar at the intersection of psychology and politics. Researchers interested in testing for psychological mechanisms behind the observed variation in conflict outcomes should find the LEAD data especially useful (Bleiker and Hutchison 2008; Crawford 2000). For too long in IR, psychological theories and concepts have been applied directly to the state as if that corporate body exercised the same faculties as an individual human being. For example, in political science, trust in an international security context has been studied largely in the abstract, at a high level of decision making. In the rational choice tradition, Kydd (2000) and Maoz and Felsenthal (1987), for example, combine formal models of trust with illustrative case studies. In these cases, the predictions made by these well-developed models are empirically supported by a limited number of descriptive cases. The use of descriptive case studies in this fashion suffers from potentially serious selection bias (Geddes 1990; King, Keohane, and Verba 1994) and therefore can be problematic as a standard of evidence for assessing the theories posited. McGillivray and Smith (2003) develop a comprehensive formal model of trust without any empirical component at all. While useful as theoretical think pieces, we are primarily interested in empirically linking ideas about trust—or any other psychological construct—based on studies of individuals to real-world leaders. The individual agency of leaders is a much more appropriate construct for the application of the theories and concepts of psychology: the data described in the following, for the first time, gives us the opportunity to make this connection directly.

SOURCES AND CODING PROTOCOLS

The Archigos data set (Goemans, Gleditsch, and Chiozza 2009) provided basic information on the leaders of all states from 1875–2004. Archigos coded the entry and exit, dates, and other pertinent information about a large population of leaders worldwide. The LEAD data set is built on the backbone of Archigos and required conducting extensive research

in multiple languages.³ We utilized not only academic books and articles, but newspaper articles, obituaries, genealogical databases, military and state archives, U. S. Presidential Libraries, photographs, and site visits in the United States, Europe, and South America. We consulted personally with historians and regional biographical specialists such as Camp (2011).

LEAD extends the Archigos data set by gathering extensive objective data on leader attributes focused on military experience, family experiences, and adult professional and personal experiences. Table 1 shows the scope of the variables now available as part of the LEAD data set.

For each leader, two research assistants gathered data on the leader. When they disagreed about the coding of a leader attribute, a third research assistant was assigned to conduct research on the leader. In cases with what appeared to be large degrees of indeterminacy, the authors delved specifically into those cases to conduct additional research. While the coding does not include any explicit measures for uncertainty, we excluded a set of more subjective variables on leader experiences (including childhood wealth and social status) precisely because they were less objective and so more prone to errors. The entire data collection process took approximately 3 years. Future updates to the data set will attempt to incorporate these additional variables, along with uncertainty ratings. Additionally, the public release of the data will provide the community with the opportunity to offer potential corrections, strengthening the quality of the data over time.⁴

Table 2 shows summary statistics for the key variables in the LEAD data set from 1875–2001, which we use for the rest of the article. It depicts the variables that we gathered data on, as well as the mean and standard deviation.

An important coding decision concerns the default values assigned to each observation. It is an important statistical and substantive distinction to assign a binary observation with a value of zero (0) if we know it is correct, as opposed to not knowing one way or another. We therefore assigned default values carefully. For example, in the absence of confirming or disconfirming information, we assigned a default value of 0 to the mental health, physical health, parental status, orphan, illegitimate, and working mother variables. For the most updated data, see Horowitz, Stam, and Ellis (2015).

³We utilized hundreds of sources in English, as well as French, Spanish, and Portuguese where applicable.

⁴As is not surprising, we would expect any errors in the data that do exist to be clustered in countries that are less well covered by English-language media. While we used media in alternative languages when possible, limits to funding prevented us from having an expert in every relevant language conducting primary source research in that language. This is a fruitful avenue for future updates and potential corrections.

TABLE 1 Scope of the LEAD Data Set

Variable	Description
COW alpha country code	COW Country Abbreviation
COW Country Code	COW Country Code
LEAD Leader ID	LEAD Leader ID Number
Archigos Leader ID	Archigos 2.9 Leader ID Number
Leader Name	Leader Name
Birth Year	Leader Birth Year (Used to derive leader age in a given leader-year)
Death Year	Leader Death Year (Used to derive leader age in a given leader-year)
LEAD Start Date	Leader Entry Into Office
LEAD Exit Date	Leader Exit From Office
Method of Exit from Office (Archigos)	Leader Exit (from Archigos)
Method of Entry from Office (Archigos)	Leader Entry (from Archigos)
<i>Military Experience Variables</i>	
Military Service	1 = Yes 0 = No
Military Service Combat	1 = Yes 0 = No
Prior Rebel Participation	1 = Yes 0 = No
Military Education	1 = Yes 0 = No
National War Participation = Victory	1 = Yes 0 = No
National War Participation = Loss	1 = Yes 0 = No
Rebel War Participation = Victory	1 = Yes 0 = No
Rebel War Participation = Loss	1 = Yes 0 = No
<i>Education</i>	
Primary Education	0 = Public 1 = Private
Boarding School	1 = Yes 0 = No
Education Level	0 = Primary 1 = Secondary 2 = University 3 = Graduate
<i>Family Variables in Childhood</i>	
Only Child	1 = Yes 0 = No
Firstborn Child	1 = Yes 0 = No
Middle-Born Child	1 = Yes 0 = No
Last-Born Child	1 = Yes 0 = No
First Son	1 = Yes 0 = No
First Daughter	1 = Yes 0 = No
Parental Status	0 = Together 1 = Divorced
Orphan	0 = No 1 = Yes 2 = One Parent
Considered "Illegitimate" Child	1 = Yes 0 = No
Royalty	1 = Yes 0 = No
Father Occupation (Text)	
Mother In Labor Force	1 = Yes 0 = No
Childhood Health	0 = Healthy 1 = Sickly
<i>Family Variables in Adulthood</i>	
Married (Ever)	1 = Yes 0 = No
Married in Power	1 = Yes 0 = No
Divorced (Ever)	1 = Yes 0 = No
Total Number of Spouses in Life (Count)	
Number of Sons (Count)	
Number of Daughters (Count)	
Total Number of Children	

(Continued)

TABLE 1 (Continued)

Variable	Description
Number of Adopted Children (Count) Children Died	1 = Yes 0 = No
<i>Occupation Variables</i>	
Teacher	1 = Yes 0 = No
Journalism	1 = Yes 0 = No
Law	1 = Yes 0 = No
Engineering	1 = Yes 0 = No
Medicine	1 = Yes 0 = No
Science	1 = Yes 0 = No
Agriculture	1 = Yes 0 = No
Military Career	1 = Yes 0 = No
Religion	1 = Yes 0 = No
Labor	1 = Yes 0 = No
Activist	1 = Yes 0 = No
Career Politician	1 = Yes 0 = No
Writer	1 = Yes 0 = No
Film/Music	1 = Yes 0 = No
Economics	1 = Yes 0 = No
Aristocrat/Landowner	1 = Yes 0 = No
Police	1 = Yes 0 = No
Interpreter	1 = Yes 0 = No
<i>Political Experience Variables</i>	
Years in Politics before Becoming Leader (Count)	
Puppet Leader	1 = Yes 0 = No
<i>Other Variables</i>	
Physical Health	0 = Healthy 1 = Sickly
Mental Health	0 = Healthy 1 = Sickly
Gender	0 = Female 1 = Male

KEY ASPECTS OF LEADER BACKGROUNDS

Military Experience Variables

Our focus was on participation in a regular national uniformed military (*National Military Service*). When data were available, we coded for the start and end years of military service (*National Military Service Start Year* and *National Military Service End Year*), as well as combat experience (*National Military Service, Combat*), military education (*Military Education*), and the COW 3.0 war number for war participation. In the category of professional background, we also coded for career military officers (*National Military Service, Career*). [Figure 1](#) shows the distribution of military and rebel experiences among leaders in the data set. A total of 32.1% of leaders had a regular military service background, while 22.9% experienced combat in that

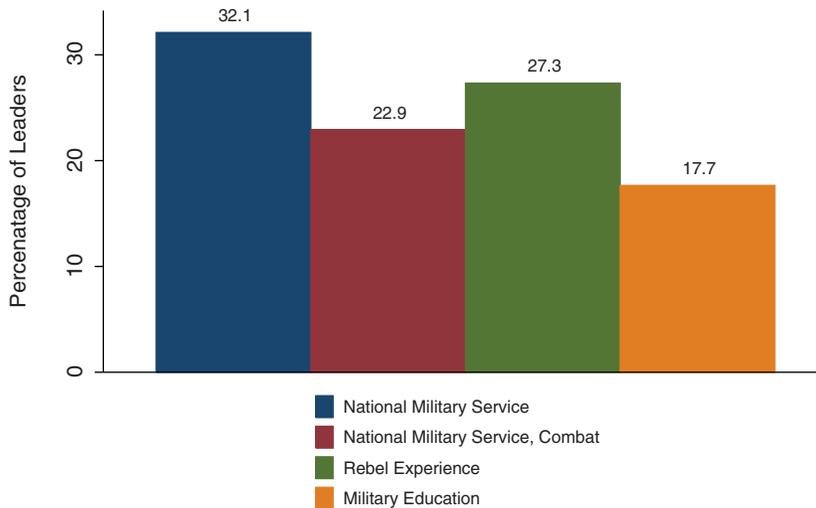
TABLE 2 Summary Statistics of LEAD Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
<i>Military Experience Variables</i>					
Military Service	2,924	0.31	0.46	0	1
Military Service Combat	2,914	0.22	0.41	0	1
Prior Rebel Participation	2,921	0.26	0.44	0	1
Military Education	2,898	0.17	0.38	0	1
National War Participation = Victory	2,931	0.08	0.27	0	1
National War Participation = Loss	2,928	0.06	0.24	0	1
Rebel War Participation = Victory	2,928	0.04	0.21	0	1
Rebel War Participation = Loss	2,928	0.02	0.15	0	1
<i>Education</i>					
Primary Education	2,140	0.63	0.48	0	1
Boarding School	2,143	0.32	0.48	0	3
Education Level	2,802	2.25	0.81	0	3
<i>Family Variables in Childhood</i>					
Only Child	1,496	0.14	0.35	0	1
Firstborn Child	1,350	0.41	0.49	0	1
Middle-Born Child	1,295	0.36	0.48	0	1
Last-Born Child	1,317	0.17	0.37	0	1
First Son	1,346	0.54	0.50	0	1
First Daughter	2,912	0.01	0.07	0	1
Parental Status	2,340	0.05	0.24	0	2
Orphan	2,965	0.16	0.52	0	2
Considered "Illegitimate" Child	2,965	0.02	0.14	0	1
Royalty	2,965	0.07	0.26	0	1
Father Occupation (Text)	1,877				
Mother In Labor Force	1,919	0.11	0.32	0	1
<i>Family Variables in Adulthood</i>					
Married (Ever)	2,497	0.94	0.23	0	1
Married in Power	2,451	0.90	0.30	0	1
Divorced (Ever)	2,367	0.10	0.30	0	3
Total Number of Spouses in Life (Count)	2,360	1.25	1.86	0	70
Number of Sons (Count)	1,828	1.87	2.43	0	40
Number of Daughters (Count)	1,786	1.64	2.07	0	37
Total Number of Children	1,775	3.57	4.79	0	115
Number of Adopted Children (Count)	1,917	0.06	0.39	0	8
Children Died	1,907	0.18	1.06	0	30
<i>Occupation Variables</i>					
Teacher	2,965	0.12	0.33	0	1
Journalism	2,965	0.06	0.24	0	1
Law	2,965	0.29	0.45	0	1
Engineering	2,965	0.04	0.19	0	1
Medicine	2,965	0.04	0.18	0	1
Science	2,965	0.01	0.09	0	1
Agriculture	2,965	0.04	0.19	0	1
Military Career	2,965	0.21	0.41	0	1
Religion	2,965	0.02	0.13	0	1
Labor	2,965	0.04	0.21	0	1
Activist	2,965	0.11	0.32	0	1
Career Politician	2,965	0.29	0.46	0	1

(Continued)

TABLE 2 (Continued)

Variable	Obs	Mean	Std. Dev.	Min	Max
Writer	2,965	0.05	0.23	0	1
Film/Music	2,965	0.00	0.05	0	1
Economics	2,965	0.05	0.22	0	1
Aristocrat/Landowner	2,965	0.07	0.26	0	1
Police	2,965	0.01	0.10	0	1
Interpreter	2,965	0.00	0.04	0	1
<i>Political Experience Variables</i>					
Years in Politics before Becoming Leader (Count)	2,795	14.34	11.90	0	72
Puppet Leader (drawn from Archigos)	2,916	0.03	0.16	0	1
<i>Other Variables</i>					
Physical Health	2,965	0.1114	0.3147	0	1
Mental Health	2,965	0.01	0.11	0	1
Leader Age	2,918	57	11.06	16	93
Gender	2,965	0.99	0.12	0	1

**FIGURE 1** Military and rebel experience in the LEAD data set.

capacity; 27.3% of leaders had some form of rebel experience, while 9.6% experienced rebel combat; 17.7% of leaders had formal military education at some point in their lives.

It is important to recognize that even for experiences such as military service that were objective for 99% of the cases, there were some cases that required additional research. For example, some individuals fought in COW wars for countries other than the ones they eventually led. Juan Bautista

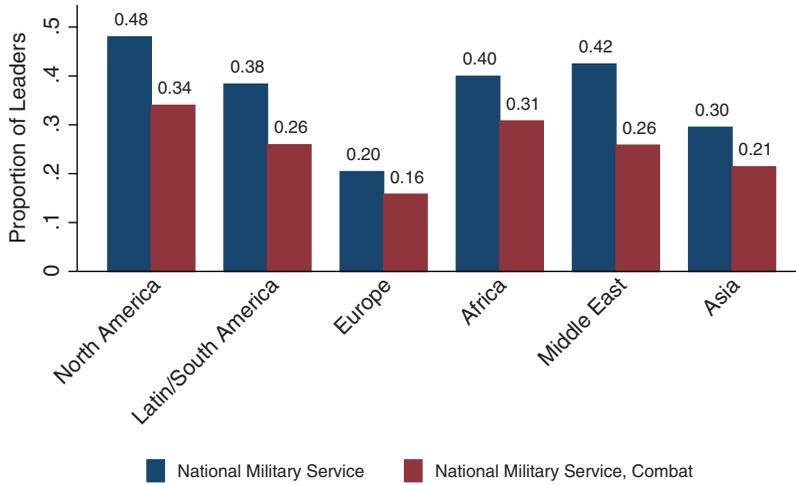


FIGURE 2 Leaders with regular military experience by region. Bars represent the proportion of leaders within each region with military backgrounds.

Egusquiza, who became president of Paraguay in 1894, reached the rank of Captain in the Argentine military and was apparently able to transfer this rank to the Paraguayan military a few years before becoming President. Narciso Campero Leyes, who led Bolivia in 1879, received his military education in France and elsewhere in Europe, took a 10-year break from the military from about 1845 to 1857, and became a colonel in the French military and fought in Africa. Dési Bouterse, the head of Suriname starting in 1980, had joined the Dutch army in 1968. Such leaders were coded for their regular military and combat experiences, regardless of where they took place. [Figure 2](#) illustrates the distribution of national military service of leaders across six regions, showing that some regional variation exists (for example, European countries appear at least somewhat less likely to select leaders with military backgrounds).

For the purposes of the LEAD data set, we define combat experience as the deployment to a combat zone where the leader could face the risk of death in combat. For most leaders, this kind of definition was not necessary because their biographies or memories contain information about their actual participation in combat, such as John F. Kennedy in the United States. However, that is not always the case. For some leaders, especially some in Latin America and Africa, it was not possible to determine whether a leader fired a rifle, for example, *per se*. The theoretical interest in combat participation from the perspective of the authors, though, is about facing the risk of death in military service and how that shapes future risk attitudes. In that way, the coding scheme was appropriate. When there was direct evidence

that a leader never faced the risk of death, leaders were coded as a 0. For example, Felipe Molas López, the president of Paraguay starting in 1949, participated in the Chaco war in his capacity as a dentist, with the rank of captain. While he undoubtedly witnessed some of the carnage of that war, he was almost certainly kept behind the front lines to treat the wounded, instead of given a rifle and orders to kill.

National military experience is the accumulation of all time spent in a formal military—counted by looking at start dates and end dates of military service (when the data were available). If an individual was in the formal military but also in a rebellion, these years and experiences are counted separately, as described in the section on leaders with prior rebel experience. Leaders with experience in rebellions are coded separately. In fact, a number of leaders participated in both types of martial service. For example, Porfirio Díaz, the long-term nineteenth-century dictator of Mexico, served in the military on his government's behalf with a state militia, but it is unclear whether he saw combat in COW 3.0 war #525 in which he served. Díaz became a guerilla in 1855 (COW #537 as a rebel) but returned back to the government side and fought the occupying French until 1867, rising to the rank of general, siding with the government off and on during various rebellions until he took power in 1877. Julio Argentino Roca, the president of Argentina from 1880, fought for both the original government (in COW 3.0 #553, #558, #562, and #569) and the Buenos Aires rebels who later became the national government (in COW 3.0 #547). While we are primarily interested in the characteristics of leaders before taking office, a few leaders even fought while in office. In his *New York Times* obituary, for example, Nicolás de Piérola of Peru (1899) is reported having “fought bravely” against Chileans in the War of the Pacific while president. [Figure 3](#) indicates the distribution of regular military combat experience by region over the span of the LEAD data set.

Rebel Experience

Not all leaders with military experience have this experience in a national military, however. We therefore also gathered information on whether a leader had prior experience as part of a rebel movement seeking to overthrow the government of the state. Participation in a rebellion is coded with the binary variable *Rebel Experience*. For most leaders, we made this decision easily based on objective evidence. For example, Mao Zedong, the head of state for the People's Republic of China from the late 1940s through the early 1970s, participated as a rebel in the Chinese Civil War, so he is coded a 1 for rebel. U.S. President Dwight Eisenhower, on the other hand, served in the American military and did not have any rebel experience.

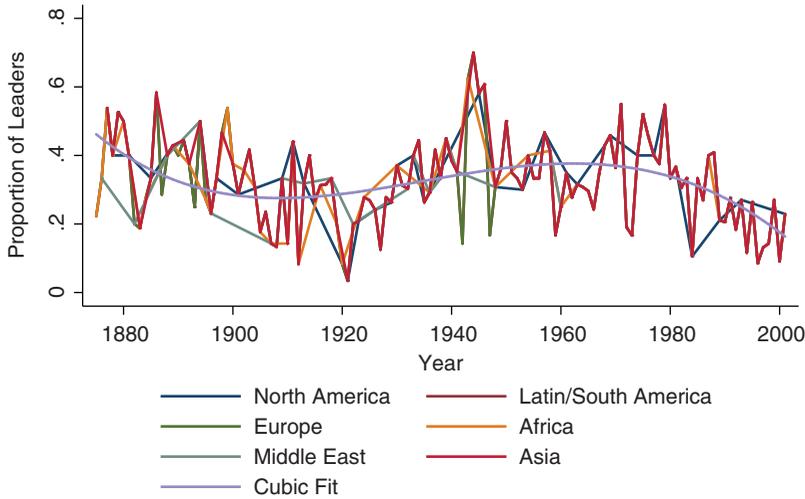


FIGURE 3 Regular military experience by year and region.

We code coups—even bloodless coups—as participation in a rebellion, meaning a leader is coded as a rebel, as long as the coups were carried out by actors who were willing to use violence to overthrow the leadership of the state. It is the intent to use violence, rather than the actual use of violence, that is critical because it is the willingness to use violence that is a key potential indicator of future risk propensity, according to our other work (Horowitz and Stam 2014). For example, even though Quaddafi took power in Libya in a bloodless coup in 1969, he is still coded as a rebel because he overthrew the government of the state and was willing to use violence to achieve that end. When a military leader conducts a coup, there is an implicit assumption of violence that may have a similar effect to outright armed rebellion with fatalities. Figure 4 shows the distribution of rebel experience in the LEAD data set by region.

It is also important, of course, to understand something about the experiences that leaders had while they were in the military. In particular, for leaders whose countries were at war while they were in the military, being on the winning or losing side could influence how those leaders view those experiences—and the use of military force in general. We therefore coded *National War Participation (Victory)*, *National War Participation (Loss)*, *Rebel War Participation (Victory)*, and *Rebel War Participation (Defeat)*.⁵

⁵Victory and defeat variables coded based on the results of war as indicated in the COW 4.0 data set (Sarkees and Wayman 2010).

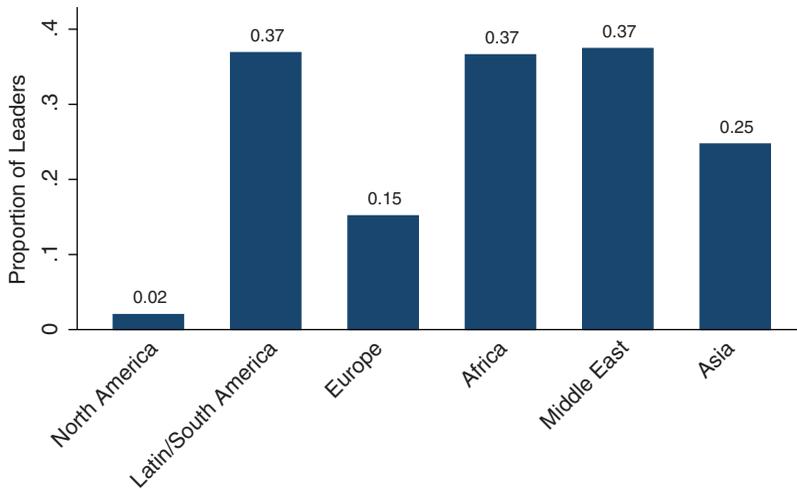


FIGURE 4 Leaders with rebel experience by region. Bars represent the proportion of leaders within each region with rebel experience.

Education

We coded for education at the primary, secondary, and postsecondary levels. In the population, greater levels of education are correlated with caution in the use of violent force to resolve disputes. At the microlevel, for children, attending school allows children to leave the insular world of their family and become exposed to external influence from peers and teachers. At advanced cognitive levels, such as college, an individual's personality begins to solidify.

Nonetheless, we hypothesized that educational experiences at this stage could continue to have important effects on later decision-making behavior and world view. *Primary Education* accounted for the type of schooling a leader received as a child. In some regions and at some times, however, this variable could be unreliable because it was often impossible to tell the nature of a school, and the categories did not seem compatible. While “public” versus “elite public” were clear, “small private” versus “elite private” were less so. In many early cases in Latin America, for example, the only school in town was run by the Jesuits, or people were home-schooled—and we did not code for religious private versus nonreligious private school. We also coded for being sent to boarding school.⁶

Figure 5 shows the approximate percentages of highest education levels of leaders in the LEAD data set. While it may initially be surprising that so many have postgraduate education, this is potentially due to a selection

⁶Coding for religious versus nonreligious private schools could offer useful information for future research projects. For example, particular forms of religious education, such as being educated at a madrassa, might influence leader beliefs and attitudes. Thanks to an anonymous reviewer for making this point clear.

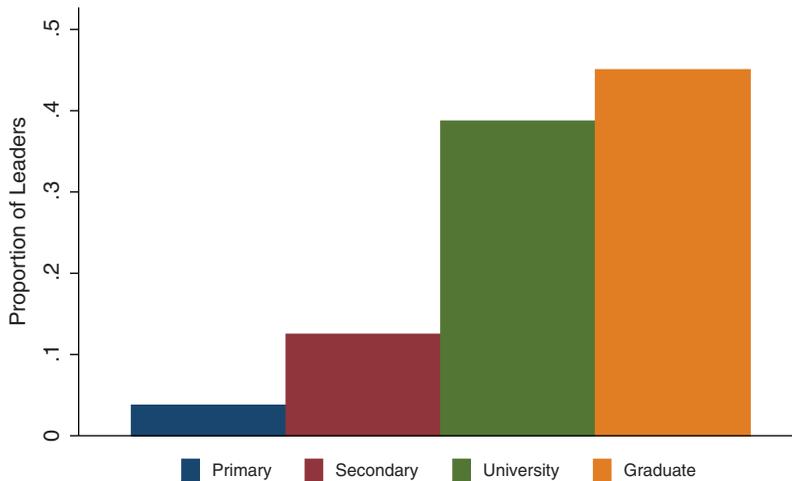


FIGURE 5 Levels of education in the LEAD data set.

effect whereby those individuals potentially in the pool to become heads of state are disproportionately likely to also be likely to receive an advanced education.

The *Education Level* variable shows the overall level of education possessed by a leader (0 = Primary, 1 = Secondary, 2 = University, 3 = Graduate). A number of modern leaders have very high levels of education—Egypt’s former president Mohamed Morsi holds a PhD from the University of Southern California and was a college professor for several years before entering politics. Manmohan Singh, Prime Minister of India for 10 years, has a doctorate in economics from Oxford. At the other end of the spectrum, leaders such as Ho Chi Minh forewent formal education for military and revolutionary activities instead.

Family Variables in Childhood

We coded a number of family status variables to reflect potentially relevant experiences of childhood. The variables *Only Child*, *Firstborn Child*, *Middle-Born Child*, *Last-Born Child*, *First Son*, *First Daughter* indicate family birth order. As [Figure 6](#) indicates, there is a preponderance in the data set of leaders who are oldest children. *Adopted Siblings* is a binary variable indicating the presence of adopted children in the home, information that was often very difficult to locate, particularly for leaders from earlier time periods. [Figure 6](#) shows the birth order of heads of state, identifying the percentage of leaders that are only children, firstborn, and other categories.

A feature of the Spanish language means that the following words are equivalent: The word for sons has the same meaning as that of children (*hijos*) and similarly, the word for brothers is equivalent to that for

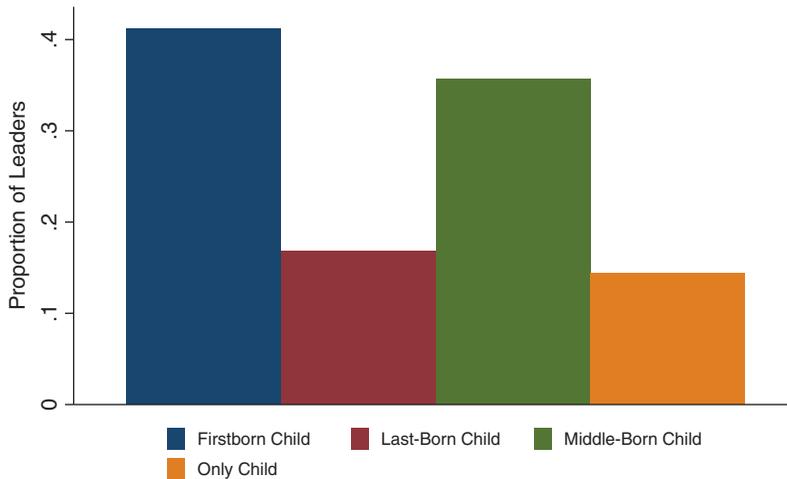


FIGURE 6 Birth order in the LEAD data set.

siblings (*hermanos*). As a result, we cannot be fully certain for entries for Spanish-speaking countries which indicate the same number of sons and total children. The number of children is likely correct, but son/daughter balance may be unknown. This may also be true for the “first son” variable, in the case of the source material saying something like (in Spanish): “X was the third of 7 *hijos*” could mean either he was the third of 7 brothers (thus coded 0) or the third of 7 children (thus left blank).

Being rare in the general population, twins are even rarer among the leader data set. While the most famous recent case of leader twins is Lech Kaczynski and Jaroslaw Kaczynski of Poland, we are aware of only one other leader who had a twin—Eligio Ayala, the president of Paraguay from 1923, who had an identical twin brother, Emilio.

We coded for the possible effects of a difficult childhood with the variables *Parental Status*, *Orphan*, and *Illegitimate*. Only 7% of the heads of state in the LEAD data set were traditionally considered “illegitimate” children. Figure 7 shows the distribution of orphans in the overall data set. While we do not specifically code for the violent death of a parent, there are some cases in which a family was devastated by parental loss. When he was only 5 years old, the father of Nicolás Avellaneda, president of Argentina from 1874–1880, was killed and beheaded during a period of local civil turmoil, and his youngest sister died as an infant when the family fled to Bolivia. The father of Alfredo Baquerizo Moreno, president of Ecuador from 1912, was killed violently when Baquerizo Moreno was 13. Although his family had previously been wealthy, they were plunged into poverty after this event. The not insubstantial presence in the LEAD data indicates that being born as an illegitimate child or being orphaned is not necessarily a barrier to national success.

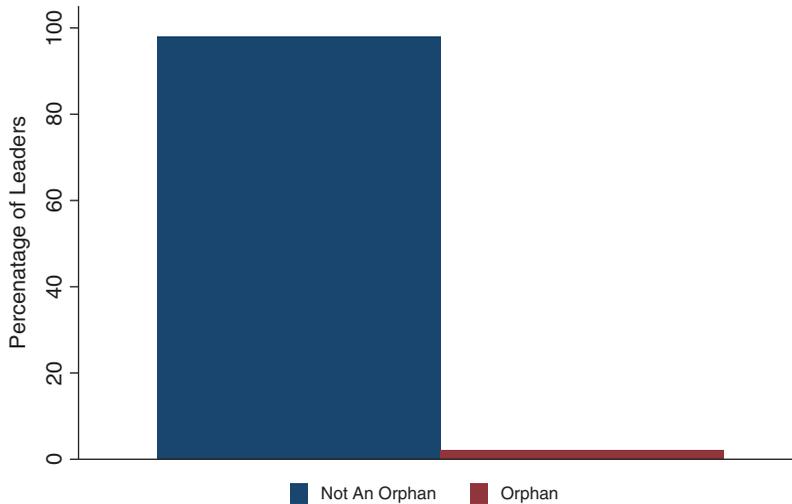


FIGURE 7 Orphans in the LEAD data set.

Family Variables in Adulthood

As an adult, family life continues to have an important effect on an individual leader's judgment and outlook. We were interested in examining family life from two perspectives. First, how does being married affect a leader's risk propensity and outlook on the world? Marriage is an important part of becoming a full-fledged adult. The emotional bonds created by marriage fulfill important emotional needs of trust and companionship and can provide a space for leaders to ponder difficult decisions outside of the spotlight of their official roles. The variables *Married*, *Married in Power*,⁷ *Divorced*, and *Spouses in Life* (ordinal) capture the presence and potential effects of the closest and most personal relationship most people have—with their spouse. For example, Rafael Nuñez, president of Colombia from 1880 to 1894, had a tragic and romantic love life that affected him politically. Nuñez apparently detested his first wife, had an affair with a married woman, and married his lifetime true love (Soledad Roman) in a civil ceremony, all of which was very scandalous and often used against him by political enemies.⁸ While most leaders—as far as we know—did not have such scandalously romantic lives, [Figure 8](#) shows that most of them were married and especially so while in office.

The second perspective we examine in the data set is how having children may affect a leader's propensity to engage in interstate violence. Having

⁷If a leader is divorced while in power, the coding for “Married in Power” would change the following year.

⁸We did not capture data on the possible extramarital affairs of leaders in the LEAD data set, though this is a potential idea for future research.

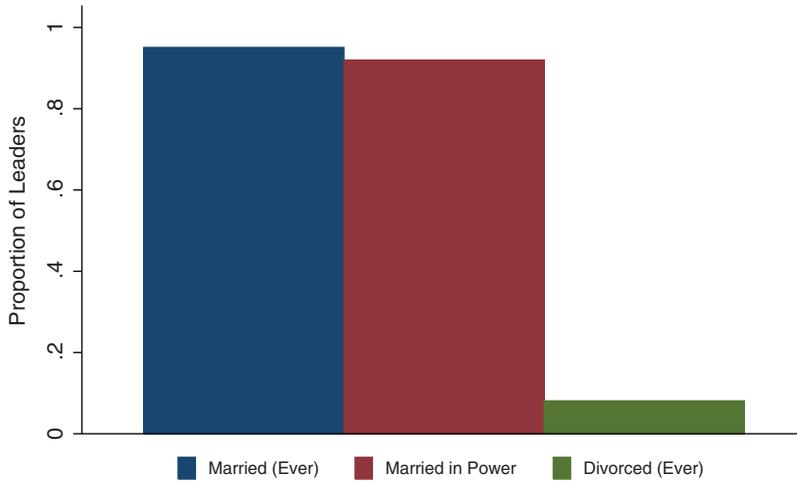


FIGURE 8 Marriage and divorce in the LEAD data set.

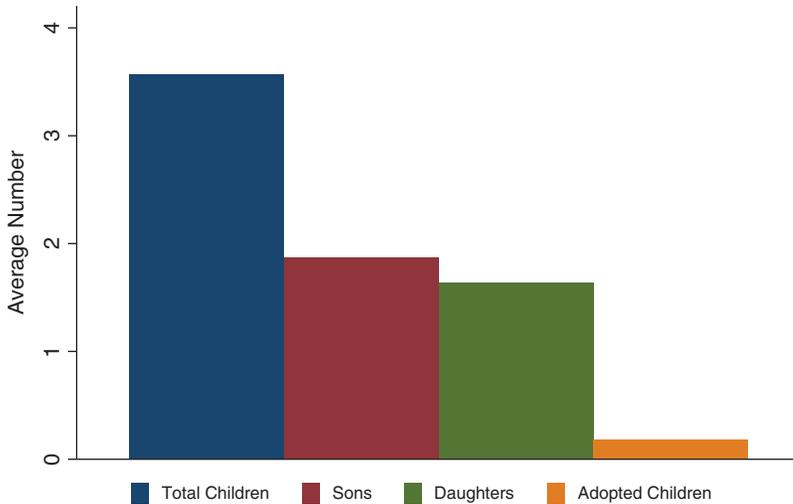


FIGURE 9 Average number of leader's children in the LEAD data set.

children may make leaders more risk averse, particularly if their children are in the military or potentially vulnerable to the effects of conflict. On the other hand, having children could make leaders more risk acceptant, particularly in autocratic regimes if they plan to hand control of the state to their offspring through dynastic succession. In this case, leaders may wish their children to inherit a larger and greater country to control. Most leaders in fact had multiple children, as indicated by Figure 9. The variables *Sons*, *Daughters*, *Adopted*, and *Children Died* are counts of the number of children of each category a leader had.

It is also possible that having daughters uniquely changes a leader's perspective (Conley and Rauscher 2010; Glynn and Sen 2015). Historically, most societies used daughters as a means of establishing bonds and alliances with other groups, clans, or states. Through marriage, daughters could ease intergroup tensions and increase the power of a state. This stands in contrast to sons, whom parents generally expected to carry on with their parent's preferred policies as heads of state and could thus be seen as threatening instead of bonding.

In modern families, parents have a different type of relationship with their daughters. One potential role of daughters is to sensitize male leaders to the particular dangers women face in war. War is particularly threatening to civilian women, who are potential victims of sexual violence in addition to other forms of war-related trauma. Leaders with daughters, then, may be more risk averse if they think that a war could threaten their female offspring.

Occupation Variables

Leaders come from all walks of life. But as Figure 10 makes clear, a larger number of national leaders come from either a life of politics or a legal background. A substantial number of leaders also had a career in the military. Teachers and activists are the next two most common professional backgrounds, while scientists, film and music artists, and interpreters are sparsely represented.

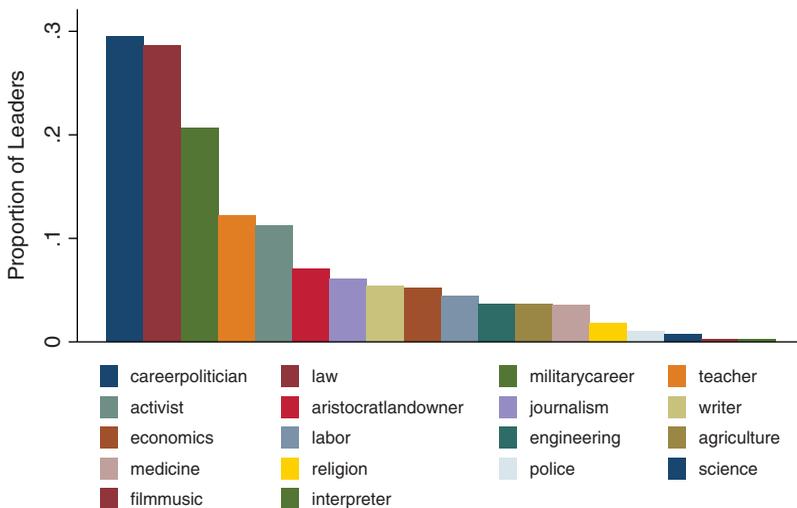


FIGURE 10 Distribution of occupations in the LEAD data set.

Political Experience Variables

The intent of the *Years of Experience* variable is to capture years as a politician where an individual is making contacts and learning about the institutional bureaucracy. To this end, experience heading agencies or divisions that would appear to be within the executive branch qualifies as “political experience.” José Linhares of Brazil, for example, was a judge for most of his career and was serving as the head of the nation’s supreme court when he was called on briefly to serve as president. However, we decided not to code judgeships in the same way, implicitly treating the judiciary as independent. Without further information on the level of judicial independence of each state and time period, it is difficult to draw additional conclusions from the effect of this experience. We believe this is a fruitful area for future research among comparative law scholars. The binary variable *Puppet*—indicating a leader with no real power—is also included in this section.

Health Variables

Adult physical health and mental health can clearly have important effects on the decision-making capabilities of a leader. Leaders such as Woodrow Wilson, who were infirm in their later years in office, can have a very difficult time implementing their preferred policy agendas. This can be even more dangerous when a leader is coping with mental health issues. José Cipriano Castro of Venezuela is only one such case from the Latin American context. According to Ewell (1984:46), “His heavy drinking, use of aphrodisiacs containing strychnine, and venereal disease aggravated infections Very possibly the physical disorders damaged his brain and contributed to the behavioral aberrations and paranoia that became more marked after 1906.” The binary variables *Adult Health* and *Mental Health* account for the observation of these conditions in a leader. *Adult Health* refers to the physical health of an adult, while *Mental Health* refers only to adult mental health. Approximately 11% of the leaders in the data set are coded as having physical impairments while in office, while just 28 unique leaders—1%—were coded with mental health issues. These are the most subjective variables in the LEAD data set, so these were coded very sparsely. Only when multiple sources, or an extremely reliable source, indicated clear mental or physical ailments, was this variable coded as a 1. Otherwise, it is 0.

Connecting LEAD to the Rest of IR Scholarship

We now provide an illustration of the use of LEAD data in conjunction with a familiar data set for IR scholars, the Polity IV data set that measures political regime type across time and space (Marshall and Jaggers 2010). The relationship between the background experiences and political regime type

is potentially important for a few reasons. First, it is not possible to truly understand leaders without focusing on the conditions under which they are selected into office—and then shape the domestic political environment around them. To give one example, while those leaders with experiences that predispose them toward aggression may be selected out of rising to power in most democratic states, due to the generally larger selectorates in democracies, in autocratic states where leaders are more often to rise to power through coups and revolutions, leaders with more aggressive tendencies may be much more likely to rise to power.

Second, prior research suggests that the attributes of leaders may directly interact with regime type. More educated leaders, for example, are more likely to promote domestic political change toward democracy (Besley and Reynol-Querol 2011). There is also the possibility, of course, that democracies are more likely to select more educated leaders. Moreover, while older leaders are more likely to start disputes in most types of political regimes, in extreme autocracies, the relationship reverses and younger leaders—potentially due to the lower constraints on leader action—become more likely to initiate militarized disputes (Horowitz et al. 2005).

It is also possible that there is a relationship between domestic political regime type and the national military experiences or prior rebel experiences of heads of state. To test this, we standardized the military experience variables described earlier by subtracting the mean, by the Polity score of the country in which the leader was in power, and dividing by the standard deviation of each variable. The results clearly show some important linkages between military experience and regime type, as shown in Figure 11.

On the far left side Figure 11 are autocratic states, and on the right are liberal democracies. With the exception of the small number of states

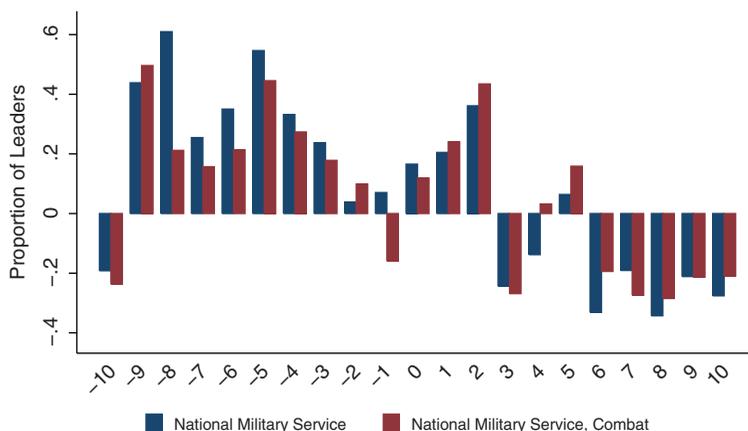


FIGURE 11 Leaders with regular military and combat experience by polity score. Bars represent the proportion of leaders for each Polity IV score with military and combat backgrounds. Variables standardized.

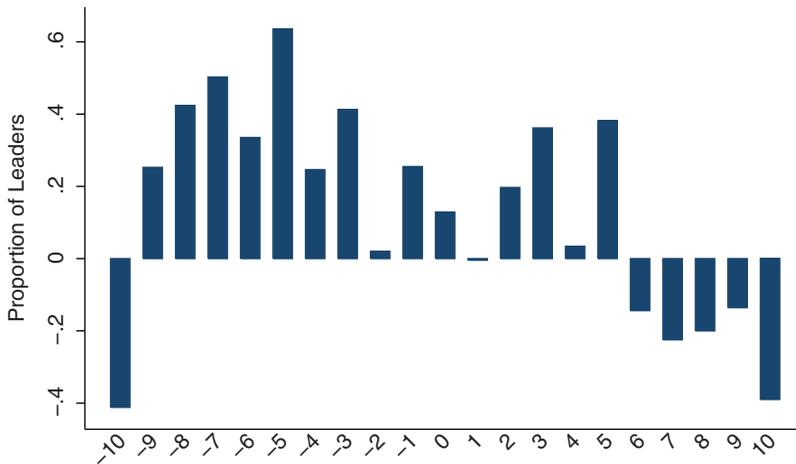


FIGURE 12 Leaders with rebel experience by polity score. Bars represent the proportion of leaders for each Polity IV score with rebel experience. Variables standardized.

scoring -10 on the Polity measure (which includes, for example, many of the pre-Imperial Germanic duchies and preunification Italian city-states of the early nineteenth century as well as modern Saudi Arabia, Bhutan, and Qatar), states with negative Polity scores much more frequently have leaders with both military and combat backgrounds. Modern democracies, scoring between 6 and 10 on the scale, have below-average rates of selection of leaders with military and combat experiences.⁹

The relationship between prior rebel experience and rebel type provides even more evidence that an interaction may exist between regime type and prior life experiences. Figure 12 shows that the same pattern exists for leaders with prior rebel experience as exists for those with national military experience. Leaders with prior rebel experience are systematically less likely to come to power in democracies. This makes sense, given that democracies are less likely to face rebellions in general. In addition, those democratic leaders with prior rebel experience who show up in the data set disproportionately come from countries who faced occupations in World War II. For more than a generation, the leaders most likely to come to power in European states—both Western and Eastern—participated in rebel movements in their home countries against Nazi or other occupations in World War II. This suggests the necessity of taking into account regime type when studying leader experiences and vice versa.

⁹This is especially interesting because it suggests some potential validity to the selection story described previously—that autocratic leaders are more likely to select for leaders who react to their experiences by becoming more aggressive.

This is just one indication of the potential utility of the LEAD data to modern scholars of conflict and IR.

CONCLUSION

This article introduces the LEAD data set, a new data set with information on the military, education, occupational, and family backgrounds of heads of state around the world from 1875–2004. While research in international politics on leaders has expanded in recent years, much of it focuses on how domestic political constraints and other institutions shape the decision making of leaders. In this type of research, the leader herself does not play a vital role—it is assumed that any leader in a given situation would behave the same way. Yet there are reasons to assume that leaders matter. Whether it is nature-based explanations derived from biology and neuroscience, or nurture-based explanations derived from psychology, there are reasons to think that individuals are not simply objects whose behavior is fully determined by the external environment.

The LEAD data set provides IR scholars with a unique opportunity to take leaders, as potential individual actors, seriously as potential drivers of state behavior. It focuses specifically on nurture-derived explanations for leader behavior by providing new sources of evidence on the particular experiences that leaders have before they enter office. In this way, the LEAD data could become one critical mechanism for connecting the findings of psychology to large-*N* scholarship on international conflict.

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