



"The Long-Term Effect of Military Conscription on Personality and Beliefs"

Por Gabriela Ertola Navajas (Universidad de San Andrés), Paula López Villalba
(Universidad de San Andrés), Martín Rossi (Universidad de San Andrés) y
Antonia Vázquez (Universidad de San Andrés).

D.T.: N° 132

Abril 2020

Vito Dumas 284, B1644BID, Victoria, San Fernando, Buenos Aires, Argentina
Teléfono 4725-7020, Fax 4725-7010
Email: economia@udesa.edu.ar

The Long-Term Effect of Military Conscription on Personality and Beliefs*

Gabriela Ertola Navajas
Universidad de San Andrés

Paula A. López Villalba
Universidad de San Andrés

Martín A. Rossi
Universidad de San Andrés

Antonia Vazquez
Universidad de San Andrés

Abstract

We estimate the causal impact of military conscription on long-term beliefs and personality traits. To address potential endogeneity concerns we exploit the conscription lottery in Argentina. We combine administrative data from the conscription lottery with data from a survey we designed on beliefs and personality traits. We find that men who were conscripted are more likely to adopt a military mindset and that the effect is long lasting. Given the large number of people who go through military conscription, our results are useful for understanding how personality traits and beliefs are formed for a very salient part of world's population.

Keywords: personality traits, impressionable years, military service.

JEL classification: K42.

* Gabriela Ertola Navajas (gertolanavajas@udesa.edu.ar), Paula A. López Villalba (plopez@udesa.edu.ar), Martín A. Rossi (mrossi@udesa.edu.ar), and Antonia Vazquez (vazqueza@udesa.edu.ar) are at the Department of Economics, Universidad de San Andrés. Antonia Vazquez is also a 2019-20 Fox International Fellow at Yale University. We are grateful to Sebastián Galiani and Ernesto Schargrodsky for sharing with us the administrative database on the military conscription lottery in Argentina. We acknowledge the invaluable help from Philip Brooke. We gratefully acknowledge financial support from the Fox International Fellowship at Yale University. We thank Guillermo Cruces, Ernesto Dal Bó, Martín Fiszbein, Sebastián Fleitas, Lorena Moscovich, Tommy Murphy, Joaquín Navajas, Lorena Pompilio, Mounu Prem, Christian Ruzzier, Guillermo Solovey, and David Yang for useful comments and suggestions. Seminar audiences in Harvard, LACEA-BRAIN, Universidad de San Andrés, University of Miami, Yale University, and LACEA provided very helpful feedback. Social Science Registry AEARCTR-0003305.

I. Introduction

We provide empirical evidence on the causal impact of military conscription on subsequent personality and beliefs. To identify the causal relationship, we need a variable that affects being conscripted but does not affect personality traits and beliefs through any other mechanisms. For almost all the 20th century, the draft lottery in Argentina randomly assigned young males to military conscription based on the last three numbers of their national ID. For reasons totally unrelated to their personality or beliefs, some men were eligible for military conscription whereas others were not. This makes the draft lottery in Argentina an ideal natural experiment to identify the causal relationship.

We use administrative data on draft eligibility and survey data on beliefs and personality traits for a sample of 1,133 Argentine males born between 1958 and 1976. Males in these cohorts were potentially eligible to serve (at age 18) in the period 1976 to 1994, and thus our survey allows us to address the long-term effects of military conscription. Our main finding is that men who were conscripted are more likely to adopt a military mindset and that the effect is long lasting. In particular, we find that men who were conscripted are more likely to justify violence to solve conflicts, to believe that military service should be mandatory, to support coups against civilian governments, to accept military interventions in foreign countries, and to support the right to bear arms. In addition, men who were conscripted are less tolerant, more disciplined, more politically conservative, more authoritarian, and more belligerent.

Military conscription is one of the most prevalent policies observed worldwide, typically affecting men at a very young age. Given the large number of people who go through military conscription during their formative years, our results are useful for understanding how personality traits and beliefs are formed for a very salient part of the population.

Our paper pieces together multiple bodies of literature. Various authors have studied the impact of military conscription on a wide set of outcomes, including criminal behavior (Galiani, Rossi, and Schargrotsky 2011; Siminski, Ville, and Paull 2016; Albaek et al. 2017; Lyk-Jensen 2018) and labor market outcomes (Paloyo 2010; Grenet, Hart, and Roberts 2011; Bauer et al. 2012; Card and Cardoso 2012). In particular, Galiani, Rossi, and Schargrotsky (2011) exploit the same natural experiment and find that military conscription increases the likelihood of developing a criminal record during adulthood. Our results could be capturing some personal features that, in more extreme forms and for a smaller proportion of individuals, may also be expressed as involvement in criminal activities.

There is also a literature -starting with Angrist (1990)- that exploits the Vietnam-era draft lottery to identify the causal impact of combat exposure on many outcomes. This includes future earnings (Angrist, 1990; Angrist and Chen 2007), alcohol consumption (Goldberg et al., 1991), cigarette consumption (Eisenberg and Rowe 2009), health (Angrist, Chen, and Frandsen 2010; Dobkin and Shabini, 2009; Autor, Duggan, and Lyle 2011), mortality (Conley and Heerwig 2012), and criminal behavior (Bouffard 2003; Rohlfs 2010). Some studies correlate combat exposure with increased political participation (Blattman 2009), greater volunteerism (Nesbit and Reigbold 2011), and higher voter turnout (Teigen 2006). Grossman, Manekin, and Miodownik (2015) use the assignment of health rankings determining combat eligibility in the Israel Defense Forces to study the causal effect of combat exposure on support for peaceful conflict resolution. They report that combat exposure hardens attitudes toward the rival and reduces support for negotiation. Combat exposure or serving in the military during wartime may be, however, a very different intervention compared to peacetime conscription.

Our findings tie in with the specialized literature on the characteristics of the military and its culture. This literature focuses on the connection between military service and pro-military

values, commonly comparing individuals who are in (or planning to pursue) a military career against individuals who are not. In an early contribution, Goertzel and Hengst (1971) compare Army Reserve Officers' Training Corps (ROTC) cadets with undergraduate students. They find that even though Army cadets do not differ considerably from undergraduate students in the context of background variables, they score higher on personality scales measuring authoritarianism, misanthropy, intolerance, aggressive nationalism, political-economic conservatism, and belief in imperialism. More recently, Jackson et al. (2012) show a positive correlation between personality traits and the decision to enter the military. People who score lower in agreeableness and who are less open to new experiences during high school are more likely to enter the military after graduation.

In two related papers, Stadelmann, Portmann, and Eichenberger (2015, 2018) study the link between serving in the military and the voting behavior of Swiss parliamentarians. They show that politicians who served in the military have a higher probability of accepting pro-military legislative proposals. Benmelech and Frydman (2015) analyze the relationship between military service of CEOs and managerial decisions, financial policies, and corporate outcomes. They find that firms run by military CEOs invest less, have lower expenditures on research and development (R&D), and pursue slightly lower leverage ratios than the nonmilitary peers. These findings suggest an association between military CEOs and more conservative investments and financial policies. An obvious drawback of these studies is that people self-select into military service. In this paper, we avoid selection problems by exploiting a well-documented random assignment. To the best of our knowledge, our paper represents the first effort to identify the causal effect of military conscription on personality traits and beliefs.

There is also a literature on the effects of military service on behavior and social awareness. In the context of the military in Norway, Dahl, Kotsadam, and Rooth (2018) study whether

exposure of men to women in a traditionally male-dominated environment can change gender attitudes. They find that male soldiers adopt more egalitarian attitudes when randomly assigned to work with female soldiers. Carrell, Hoekstra, and West (2019) exploit data from the U.S. Air Force Academy where students are randomly assigned to autonomous peer groups. They find that white Air Force cadets are more likely to choose black roommates when their randomly assigned freshman roommate was also black.

Finally, our paper also relates to a relatively new literature that looks at the impacts of events that occur during impressionable years. Giuliano and Spilimbergo (2014) find that macroeconomic conditions experienced during early adulthood have an effect on life-long beliefs. Individuals who grow up during recessions tend to support more government redistribution, have less confidence in public institutions, and believe that success in life depends more on luck than on effort. This effect is higher when individuals are exposed to the shock between the ages of 18 and 25. Malmendier, Tate, and Yan (2011) find that CEOs' past experiences are related to how they make corporate financing decisions. They focus on CEOs who grew up in the Great Depression and served in the military, two events that took place in early adulthood. They find that CEOs who grew up in the Great Depression are averse to debt and lean excessively on internal finance. They also find, in contrast to Benmelech and Frydman (2015), that CEOs with military experience choose more aggressive or risk-taking capital structures with significantly higher market leverage ratios. More recently, Cantoni et al. (2017) exploit a major textbook reform in China between 2004 and 2010 to study the causal effect of school curricula on students' political attitudes. They find that students exposed to the new curriculum see their mindset changed in the direction intended by the Chinese government.

II. Military conscription and the military culture

Military conscription is the mandatory enlistment in a country's armed forces. The origins of military conscription date back thousands of years to ancient Mesopotamia. Babylonian kingdoms employed a system of conscription called "ilkum," in which laborers owed military service to royal officials for the right to own land. The first universal mass conscription of young men regardless of social class took place in France during the French Revolution. After the French monarchy was overthrown in 1789, the French needed a bigger army, so in 1793 the French government conscripted all unmarried and able-bodied men between the ages of 18 and 25.

Today, 35 percent of nations around the world have military conscription.¹ Most commonly, men are conscripted at age 18 for a period between four and 32 months.² During this period, young men are exposed to military training and to the military culture. In general, military training involves tasks intended to deconstruct their civilian status. Subsequently, having become receptive to new values, recruits are intensively exposed to the norms, authority relations, and disciplinary codes of the military organization, which are elucidated by senior members of the military (Soeters, Winslow, and Weibull 2006).

Military culture

The military has a specific form of institutional culture, where culture is defined as the values, norms, and assumptions that guide human action (Wilson 2008). Military culture has a language, a code of manners, norms of behavior, belief systems, a dress code, and rituals, and many of its tenets are defined by law (Meyer, Writer, and Brim 2016).

¹ Some countries have recently reintroduced military conscription (for example, Sweden and Lithuania), and many countries that currently do not have military conscription are evaluating its reintroduction (for example, France, Germany, and Italy). Retrieved from <https://qz.com/1318379/france-joins-sweden-and-lithuania-in-bringing-back-mandatory-national-service/amp>.

² Only a few countries also conscript women. For example, China, North Korea, Israel, Eritrea, Taiwan, Malaysia, Libya, and Peru conscript both men and women.

There is a specialized literature that analyzes the codes and characteristics of military organizations. Lang (1965) points to various characteristics unique to the military. First, the uniform is worn inside and outside the organization. This relates to the degree to which the military organization controls various aspects and stages of personal life, much more than ordinary organizations. Second, there is a heavy emphasis on hierarchy, which may lead to a certain authoritarian ideology. Third, there is a chain of command establishing a downward flow of directives, thereby introducing discipline and control. Jobs in the military can be dangerous, and for this reason, military personnel are usually armed. If necessary, the military can make use of legitimized violence (Soeters, Winslow, and Weibull 2006), potentially making military members more prone to violence themselves.

The characteristics of military organizations relate to the individual characteristics of its members. A number of studies describe the military as being above average in authoritarianism, conservatism, aggressiveness, and traditionalism (Bachman, Sigelman, and Diamond 1987, Holsti 1998/99, Goertzel and Hengst 1971).

Soeters (1997) studies military culture among thirty countries and finds that, despite occasional national differences, an international military culture also exists. In addition, Meyer, Writer, and Brim (2016) conclude that an extended exposure to the military is not necessary to absorb military culture and norms. These two factors are important for the external validity of our findings, because they suggest that our results from Argentina are likely to be valid in other countries and contexts as well, independent of the specific type of instruction and the period over which conscripts are exposed to military service.

III. Military conscription in Argentina

Military conscription in Argentina was mandatory between 1901 and 1994. The length of service was a minimum of one year in both the Army and the Air Force and up to two years in

the case of the Navy. These services began with a three-month instruction period where recruits learned military norms and military training. Following the initial training, conscripts were allocated to a military unit to perform a specific duty, which not necessarily involved military tasks.³

From 1901 to 1976, males were conscripted at the age of 21; later, this was modified to age 18. The cohort born in 1955 was the last to serve at age 21, and the cohort born in 1958 was the first to serve at age 18.⁴ The cohort born in 1976 faced the draft lottery but was not drafted, as military conscription was abolished in December 1994. Our analysis focuses on all cohorts that served at age 18, that is, on cohorts born between 1958 and 1975.

The eligibility of young males for military service was randomly determined, using the last three digits of their national IDs. Each year, a lottery assigned a number between one and 1,000 to each combination of the last three ID digits. The random assignment was conducted in a public session administered by the National Lottery. Results were broadcasted over the radio and published in major newspapers.

Following the lottery, individuals were called to have mental and physical examinations. Later on, the government announced a cut-off number. Individuals whose ID number had been assigned a lottery number higher than the cut-off (and who had also passed the mental and physical examinations) were mandatorily called to military conscription.⁵

IV. Data and the survey

³ For more details on military conscription in Argentina, see Rodriguez Molas (1983) and Galiani, Rossi, and Schargrodsky (2011).

⁴ Because of this change, the cohorts born in 1956 and 1957 were not called to military conscription.

⁵ Those individuals whose ID number was below the cut-off could be conscripted as volunteers, though the number of volunteers was not high (approximately 4%). Exemption was granted to clerics, seminarians, novitiates, and any individual with family members dependent upon him for support. Deferment to finish high school or attend college was granted up to a maximum of ten years until the completion of studies. Deferment was also granted without a particular reason for a maximum of two years. In all cases, the lottery numbers and cut-offs used to decide eligibility were those of their specific cohort.

We measure personality traits and beliefs using a web-based survey we conducted in November 2018.⁶ We sent an e-mail invitation to participate in the survey to an email list of approximately 19,000 Argentinian males born between 1958 and 1976. We received 1,133 completed surveys.

The call to answer the survey did not mention military conscription.⁷ To encourage participation in the survey, participants were included in a raffle for smartphones. Participants entered the raffle with their last three ID digits. Asking for the last three ID digits to participate in raffles is a common practice in Argentina, so there is no reason to expect participants would associate the request of the last three ID digits with military conscription. One of the participants was awarded with a Samsung smartphone.

Survey questions

Our survey measures five personality traits and five specific beliefs related to the military culture.

The personality traits are tolerance, discipline, authoritarianism, conservatism, and belligerence, and they are measured using scales from the International Personality Item Pool (Goldberg 1999; Goldberg et al. 2006).⁸ Each scale consists of a set of statements. The respondents indicate how much they agree or disagree with each item on a five-point scale where one is “Totally disagree” and five is “Totally agree.” Following the literature, for each scale, we grouped the answers to obtain a single value.⁹

The specific beliefs are right to bear arms, justification of the use of violence to solve conflicts, justification of intervention of foreign countries, need for having a mandatory military

⁶ The English version of the survey is presented in the online appendix (Table A1).

⁷ The English version of the recruitment e-mail is presented in the online appendix.

⁸ International Personality Item Pool: A Scientific Collaboratory for the Development of Advanced Measures of Personality Traits and Other Individual Differences (<http://ipip.ori.org/>).

⁹ Tolerance (Cloninger et al. 1994), discipline (Conn and Rieke 1994), authoritarianism (Simms et al. 2011), conservatism and belligerence (Tellegen 1995/2003).

conscription, and justification for coups against democratically elected governments, and are measured by using statements we wrote for this purpose. The respondents indicate how much they agree or disagree with each statement on a five-point scale where one is “Totally disagree” and five is “Totally agree.” To analyze specific beliefs, we generate a dummy variable that takes the value of one if the person agrees or totally agrees with the statement, and zero otherwise.

From the survey, we also obtained self-reported information on the last three ID digits, year of birth, military conscription status, and pre-treatment characteristics (birth district, parents’ education, parents’ nationality, father’s military conscription status).

Using the self-reported last three ID digits, year of birth, the lottery draft results, and the cut-off numbers by cohort, we define the dummy variable *Draft Eligible*, which takes the value of one for men whose last three ID digits obtained a lottery draft number above the cut-off, and zero otherwise.¹⁰ We also construct the treatment variable *Conscription*, which takes the value of one for men who report being conscripted, and zero otherwise.

Interpretation of survey responses

The survey was conducted privately (online), so there is less reason to expect social stigma attached to particular responses or any changes in answers due to cues about what constitutes appropriate behavior (the so-called experimenter demand effect). In addition, for all outcomes and in each treatment assignment, we found responses in the full range, from one to five, and in every case, the modal response was provided by no more than 60 percent of men. This indicates that responses were not concentrated around a single “acceptable” response.

The response rate to our survey, six percent, is lower than is typically seen in surveys using alternative methods (Shih and Fan 2008). A natural concern in this context is potential selection into the sample. If selection into the sample were non-random, our estimated treatment effects

¹⁰ We obtained draft lottery results and cutoff numbers from Galiani, Rossi, and Schargrodsky (2011).

could be biased. For non-random selection into our sample to threaten the internal validity of our estimates, the selection would need to be differential by draft-eligibility status. We test for differential selection into the survey by draft-eligibility status in three ways.

First, we check whether the proportion of draft eligible men in our sample is similar to the population proportion. In the population, the average proportion of draft eligible men for the cohorts 1958 to 1975 is equal to 0.477. In our sample, the average proportion of draft eligible men for these cohorts is equal to 0.487. The difference between the two proportions is statistically indistinguishable from zero. In Table 1, we report population and sample proportions, by cohort. For 16 out of 18 cohorts, the difference between population and sample proportions of draft eligible men is statistically indistinguishable from zero.¹¹

Second, we check whether the distribution of the last three ID digits in our sample is similar to the population (uniform) distribution. We first display the sample distribution of the last three ID digits, grouping the last three ID digits in bins of 100 consecutive numbers (10 bins of 100 numbers each). As shown in Figure 1, the sample distribution of the last three ID digits looks like a uniform distribution. We then run a Chi-square test on the frequencies using the original (ungrouped) data, and we cannot reject the hypothesis that the sample distribution of the last three ID digits was drawn from a uniform distribution.

Third, even though eligibility to be conscripted was randomly determined, we examine whether individuals' pre-treatment characteristics are balanced across the draft-eligible and the draft-exempted groups within our sample. Table 2 reports differences, by draft-eligibility status, in parents' education, parents' nationality, and whether his father was conscripted. These

¹¹ In the online appendix, we compare pre-treatment parents' nationality (Table A2), pre-treatment education (Figure A1), and pre-treatment district of origin (Table A3) between our sample and the population (cohorts 1958 to 1975). The differences between population and sample proportions in parents' nationality are statistically indistinguishable from zero. The distribution of education is different between our sample and the population (the population with low education is under-represented in our sample). Finally, for 12 out of 22 pre-treatment districts of origin, the differences between population and sample proportions are statistically indistinguishable from zero.

variables are all the pre-treatment characteristics available. For most of these pre-treatment characteristics there are no statistically significant differences between the draft-eligible and the draft-exempted groups.¹²

Since (i) population and sample proportions of draft eligible men are statistically indistinguishable, (ii) the sample distribution of the last three ID digits is statistically not different from the population (uniform) distribution, and (iii) pre-treatment characteristics are balanced within our sample, we conclude the results reported below are not subject to significant selection bias.

V. Econometric methods and results

We examine the causal effect of military conscription on beliefs and personality traits in a regression framework. Formally, we want to estimate the following equation:

$$Y_{ic} = \beta + \alpha \text{Conscription}_{ic} + \delta_c + \varepsilon_{ic} \quad (1)$$

where Y_{ic} are outcomes for individual i from birth cohort c , *Conscription* is a dummy variable that takes the value of one for those individuals who actually were conscripted, δ_c is a cohort fixed effect, and ε_{ic} is an error term. The coefficient of interest is α . We expect α to be negative in the equation for *Tolerance*, and positive for all other outcomes. In all estimates, we cluster standard errors at the ID-cohort level.

Since military conscription is potentially endogenous in a model of beliefs and personality traits, we estimate equation (1) by Two Stage Least Squares (2SLS), where we use *Draft Eligible* as an instrument for *Conscription*. The 2SLS estimator recovers the average treatment effect for draft-lottery compliers, that is, for those who were conscripted because they were assigned a high lottery number but would not have been conscripted otherwise. Thus, 2SLS estimates do not

¹² Table A4 in the online appendix reports differences, by draft-eligibility status, in birth district. Again, in most cases there are no statistically significant differences between the draft-eligible and the draft-exempted groups.

need to generalize to the population of volunteers or to the population of young men who under no circumstances would have passed the pre-induction medical examination.

In order to draw general conclusions in a context of multiple outcomes, we construct an index of personality traits that aggregates the five personality trait measures, and an index of beliefs that aggregates the five belief measures. Each index is the equally weighted average of the z-scores of its components (see Kling, Liebman, and Katz 2007). The z-scores are levels standardized using the mean and standard deviation for the draft-exempted group. For the two indices, a higher z-score is associated to being closer to a military mindset. In addition to examining the effect of military conscription on broad indices, when we examine individual metrics, we address concerns about multiple hypotheses testing by presenting p-values that are adjusted using the false discovery rate procedure (Benjamini, Krieger, and Yekutieli 2006).

Columns (1) and (2) in Table 3 report first-stage estimates for the pooled sample of the 18 cohorts available, without and with controls. The point estimate of the coefficient on *Draft Eligible* in the pooled sample indicates that the probability of being conscripted is almost 40 percentage points higher for men in the draft-eligible group than for those in the draft-ineligible group. All first-stage effects are precisely estimated and significantly different from zero.

Columns (3) to (6) in Table 3 report 2SLS estimates of equation (1), without and with controls.¹³ There is a robust positive effect of military conscription on the indices of personality traits and beliefs. All coefficients in the 2SLS regressions are positive and statistically significant at the 1% level, indicating that being conscripted significantly moves beliefs and personality traits closer to a military mindset.¹⁴

¹³ Table A5 in the online appendix reports Ordinary Least Squares (OLS) estimates of equation (1) for both the index of personality traits and the index of beliefs. Results without and with controls indicate that men who were conscripted have personality traits and beliefs that are more in line with the ones observed in military culture.

¹⁴ Results are robust to excluding one cohort at a time (see Figure A2 in the online appendix).

To determine whether the effects are wide-ranging or concentrated in just one or two outcomes, we estimate and report the effects on each separate metric, without and with controls, in Table 4. The effect on personality and beliefs of being conscripted appears quite general. For all 10 metrics, the point estimates have the expected signs, and 6 of them are statistically significant.¹⁵

The size differences among personality traits are important. Focusing on mean effects without controls, we see from Table 4 that tolerance is 5.4 percentage points lower (or 7.3% relative to the mean of the draft ineligible group) for those who were conscripted. Conservatism is 3.5 percentage points higher (5.5%) for those being conscripted, and the probability of having a violent personality goes up by 4.4 percentage points (9.6%).

The differences in beliefs are even more important. Being conscripted significantly increases the probability of accepting coups by 18.3 percentage points (280%), and the probability of supporting the right to bear arms by 14.6 percentage points (90%). These are nontrivial effects. Lastly, military conscription appears as a self-perpetuating institution: the probability of being in favor of military conscription is 17 percentage points higher (39%) for those who were conscripted.

The 2SLS estimates are larger than the OLS ones. A plausible interpretation to this finding is that compliers are likely to be more prone to be influenced by military conscription than always-takers (i.e., volunteers) or never-takers (who find their way out if they are draft eligible).

Overall, our results indicate that military conscription has long-lasting effects on both beliefs and personality traits. Men who were conscripted are less tolerant, more disciplined, more politically conservative, more authoritarian, and more belligerent. In addition, they are more likely to justify violence to solve conflicts, believe that military service should be mandatory,

¹⁵ Table A6 in the online appendix reports reduced-form estimates, without and with controls.

support coups against civilian governments, accept military interventions in foreign countries, and support the right to bear arms. The effect of military conscription on specific beliefs is stronger than its effects on personality traits. Nevertheless, the effect on personality traits is substantive and statistically significant.

Even though our study relies on well-documented randomization, we try a placebo experiment to further test the exogeneity of our instrument. To do so, we take advantage of the fact that the cohort of 1976 faced the lottery but was not ultimately drafted.¹⁶ We create a fake cut-off number for this cohort using the cut-off number for the 1975 cohort. We then compare outcomes for those with high and low numbers, and we find no differences between the two groups: the coefficient on the fake dummy for being draft-eligible is statistically not significant for all outcomes (see Table A7 in the online appendix), and most of the coefficients are small and have the opposite sign. This placebo exercise also addresses the potential concern that the outcome of the lottery could have a direct effect on personality traits and beliefs through mechanisms other than military conscription.

Finally, we explore differential effects of military conscription for (i) those who were conscripted in the Navy (and thus did two years of service, rather than one year for the Army and the Air Force), (ii) those who were conscripted during the Malvinas War (cohorts 1962 and 1963), and (iii) those who were conscripted during military dictatorship (7 cohorts served during military dictatorship and 11 cohorts during democracy). In all cases, the estimated differential effects are statistically not significant (see Table A8 in the online appendix).

VI. Conclusions and discussion

¹⁶ The lottery for the cohort born in 1976 took place on May 27, 1994, but military conscription was abolished in December 1994.

Military conscription is one of the most prevalent policies around the world. Until now, however, there was no clear evidence on the causal effect of military conscription on individual's mindset. Our paper provides novel evidence on the role military conscription has on shaping men's beliefs and personality traits.

Our empirical strategy combines administrative data on the military conscription lottery in Argentina with data from a survey on beliefs and personality traits. We find strong evidence that men who were conscripted are more likely to have mindsets in line with the ones observed in military culture. The magnitudes of the estimated effects are both statistically significant and quite large.

Our paper contributes to current policy discussions on the costs and benefits of reintroducing military conscription. This is important since some countries (mainly European countries such as Sweden and Lithuania) have recently reintroduced military conscription, and many other countries (such as Italy, Romania, France, and Germany) are currently discussing bringing back some kind of military conscription.¹⁷ Our paper contributes to these policy discussions by providing empirical evidence that military conscription, in addition to producing men who can serve in the military, has the incidental effect of producing men who adopt a military mindset. Of course, Argentina's experiences with military rule in recent past might affect the extent to which our results can be generalized to different settings.

To conclude, our paper highlights the important role of military conscription on shaping values and beliefs. Our natural experiment, however, does not identify the mechanisms through which military conscription affects personality traits and beliefs.

¹⁷ Retrieved from https://www.washingtonpost.com/world/2018/10/19/military-draft-is-making-comeback-europe/?noredirect=on&utm_term=.a522c4488da0.

References

- Albaek, Karsten, Søren Leth-Petersen, Daniel le Maire, and Torben Tranæs (2017). “Does Peacetime Military Service Affect Crime?” *Scandinavian Journal of Economics* 119 (3), 512-540.
- Angrist, Joshua (1990). “Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records.” *American Economic Review* 80 (3), 313-336.
- Angrist, Joshua and Stacey Chen (2007). “Long-Term Consequences of Vietnam-Era Conscription: Schooling, Experience, and Earnings.” NBER Working Paper No. 13411.
- Angrist, Joshua, Stacey Chen, and Brigham Frandsen (2010). “Did Vietnam Veterans Get Sicker in the 1990s? The Complicated Effects of Military Service on Self-Reported Health.” *Journal of Public Economics* 94 (11-12), 824-837.
- Autor, David H., Mark G. Duggan, and David S. Lyle (2011). “Battle Scars? The Puzzling Decline in Employment and Rise in Disability Receipt among Vietnam Era Veterans.” *American Economic Review* 101 (3), 339-44.
- Bachman, Jerald G., Lee Sigelman, and Greg Diamond (1987). “Self-selection, Socialization, and Distinctive Military Values: Attitudes of High School Seniors”. *Armed Forces & Society* 13 (2), 169-187.
- Bauer, Thomas K., Stefan Bender, Alfredo R. Paloyo, and Christoph M. Schmidt (2012). “Evaluating the Labor Market Effects of Compulsory Military Service.” *European Economic Review* 56 (40), 814-829.
- Benjamini, Yoav, Abba Krieger, and Daniel Yekutieli (2006). “Adaptive linear step-up procedures that control the false discovery rate.” *Biometrika* 93, 491-507.
- Benmelech, Efraim and Carola Frydman (2015). “Military CEOs.” *Journal of Financial Economics* 117, 43-59.

Blattman, Christopher (2009). "From Violence to Voting: War and Political Participation in Uganda." *American Political Science Review* 103 (2), 231-247.

Bouffard, Leana (2003). "Examining the Relationship between Military Service and Criminal Behavior during the Vietnam Era." *Criminology* 41 (2), 491-510.

Cantoni, Davide, Yuyu Chen, David Yang, Noam Yuchtman, and Y. Jane Zhang (2017). "Curriculum and Ideology." *Journal of Political Economy* 125 (2), 338-392.

Card, David and Rute Cardoso (2012). "Can Compulsory Military Service Raise Civilian Wages? Evidence from the Peacetime Draft in Portugal." *American Economic Journal: Applied Economics*, 4 (4), 57-93.

Carrell, Scott, Mark Hoekstra, and James West (2019). "The Impact of College Diversity on Behavior toward Minorities." *American Economic Journal: Economic Policy*, 11 (4), 159-182.

Cloninger, C. Robert, Thomas Przybeck, Dragan Svrakic, and Richard Wetzel (1994). "The Temperament and Character Inventory (TCI): A guide to its development and use." St. Louis, MO: Center for Psychobiology of Personality, Washington University.

Conley, Dalton and Jennifer Heerwig (2012). "The Long-Term Effects of Military Conscription on Mortality: Estimates from the Vietnam-era Draft Lottery." *Demography* 49, 841-855.

Conn, Steven and Mark Rieke (1994). "The 16PF fifth edition technical manual." Champaign, IL: Institute for Personality and Ability Testing.

Dahl, Gordon, Andreas Kotsadam, and Dan-Olof Rooth (2018). "Does Integration Change Gender Attitudes? The Effect of Randomly Assigning Women to Traditionally Male Teams." NBER Working Paper No. 24351.

Dobkin, Carlos and Reza Shabini (2009). "The Long Term Health Effects of Military Service: Evidence from the National Health Interview Survey and the Vietnam Era Draft Lottery." *Economic Inquiry* 47 (1), 69-80.

Eisenberg, Daniel and Brian Rowe (2009). "Effects of Smoking in Young Adulthood on Smoking Later in Life: Evidence from the Vietnam Era Lottery." *Forum for Health Economics & Policy* 12 (2), article 4.

Galiani, Sebastian, Martín A. Rossi, and Ernesto Schargrotsky (2011). "Conscription and Crime: Evidence from the Argentine Draft Lottery." *American Economic Journal: Applied Economics* 3 (April), 119-136.

Giuliano, Paola and Antonio Spilimbergo (2014). "Growing up in a Recession." *Review of Economic Studies* 81 (2), 787-817.

Goertzel, Ted and Acco Hengst (1971). "The Military Socialization of University Students." *Social Problems* 19 (2), 258-267.

Goldberg, Jack, Margaret Richards, Robert Anderson, and Miriam Rodin (1991). "Alcohol Consumption in Men Exposed to the Military Draft Lottery: A Natural Experiment." *Journal of Substance Abuse* 3, 307-313.

Goldberg, Lewis (1999). "A broad-bandwidth, public domain, personality inventory measuring the lower-level facets of several five-factor models." In I. Mervielde, I. Deary, F. De Fruyt, and F. Ostendorf (Eds.), *Personality Psychology in Europe* 7 (7-28). Tilburg, The Netherlands: Tilburg University Press.

Goldberg, Lewis, John Johnson, Herbert Eber, Robert Hogan, Michael Ashton, C. Robert Cloninger, and Harrison Gough (2006). "The International Personality Item Pool and the future of public-domain personality measures." *Journal of Research in Personality* 40, 84-96.

Grenet, Julien, Robert A. Hart, and J. Elizabeth Roberts (2011). "Above and Beyond the Call: Long-Term Real Earnings Effects of British Male Military Conscription in the Post-War Years." *Labour Economics* 18 (2), 194-204.

Grossman, Guy, Devorah Manekin, and Dan Miodownik (2015). "The Political Legacies of Combat: Attitudes Toward War and Peace Among Israeli Ex-Combatants." *International Organization* 69 (4), 981-1009.

Holsti, Ole R. (1998/99). "A Widening Gap between the U.S. Military and Civilian Society? Some Evidence, 1976-96." *International Security* 23 (3), 5-42.

Jackson, Joshua, Felix Thoemmes, Kathrin Jonkmann, Oliver Lüdtke, and Ulrich Trautwein (2012). "Military Training and Personality Trait Development: Does the Military Make the Man, or Does the Man Make the Military?" *Psychological Science* 23 (3), 270-277.

Kling, Jeffrey, Jeffrey Liebman, and Lawrence Katz (2007). "Experimental Analysis of Neighborhood Effects." *Econometrica* 75, 83-119.

Lang, Kurt (1965). "Military Organizations." In J. G. March (ed.), *Handbook of Organizations*. Chicago, Rand McNally, 838-878.

Lyk-Jensen, Stéphanie (2018). "Does Peacetime Military Service Affect Crime? New Evidence from Denmark's Conscription Lotteries." *Labour Economics* 52 (C), 245-262.

Malmendier, Urike, Geoffret Tate, and Jon Yan (2011). "Overconfidence and Early-Life Experiences: The Effect of Managerial Traits on Corporate Financial Policies." *The Journal of Finance* 66 (1), 1687-1733.

Meyer, Eric, Brian Writer, and William Brim (2016). "The Importance of Military Cultural Competence." *Curr Psychiatry Rep*, 18-26.

Nesbit, Rebecca and David Reingold (2011). "Soldiers to Citizens: The Link Between Military Service and Volunteering." *Public Administration Review* 71 (1), 67-76.

Paloyo, Alfredo (2010). "Compulsory Military Service in Germany Revisited." Rheinisch-Westfaelisches Institut fuer Wirtschaftsforschung (RUHR) Economic Paper 206.

Rodriguez Molas, Ricardo (1983). *El Servicio Militar Obligatorio*. Buenos Aires: CEAL.

Rohlf, Chris (2010). "Does Military Service Make You a More Violent Person? Evidence from the Vietnam Draft." *Journal of Human Resources* 45 (2), 271-300.

Shih, Tse-Hua and Xitao Fan (2008). "Comparing Response Rates from Web and Mail Surveys: A Meta-Analysis." *Field Methods* 20 (3), 249-271.

Siminski, Peter, Simon Ville, and Alexander Paull (2016). "Does the Military Turn Men Into Criminals? New Evidence from Australia's Conscription Lotteries." *Journal of Population Economics* 29, 197-218.

Simms, Leonard, Lewis Goldberg, John Roberts, David Watson, John Welte, and Jane Rotterman (2011). "Computerized adaptive assessment of personality disorder: Introducing the CAT-PD project." *Journal of Personality Assessment* 93, 380-389.

Soeters, Joseph (1997). "Value Orientations in Military Academies: A Thirteen Country Study." *Armed Forces & Society* 24 (1), 7-32.

Soeters, Joseph, Donna Winslow, and Alise Weibull (2006). "Military Culture." In: Caforio G. (eds) *Handbook of the Sociology of the Military*. Handbooks of Sociology and Social Research. Springer, Boston, MA.

Stadelmann, David, Marco Portmann, and Reiner Eichenberger (2015). "Military Careers of Politicians Matter for National Security Policy." *Journal of Economic Behavior & Organization* 116, 142-156.

Stadelmann, David, Marco Portmann, and Reiner Eichenberger (2018). "Military Service of Politicians, Public Policy, and Parliamentary Decisions." CESifo Economic Studies, ify006, <https://doi.org/10.1093/cesifo/ify006>.

Teigen, Jeremy (2006). Enduring Effects of the Uniform: Previous Military Experience and Voting Turnout. *Political Research Quarterly* 59 (4), 601-607.

Tellegen, Auke (1995/2003). "Multidimensional Personality Questionnaire–276 (MPQ-276) test booklet." Minneapolis: University of Minnesota Press.

Wilson, Peter H. (2008). "Defining Military Culture." *The Journal of Military History* 72 (1), 11-41.

Table 1. Draft-eligibility status

Cohort	Sample size	Population proportion	Sample proportion	Difference
1958	43	0.825	0.870	-0.045
1959	70	0.680	0.681	-0.001
1960	57	0.659	0.606	0.053
1961	80	0.650	0.624	0.027
1962	64	0.680	0.735	-0.055
1963	48	0.650	0.623	0.027
1964	37	0.600	0.676	-0.076
1965	58	0.607	0.705	-0.098
1966	44	0.373	0.451	-0.078
1967	41	0.333	0.186	0.147**
1968	79	0.413	0.381	0.032
1969	68	0.446	0.526	-0.080
1970	57	0.502	0.532	-0.030
1971	81	0.281	0.264	0.017
1972	68	0.164	0.268	-0.104*
1973	57	0.240	0.203	0.037
1974	55	0.256	0.210	0.046
1975	49	0.257	0.340	-0.083
Total	1,133	0.477	0.487	-0.010

Notes: *Significant at the 10% level. **Significant at the 5% level.

***Significant at the 1% level.

Table 2. Pre-treatment characteristics, by draft-eligibility assignment

	Draft eligible mean	Non-draft eligible mean	Difference
Father's country of birth	0.920 (0.271)	0.910 (0.286)	0.010 (0.017)
Mother's country of birth	0.906 (0.292)	0.921 (0.270)	-0.015 (0.017)
His father did military conscription	0.623 (0.485)	0.632 (0.483)	-0.009 (0.029)
Father's maximum level of education			
No instruction	0.015 (0.120)	0.010 (0.101)	0.004 (0.007)
Incomplete primary school	0.129 (0.335)	0.120 (0.326)	0.009 (0.020)
Complete primary School	0.250 (0.433)	0.225 (0.418)	0.025 (0.025)
Incomplete secondary school	0.114 (0.318)	0.114 (0.318)	0.000 (0.019)
Complete secondary School	0.158 (0.365)	0.181 (0.385)	-0.023 (0.022)
Incomplete high education	0.024 (0.152)	0.033 (0.178)	-0.009 (0.010)
Complete high education	0.063 (0.244)	0.038 (0.191)	0.026* (0.013)
Incomplete university	0.073 (0.259)	0.083 (0.276)	-0.010 (0.016)
Complete university	0.165 (0.371)	0.186 (0.389)	-0.021 (0.023)
Mother's maximum level of education			
No instruction	0.011 (0.104)	0.016 (0.124)	-0.005 (0.007)
Incomplete primary school	0.116 (0.320)	0.103 (0.305)	0.013 (0.019)
Complete primary School	0.310 (0.463)	0.248 (0.432)	0.062** (0.027)
Incomplete secondary school	0.101 (0.302)	0.115 (0.320)	-0.014 (0.019)
Complete secondary School	0.212 (0.409)	0.246 (0.431)	-0.034 (0.025)
Incomplete high education	0.024 (0.152)	0.010 (0.101)	0.013* (0.008)
Complete high education	0.138 (0.345)	0.153 (0.360)	-0.015 (0.021)
Incomplete university	0.034 (0.182)	0.036 (0.187)	-0.002 (0.011)
Complete university	0.053 (0.223)	0.069 (0.253)	-0.016 (0.014)

Notes: *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

Table 3. Main results

	(1)	(2)	(3)	(4)	(5)	(6)
	Conscription		Index of personality traits		Index of beliefs	
Draft Eligible Conscription	0.393*** (0.027)	0.394*** (0.027)	0.342*** (0.103)	0.328*** (0.102)	0.382*** (0.112)	0.393*** (0.111)
F-test	219.447*** (0.000)	220.793*** (0.000)	219.447*** (0.000)	220.793*** (0.000)	219.447*** (0.000)	220.793*** (0.000)
Method	OLS	OLS	2SLS	2SLS	2SLS	2SLS
Controls	No	Yes	No	Yes	No	Yes
Observations	1,133	1,133	1,133	1,133	1,133	1,133

Notes: Standard errors clustered at the ID-cohort level are shown in parentheses. All models include cohort dummies. The set of controls includes district of origin dummies and all variables listed in Table 2. In the 2SLS models, Conscription is instrumented using Draft Eligible. F-test is the F-test of excluded instruments (p-values are shown in parentheses). *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

Table 4. Impact of military conscription on personality traits and beliefs, by outcome

	(1) Tolerance	(2) Discipline	(3) Conservatism	(4) Authoritarianism	(5) Violence or Belligerence	(6) In favor of right to bear arms	(7) Justify violence to solve conflicts	(8) Accept countries' interventions	(9) In favor of military conscription	(10) Accept coups
Conscription	-0.054*** (0.015)	0.006 (0.017)	0.035** (0.015)	0.028 (0.026)	0.044** (0.018)	0.146** (0.067)	0.088 (0.068)	0.089 (0.071)	0.170** (0.081)	0.183*** (0.046)
p-value	0.000	0.739	0.019	0.287	0.014	0.030	0.196	0.212	0.037	0.000
FDR-p-value	0.002	0.362	0.041	0.147	0.039	0.050	0.119	0.119	0.050	0.001
% change	-7.34	0.80	5.46	5.40	9.57	90.24	45.25	36.93	39.35	279.80
Controls	No	No	No	No	No	No	No	No	No	No
Observations	1,133	1,133	1,133	1,133	1,133	1,133	1,133	1,133	1,133	1,133
Conscription	-0.053*** (0.015)	0.004 (0.017)	0.035** (0.015)	0.024 (0.026)	0.042** (0.018)	0.149** (0.068)	0.072 (0.069)	0.101 (0.071)	0.192** (0.081)	0.187*** (0.045)
p-value	0.000	0.828	0.019	0.361	0.017	0.029	0.296	0.158	0.017	0.000
FDR-p-value	0.002	0.331	0.031	0.192	0.031	0.039	0.175	0.100	0.031	0.001
% change	-7.20	0.53	5.46	4.63	9.14	92.09	37.02	41.91	44.44	285.91
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,133	1,133	1,133	1,133	1,133	1,133	1,133	1,133	1,133	1,133

Notes: Standard errors clustered at the ID-cohort level are shown in parentheses. FDR-p-values are False Discovery Rates adjusted p-values, following the procedure in Benjamini, Krieger, and Yekutieli (2006). All models are estimated using 2SLS. Conscription is instrumented using Draft Eligible. All models include cohort dummies. The set of controls includes district of origin dummies and all variables listed in Table 2. Percentage change is calculated relative to the mean of the outcome in the draft-ineligible group. *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

Figure 1. Distribution of the last three ID digits in our sample

