

The partial effectiveness of indoctrination in autocracies: Evidence from the German Democratic Republic

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Abstract

Dictators depend on a committed bureaucracy to implement their policy preferences. But how do they induce loyalty and effort within their civil service? We study indoctrination through forced military service as a cost-effective strategy for achieving this goal. Conscription allows the regime to expose recruits, including future civil servants, to intense "political training" in a controlled environment, which should improve system engagement. To test this hypothesis, we analyze archival data on over 370,000 cadres from the former German Democratic Republic (GDR). Exploiting the introduction of mandatory service in the GDR in 1962 for causal identification, we find a positive effect of conscription on bureaucrats' system engagement. Additional analyses indicate that this effect likely did not result from deep norm internalization. Findings are more compatible with the idea that political training familiarized recruits with elite preferences, allowing them to behave strategically in accordance with the "rules of the game."

Keywords: Conscription, Indoctrination, Autocracy, Preference Falsification

1 Introduction

From the perspective of autocratic leaders, civil servants are a critical segment of the population: clerks, accountants, commissioners, and administrators not only form the backbone of regime support but are also responsible for implementing the regime's policies. In trying to ensure a high degree of loyalty and work effort among administrative agents, autocrats face standard agency problems: bureaucrats have social and policy objectives distinct from those of the rulers, they have private information about policies, and they can take actions that are difficult for their superiors to observe.¹ Previous research has emphasized that autocratic elites can employ different strategies to instill stronger "system engagement"—the degree of bureaucrats' loyalty and work effort in line with the regime's preferences. They may promise material rewards in return for behavior that corresponds to elite preferences.² Alternatively, rulers can closely monitor their agents and harshly punish deviant behavior.³

Both of these strategies can ensure system engagement among a relatively small number of high-level bureaucrats. However, relying on material rewards and the threat of punishment alone is likely insufficient to maximize system engagement at scale. Mass patronage can become prohibitively expensive, while organizing, implementing, and monitoring comprehensive entrance and loyalty tests is difficult; the threat of repression may be imperfect as a motivational tool and elicit unintended side effects.⁴

¹Lipsky 1980.

²Shapiro and Stiglitz 1984.

³Miller and Smith 2015.

⁴Miller and Whitford 2007.

How, then, can autocratic elites maximize system engagement among street-level bureaucrats? We investigate the effectiveness of a third strategy in the autocrat's toolbox: internalization of elite preferences through indoctrination, focusing on a tool that has thus far received little attention: forced military service. Conscription is a widely used instrument for indoctrination in autocracies. In 2010, a total of 58 percent of all autocratic regimes across the world relied on mass conscription.⁵ Many autocratic states have adopted forced military service with the explicit aim of creating opportunities for mass indoctrination. The military, probably more than any other modern-day public organization, is a "total institution" that governs all aspects of recruits' daily life.⁶ This controlled environment should make indoctrination attempts particularly effective.

Our primary argument can be summarized as follows: We conceive of the military as an institution that has the potential to influence individuals' political values through socialization⁷. In autocracies, this socialization focuses on maximizing recruits' internalization of elite preferences. Effective internalization, in turn, reduces agents' moral hazard and can thereby contribute to creating a reservoir of particularly dedicated public service agents within the broader population.

We investigate this hypothesis in the case of the socialist regime in the former German Democratic Republic (GDR). We draw on a unique source of micro-level information on

⁵Geddes, Wright, and Frantz 2014; The Fraser Institute 2019.

⁶Goffman 1961.

⁷We use the terms "indoctrination" and "socialization" interchangeably to denote processes of norm internalization during military service. The first term has a stronger intentional, top-down connotation while the latter refers to more general contextual and peer effects. However, both dynamics can hardly be differentiated in contexts of total institutions that control individuals, peers and environments.

bureaucratic careers within the socialist regime, the so-called Central Cadre Database (CCDB). The CCDB was introduced by the ruling elite as an instrument for centralized personnel planning covering all sectors of the political and economic system (excluding security institutions). The CCDB contains rich information on the personal and employment biographies of approximately 370,000 cadres across administrative levels. We use these data to construct an original, individual-level panel data set of over 2 million person-year observations, allowing us to trace system engagement in the form of career progress and membership in a variety of regime-affiliated organizations with unprecedented empirical detail.

We exploit the introduction of mandatory military service in 1962 for identification purposes. We use a difference-in-difference and regression discontinuity design, in which we compare career progress for men affected and unaffected by this policy change, based on their age in 1962. Our main empirical results support the theoretical expectation that former conscripts attained higher ranks within the autocratic administration than unaffected individuals.

We implement a series of auxiliary tests to trace the mechanisms leading from military service to career advancement. These analyses support the main findings in that they confirm that former conscripts not only display more successful careers but also more pronounced voluntary engagement in socialist mass organizations and stronger preferences for socialist values in opinion surveys. However, the results also question our initial assumption that exposure to intense “political training” during military service really fundamentally changed the normative mindset of the former conscripts. Taken together, our results are more in line with a mechanism that familiarized the recruits

with the preferences of the ruling elite via military service and thereby allowed them to engage in more effective preference falsification that advanced their career.

Our primary contribution is to research on the micro-level foundations of autocratic rule. Our results highlight that indoctrination can be partially effective, especially in the short to medium term: individuals who have undergone “political training” display more system engagement. This helps stabilize autocratic regimes. At the same time, however, our results also cast serious doubts on the longer-term effectiveness of indoctrination. We find little evidence of effective norm internalization as a result of “political training.” In the light of our empirical results, it seems more plausible that indoctrination can improve people’s ability to credibly fake compliance with the regime’s stated goals and demands. This, in turn, could increase the vulnerability of autocratic regimes in moments of crisis.⁸ It can (1) create a false sense of security among the ruling elites that reduces their motivation to invest in auxiliary measures such as compensation and repression, which in turn (2) increases the risk of shirking and desertion among high-level bureaucrats and may thereby (3) increase the risk that even a “slight surge in the opposition’s apparent size, caused by events insignificant in and of themselves,”⁹ will lead to a breakdown of regime support and an unanticipated regime change—as in the case of the former GDR.

⁸Kuran 1989.

⁹Kuran 1989: 41.

2 System engagement in autocratic bureaucracies

Autocratic leaders depend on agents to administer laws and regulations, to implement redistributive policies, and to repress political opposition. Thus, from the perspective of autocratic elites, ensuring that agents act according to regime preferences can be a matter of survival. However, the interests of bureaucratic agents are not always in line with those of their principals.¹⁰ According to the core assumptions of agency theory, information advantages allow the agents to pursue their particularistic interests at the expense of the realization of their principals' objectives.¹¹ So how can elites instill effort and loyalty into their workforce?

One strategy consists of providing material rewards for system engagement. In order to prevent shirking, autocratic elites invest parts of their economic rents in premiums for effort.¹² However, autocrats who want to extract rents from the economy for their own benefit must allocate rewards to bureaucrats out of their own pockets.¹³ Because premiums are usually only provided after the agent has demonstrated effort and loyalty, agents may fear that the principal will renege on his promise once the agents have demonstrated the desired behavior.¹⁴

An alternative strategy is repression.¹⁵ However, identifying shirking with sufficient

¹⁰Svolik 2013.

¹¹Brehm and Gates 1999.

¹²Shapiro and Stiglitz 1984.

¹³Dixit 2010.

¹⁴Miller and Whitford 2007.

¹⁵Miller and Smith 2015.

certitude can be extremely challenging and costly.¹⁶ In the 1940s, for instance, Stalin expanded his policy of repression to the public workforce with draconian punishments for unauthorized absence. Effective monitoring proved more difficult than expected—increasing the risk of punishing loyal workers and/or letting true shirking go unnoticed. The repressive system created additional adverse effects: workers and managers diverted effort from production into mutual insurance.¹⁷

Autocrats regularly use rewards and coercion to instill effort and loyalty into their workforce.¹⁸ However, considering the downsides of these two strategies, they have an incentive to make use of complementary and less cost-intensive instruments. One way of reducing the need for rewards and repression is to persuade the agent to desire the same outcomes as the principal.¹⁹ Perfect internalization of the principal's preferences constructs a "logic of appropriateness" where norms are followed not simply because of their perceived consequences but because they are seen as natural and legitimate.²⁰ The open question is to what extent such a strategy of preference internalization can be successful in autocratic states.

Several empirical studies have tried to empirically assess the effects of regime attempts at influencing the mindsets of the broader population as well as civilian and military agents in particular. Most of this research has focused on propaganda rather than indoctrination. While the boundaries between both concepts are blurry, we un-

¹⁶Rozenas and Zhukov 2019.

¹⁷Harrison 2002.

¹⁸Frye, Reuter, and Szakonyi 2014, 2019; Darden 2008.

¹⁹Akerlof and Kranton 2000.

²⁰March and Olsen 2010.

derstand the first as an instrument that focuses primarily on convincing or appeasing members of society that have not yet fully subscribed to a certain political community, while the latter aims to intensify the loyalty of those already considered members of that community. The first has a more short-term time span and usually relies on the mass media; the latter is more long-term and takes place via education, the workplace, various mass organizations or the armed forces.²¹

Out of both strategies, the effectiveness of propaganda has received more attention, with decidedly mixed results.²² Far fewer studies have focused on the effects of in-depth indoctrination. Using data on the wartime behavior of German soldiers, Miller and colleagues find evidence that Hitler Youth alumni required fewer punishments to induce similar effort levels to other soldiers.²³ Focusing on the case of China, Cantoni et al. find that the introduction of new textbooks supported the regime's cause by leading to "more positive views of China's governance, changed views on democracy, and increased skepticism toward free markets" among students.²⁴

We contribute to this strand of research on the ideological micro-foundations of authoritarian rule by investigating the effectiveness of one specific tool of indoctrination: military conscription.

²¹Lee 2013.

²²See, e.g., Gläßel and Paula 2019 on GDR propaganda, Adena et al. 2015 and Selb and Munzert 2018 on Nazi Germany, Huang 2018 on China or Peisakhin Leonid and Rozenas Arturas 2018 on the Ukraine.

²³Miller, Barber, and Bakar 2018.

²⁴Cantoni et al. 2017, 338.

3 Conscription as a tool for indoctrination in autocracies

Several historical and contemporary case studies suggest that autocratic regimes were/are convinced that indoctrination during military service can bolster regime resilience. Previous research describes how Soviet-block countries fostered political training during military service with the explicit aim of generating “support for the Communist party, its leadership, goals and policies”²⁵ In Eritrea, the government understands the mass-conscripted army as a place “where the synthesis between the citizen and the state is experienced in concrete and any gap between state and civil society disappears.”²⁶ According to Barany, several Gulf countries have recently introduced compulsory military service to “strengthen the sense of belonging to the nation among young people and inspire patriotism in their nationals.”²⁷

Research on political indoctrination and socialization has provided mixed arguments and evidence on the idea that the military can serve as a ‘school for the nation.’²⁸ In principle, military service may be able to tie the individual to the incumbent regime: military training creates the mindset for armed defence of the country, rigid discipline accustoms recruits to systems of behavioral rules, rewards, and punishments, and political training focuses on political commitments that recruits are meant to internalize.²⁹ Such processes of socialization can be particularly effective because the military is a “total institution”

²⁵Jones and Grupp 1982, 363.

²⁶Müller 2012, 796.

²⁷Barany 2018, 131.

²⁸See the review in Krebs 2004.

²⁹Green 2017.

that brings a large number of individuals into a similar situation, separated from the larger society and subject to formally administered rules that govern all aspects of their daily life.³⁰ On the other hand, however, the actual and sustainability of such socializing effects may be rather limited.³¹

Empirical research on the actual attitudinal effects of military service has remained inconclusive. While it provides some evidence that military service can shape political perceptions of draftees,³² several studies call into question that conscription can substantially alter the worldviews of the conscripts.³³ However, this research has focused almost exclusively on democratic states. One primary challenge of extending analyses to autocratic states is lack of data: previous studies on the effects of military service have mainly relied on opinion surveys including batteries of items gauging respondents' attitudes on incumbent governments, political institutions and conservative/nationalist norms. Such questions are highly sensitive in most autocratic contexts. Consequently, we still know very little on how military service impacts the mindsets of former recruits in autocracies.

Compared to democracies, two features of military service in autocracies should lead to more consistent and pronounced effects on political attitudes and thereby make effective indoctrination more likely: First, autocracies are likely to put more effort into political training than democracies. For example, in the Soviet Union, 90-100 minutes of the conscripts working day were devoted to political work, with draftees being tested

³⁰Goffman 1961.

³¹Krebs 2004.

³²Fize and Louis-Sidois 2018; Ertola Navajas et al. 2019; Erikson and Stoker 2011.

³³Garcia 2015; Bachman et al. 2000; Green, Davenport, and Hanson 2019.

on the understanding of the content of their political training.³⁴ Other socialist countries placed a similar emphasis on ideological education.³⁵

Second, socialization during conscription may be more effective in autocracies because of a greater uniformity of indoctrination compared to pluralist democracies. Many authoritarian states are particularly skilled at building centralized ‘conscription societies’ in which ‘administered mass organizations’ socialize individuals in the central state ideology.³⁶ In autocracies indoctrination during military service should face a lower risk of clashing with counter-veiling processes of socialization by other institutions, such as schools or non-state associations.³⁷

Due to these specific characteristics of autocratic regimes, we argue that former conscripts internalize the key norms of the regime and therefore show higher degrees of system engagement: behavior that reflects preferences of the regime. This leads us to our main hypothesis:

Hypothesis: *Conscripted military service increases the degree of system engagement among bureaucrats in autocracies through the political socialization of recruits.*

4 Conscription and military service in the GDR

Empirical challenges have prevented prior research from studying the effects of indoctrination through conscription within autocracies. The case of the GDR offers two features

³⁴Jones and Grupp 1982.

³⁵Herspring and Volgyes 1977.

³⁶Kasza 1995.

³⁷Dukalskis and Gerschewski 2017.

that allow us to address these challenges. First, the introduction of military conscription in 1962 as well as the the GDR's strict cadre system that rewarded cadre's system engagement generate a setting that allows us to identify a causal effect of conscription on system engagement. Second, through its exceptional administrative data collection, the GDR case gives us a unique source of individual-level information with which to study this case empirically.

4.1 Cadre policy in the GDR

The leadership of the ruling Socialist Unity Party (*Sozialistische Einheitspartei Deutschlands*, SED) saw the development and composition of the cadre as a "key problem of the further development of our party and our socialist society."³⁸ Consequently, the regime did not leave the recruitment and promotion of cadres to open competition. Instead, it organized cadre recruitment centrally according to a predefined cadre policy that encompassed all individuals who either held functions or were qualified to hold functions deemed sufficiently important to be controlled by the central leadership of the socialist party.³⁹

The key instrument in the organization and control of the cadre was a Nomenklatura system designed according to the Soviet model. The GDR elite organized this system in a hierarchical and centralized way, assigning each relevant position to the responsibility of some higher level, ending in the Politbüro of the SED and ultimately in the hands of the general secretary.

³⁸See *Documents of the SED 1980*: 481; cited in [Best and Hornbostel 2003](#)).

³⁹[Boyer 1999](#); [Best and Hornbostel 2003](#).

Especially in the initial decades, unconditional political reliability clearly was the primary criterion for cadre selection and promotion. This prioritization was mainly driven by the objective of replacing the former National Socialist leadership with individuals loyal to the SED. In the 1960s, the ruling elite started re-balancing the cadre policy from ideological training towards a greater emphasis on formal qualifications.⁴⁰ Nonetheless, the regime's assessment of individuals' ideological commitment remained a primary determinant of career advancement.

4.2 Political objectives of conscription

In August 1960, the National Defense Council (*Nationaler Verteidigungsrat, NVR*) decided to introduce conscription. The parliament (*Volkskammer*) formally validated the decision on January 24 of the following year.

Since the late 1950s, the political leadership of the GDR had considered moving from voluntary to compulsory military service. However, only the construction of the Berlin Wall in 1961 mitigated the imminent threat that the introduction of conscription would trigger a mass exodus of male youths into West Germany.⁴¹ While maintaining the possibility of voluntary service, the new law made conscription the primary system for troop replenishment. All male citizens between their eighteenth and twenty-sixth birthday were required by law to complete 18 months of service. In April of the same year, the first recruits were enlisted under the new system of conscription.⁴²

Among other factors, two main considerations motivated the SED leadership to intro-

⁴⁰Boyer 1999.

⁴¹Wenzke 2013.

⁴²For the historical details on the organization of the enlistment process, see Appendix A.

duce the conscription system. First, the military (*Nationale Volksarmee, NVA*) was struggling with a decreasing number of volunteers. Following two world wars, large shares of the younger population were critical of the military and unwilling to serve voluntarily. In this context, forced conscription represented a solution to the challenges of personnel recruitment.⁴³ Second, the SED regime and army officials were convinced that conscription offered an instrument for the systematic political and ideological socialization of male youth into “socialist military personalities” who would be faithful to the party and the state.⁴⁴

4.3 Military service in the GDR

With the beginning of their military service, conscripts entered a “new world,” that mirrored the basic features of “total institutions” described above: their daily lives were marked by rigid military hierarchy, order, and discipline, as well as substantial psychological and physical hardship associated with combat training.⁴⁵ All elements of the daily life of the recruits were structured meticulously. Regular training/working days began at approximately 6 a.m. in the morning and ended around 7 p.m.—including on Saturdays.⁴⁶

Ideological “education” played a major role in the daily lives of conscripts. It focused on the foundations of Marxism and Leninism, the principles of socialist defense policies,

⁴³Wenzke 2013; Rogg 2008.

⁴⁴Wenzke 2013.

⁴⁵Wenzke 2013.

⁴⁶Rogg 2008.

and socialist interpretations of current social and political developments.⁴⁷ Conscripts had to listen to ideological indoctrination lectures two to four hours per week. Lectures were complemented by short daily political talks and weekly information on current political developments according to the regime's interpretation. Conscripts were also subject to regular tests on the state of their political knowledge. Depending on the military unit and planned military career, ideological indoctrination amounted to approximately 10 to 20 percent of an average training day.⁴⁸ Conscripts underwent roughly 600 to 1,000 hours of ideological training during their entire service.⁴⁹

Historical research does not provide a clear picture of the effectiveness of the political indoctrination during the military service in the GDR. On the one hand, researchers studying the military history of the GDR have found archival evidence that indicating a rather distanced and negative attitude on the part of recruits towards political training during military service.⁵⁰ Similarly, the first systematic studies commissioned by the government identified little ideological enthusiasm among conscripts. Only around half of the recruits stated in a 1966 survey that they would risk their lives to defend the GDR against an attack by the Federal Republic.⁵¹ On the other hand, however, later studies indicate stronger effects of military service in line with the regime's expectations. Throughout the 1970s, the regime commissioned several studies intended to assess the

⁴⁷Rogg 2008.

⁴⁸Wenzke 2013; Herspring and Volgyes 1977; Rogg 2008.

⁴⁹Historical evidence on the effectiveness of these activities is sparse and inconclusive. We discuss this research in Appendix A.

⁵⁰Rogg 2008; Ripp 2000.

⁵¹Rogg 2008.

degree of loyalty and the effects of the military service on the recruits. For example, a survey conducted among former conscripts in 1972 by the Academy of Social Science (*Akademie für Gesellschaftswissenschaft*) at the Central Committee of the SED found that military service contributed significantly to the consolidation of socialist views. Moreover, the duration of service was found to correlate positively with the strength of individuals' convictions.⁵² In sum, it remains unclear if political indoctrination in the NVA had an effect on conscripts' system engagement.

5 Data and Research Design

We draw on the *Central Cadre Database* (CCDB) of the GDR to investigate the effect of this indoctrination. This database was developed in the early 1970s as a primary instrument for comprehensive socialist planning of all of domains of society. It was supposed to provide detailed biographic information on all cadres in order to prepare for cadre selection, assignment, and promotion in centralized and local state institutions and the economy. Not included in the CCDB was personnel from the GDR's security institutions, most importantly the GDR's National People's Army and the State Security, who belonged to the Nomenklatura of the National Defense Council (*Nationaler Verteidigungsrat*).⁵³ Moreover, by definition, the CCDB excludes civil servants outside of the formal cadre system—those individuals not deemed sufficiently important to be monitored by the socialist elite. Thus, all of our analyses and findings presented below focus on a specific segment of the public workforce of the GDR: civilian bureaucrats in core areas of the regime.

⁵²Wenzke 2013; Rogg 2008.

⁵³Ross 1997.

The content of the CCDB mirrors the ruling elite's interest in a wide array of biographical information, with a focus on the cadre's political loyalty and practical competencies.⁵⁴ The actual data collection process was carried out within the individual employing organizations. Information was recorded and updated monthly. The data were then compiled centrally on a quarterly basis.⁵⁵ The collection of this data was continued until 1989. After the fall of the regime, a total of seven yearly versions of the CCDB (for the years 1980, 1985, 1986, 1987, 1988, and 1989) were secured and transferred to the German federal archives, where the total of 200 magnetic tapes were transformed into a consistent and fully documented data set available for academic research. We use the latest (1989) version of the CCDB that contains a total of over 370,000 individuals.⁵⁶

A small number of studies have conducted cross-sectional, largely descriptive analyses of this dataset.⁵⁷ What has largely remained untapped, however, is the rich retrospective information on employment histories, including data on previous functions and individuals' progression through the cadre rank system. To overcome this gap, we obtained the original electronic cadre files from the German Federal Archives. From this data, we were able to build an original, individual-level panel data set, giving us unprecedented access to analyzing cadres' career trajectories. For the total population of approximately 370,000 cadres in 1989, we construct individual-year observations based on each person's unique personnel identification number and track each individual from

⁵⁴Boyer 1999.

⁵⁵Best and Hornbostel 2003.

⁵⁶Salheiser 2005. Section B in the Appendix discusses additional issues of data quality and the associated implications for inference.

⁵⁷Salheiser 2005; Best and Hornbostel 2003.

Table 1: Description of cadre ranks

Rank	Function	Examples
4	Top-level leadership position	Mayor, state secretary, minister, director of combine
3	Middle management	Manager of state-owned enterprise, judge, high-level party secretary
2	Head of department	Low-level party secretary, professor, editor-in-chief
1	Foreman/group leader	University employee, shift leader, deputy head of department
0	No leadership function	Clerk, worker, case handler, artisan, driver

1950 (or the relevant workforce entry date) to 1989.

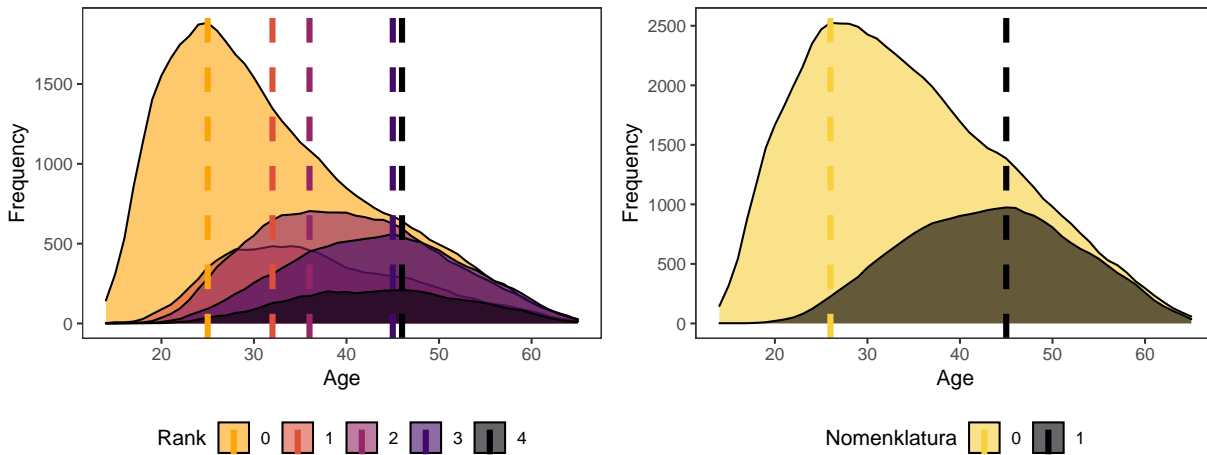
5.1 Outcome Variables

One goal of the conscription policy was to ensure a high level of system engagement. By “system engagement” we mean the active efforts of individuals to participate in key functions that sustain and support the authoritarian regime. Career advancement is a useful, holistic way of capturing system engagement for a broad set of individuals who served in important, regime-sustaining functions across various sectors of state and society. At a minimum, it required an individual to fulfill their regular job duties in knowing support of the regime’s broader goals. Citizens may have pursued advancement for opportunistic reasons—for example, to secure material benefits—or because of true ideological commitment. In either case, any regime requires the active effort of individuals across the state apparatus to function and survive.

To measure career advancement, we rely on two complementary coding approaches. First, we rely on a comprehensive coding scheme for the CCDB Nomenklatura variables developed by Salheiser and Gebauer.⁵⁸ The scheme assigns individuals a hierarchical rank based on their job function and work sector. It allows us to assess each individ-

⁵⁸Salheiser 2009; Gebauer 2006.

Figure 1: Distribution of age by rank. Vertical bars represent modal value of age distribution by Rank/Nomenklatura membership.



ual’s position in the hierarchy across all positions in the GDR. This ordinal variable *Rank* ranges from zero to four. Second, we construct a simple binary variable that is coded as 1 in the year an individual was elevated into the official Nomenklatura as captured by the CCDB. In contrast to the rank variable, which relies on manual coding, the Nomenklatura variable is directly provided by the CCDB. This helps us to guard against potential measurement error in the rank variable. Table 1 describes the different ranks, based on Salheiser’s and Gebauer’s classification.

Figure 1 displays the distribution of ranks and membership in the Nomenklatura by age. Vertical lines represent the modal value of person-years in the respective ranks. The left panel shows that promotions predominantly take place between 30 and 40 and between 40 and 50. The right panel shows a similar distribution for the Nomenklatura variable. Given that this variable is somewhat coarser than the rank variable, the modal age of 45 reflects most strongly the later group of promotions that we see in the finer-

Table 2: Outcome variables to capture system engagement

	Variable	Description	Data Source
Main outcomes	Nomenklatura Rank	Position in the GDR's nomenklatura hierarchical system	CCDB
	Nomenklatura Membership	Dummy variable indicating membership in the nomenklatura	CCDB
Additional outcomes	Org. Count	Count of memberships in regime-relevant mass organizations	CCDB
	SED	Membership in the SED ruling party?	CCDB
	Voluntary Functions	Count of engagements in voluntary functions in mass organizations	CCDB
	Socialist Beliefs	Aggregate survey item measuring conviction in core socialist beliefs	Survey data

grained rank data.

In addition to career advancement, we employ a number of additional outcome variables that plausibly represent system engagement, including membership in regime-relevant mass organizations, membership in the ruling SED party, and performing voluntary functions in mass organizations. In auxiliary analyses, we also directly measure socialist beliefs, using survey data collected before and after the collapse of the regime. See Table 2 for an overview of the different variables and their description.

5.2 Research Design

Our main analysis relies on a difference-in-difference design to estimate the effects of the conscription policy on our outcome variables. Since the CCDB allows us to track the pool of cadres and cadre candidates over several decades, we can compare the career progression of the first affected cohorts in 1962 versus the immediately age-adjacent cohorts that were not subject to military service. The design follows a standard difference-

in-difference structure, with treatment “turning on” in 1962, the affected group being defined by gender and age in 1962, and the interaction term capturing the treatment effect:

$$y_{ist} = \alpha_i + \rho_s + \gamma_t + \delta \cdot \text{Post-1961}_t \cdot \text{Affected Cohort}_i + \epsilon_{ist} \quad (1)$$

Where y_{ist} is the Nomenklatura rank, the binary Nomenklatura dummy, or any of the other measures listed in Table 2 of individual i (except for the measure of socialist beliefs), employed in sector s , in year t , α_i individual-level fixed effects, ρ_s sector fixed effects, and γ_t year effects.

Post-1961 is a dummy variable indicating when the conscription policy became active. *Affected Cohort* is a dummy variable that signifies an individual’s membership in the affected cohort. We run a number of specifications that vary the definition of “affected cohort” (e.g. men aged 18–25 in 1962 or smaller subsets) and the definition of the control group (e.g. men aged 26–33, all men aged >25 in 1962, similarly aged women, etc.).⁵⁹ Given the inclusion of individual and year fixed effects, coefficients for the *Affected Cohort* and *Post-1961* are not identified. Nonetheless, the key estimate of interest, δ , the difference-in-difference estimate, can be identified with our data and represents the differential of the intent to treat effect of conscripted military service across treated and control groups on career advancement.

We include individual-level fixed effects to account for observable and unobservable

⁵⁹The age of individuals is automatically controlled for via the combination of individual and year effects.

individual-level characteristics, such as political and social backgrounds that potentially determine careers and might differ across cohorts. Individual-level effects also capture differences between individuals in their time-invariant exposure to other sources of indoctrination, notably during high school, where “*Staatsbürgerkunde*” (citizen education) was another indoctrination instrument by the regime.

Sector fixed effects account for differential career prospects across different parts of the East German economic and political system. Some sectors were more important for regime stability than others and thus followed different cadre policies. The sector effects capture the potential bias of an individual switching sectors.

The year effects model secular changes in the advancement system applied in the GDR. This is particularly important due to another policy shift in 1961, the construction of the Berlin Wall. The Berlin Wall dramatically shifted the exit opportunities for citizens of the GDR and likely had substantial effects on the pro- and anti-regime choices of large parts of society. The inclusion of year effects absorbs this policy shock, which applies to the whole population, and still allows us to estimate the male-specific impact of the conscription policy above and beyond any effects associated with the border policy.⁶⁰ More generally, the year effects capture changes in repression patterns, shocks in rent allocation—for instance, due to economic crises—or common changes in cadre policy and recruitment, such as when Walter Ulbricht, leader of the GDR between 1949 and 1971, switched to a more technocratic model of governance in the early 1960s.

Since we include a large number of fixed effects, we rely on ordinary least squares to

⁶⁰We discuss the issue of the Berlin Wall as a possible confounder further in Section 6.1.

estimate all models and cluster standard errors at the age-cohort level.⁶¹

6 Results

Before we move to the results of the difference-in-difference regression model, Figure 2 displays the different career trajectories of the initial male cohort subject to conscription in comparison to the age-adjacent male cohort. Technically, the law made any male individual aged 18–26 immediately eligible to be drafted, but in practice hardly anyone who was 26 was actually called in for the required physical examination (see Appendix A). Consequently, we consider the male cohort aged 18–25 in 1962 the broadest relevant “treated” cohort. We define men aged 26–33 in 1962 as the age-adjacent “control” cohort. Panel (a) shows the average rank of the cohort of men that were immediately eligible to be drafted in 1962 over their lifetime in comparison to the “control” cohort at their comparable age. For both the treated and control cohorts, average ranks are very low early in the individuals’ career lives with the cohorts eligible to be drafted even slightly lagging compared to the previous cohort.⁶² Over their lifetime, though, the draft-eligible cohort starts to outpace the control cohort in terms of rank around age 30, with individuals enjoying a considerable career advantage in the prime of their careers (cf. Figure 1). This pattern is replicated in Panel (b), which shows the same comparison, focusing on the probability of being elevated into the *Nomenklatura*.

The raw data comparison suggests that the introduction of conscription meaningfully altered the career trajectories of men affected by the policy change. Table 3 reports

⁶¹Results are substantively unchanged when clustering at the individual level.

⁶²Military service initially delayed entry into the workforce.

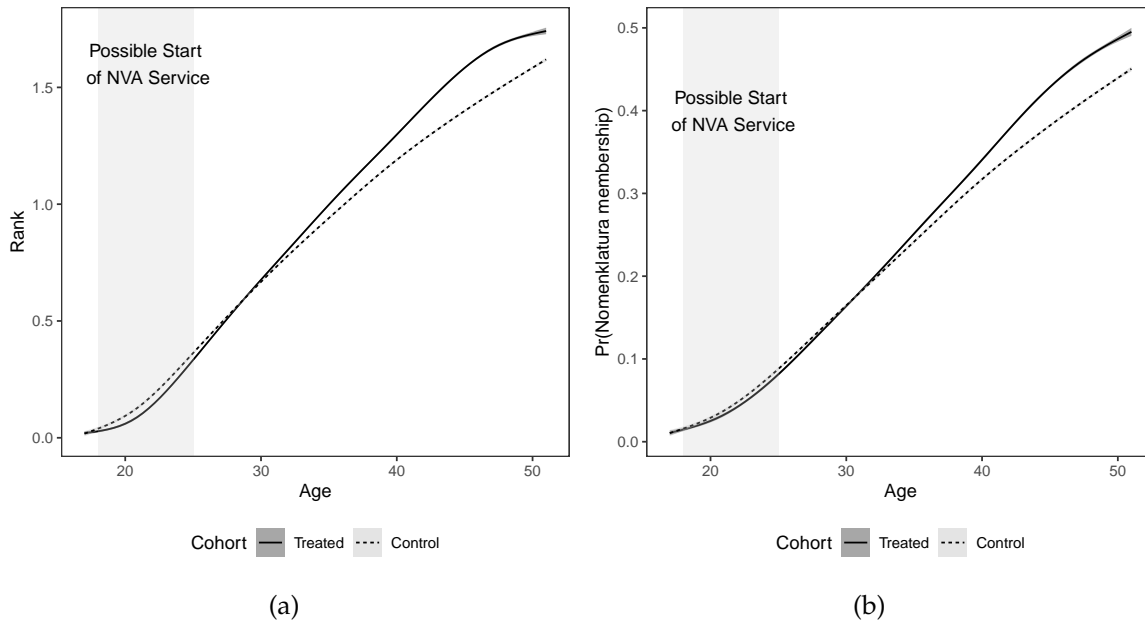


Figure 2: Panel (a) effect of conscription on rank; Panel (b) effect of conscription on Nomenklatura.

estimates of our difference-in-difference model and confirms this pattern. Columns (1) and (2) replicate the comparison of the 18–25 vs. 26–33 age cohorts for the rank and Nomenklatura variables.

We find that, on average, the policy-affected cohort enjoyed a lifetime increase in their expected rank of 0.19 points, statistically significant below the 0.1% level, equivalent to 20% of a standard deviation. Similarly, men subject to conscription were 2% more likely to be elevated to the Nomenklatura, which is equivalent to a relative increase of 20% compared to the unconditional baseline.

The substantive size of our results becomes clearer if we compare it to age-related career benefits. Overall, age is a strong determinant of career level in our sample, as older persons are, on average, much more likely to have obtained a higher rank (see [Figure 1](#)). In our sample, the average rank for men aged 35–39 is 1.11 and for men aged 40–44

it is 1.35—a difference of .24 points on the rank scale. Given that the estimated effect size lies somewhere between 0.07 (Model 7) and 0.69 (Model 5), the differential career premium of conscripted service is comparable to the career benefits of an additional work experience of 5-10 years.

Columns (3)–(8) vary the definition of treatment and control cohorts—for example, comparing all men aged < 26 in 1962 with men aged > 25 , men aged 18–25 with women aged 18–25 in 1982, or men aged 23–25 to 26–28 for a sharper cohort comparison. Across this range of comparisons, we find a positive and statistically significant increase in the career trajectories of draft-eligible men (with the exception of Model (8), which misses statistical significance at conventional levels). Notably, the effects are substantively the largest in the comparison of women and men within the same age cohort (Columns (5) and (6)). Since the inclusion of individual-level fixed effects accounts for any general, time-invariant labor market discrimination against women,⁶³ these effects reveal substantial career gains as a result of being subjected to military service.

⁶³This does not account for time-varying discrimination of women in the labor market.

Table 3: Analysis of System Engagement

	Rank	NK	Rank	NK	Rank	NK	Rank	NK
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Affected Cohort*Post-1961	0.19*** (0.04)	0.02** (0.01)	0.29*** (0.04)	0.03*** (0.01)	0.69*** (0.01)	0.20*** (0.005)	0.07*** (0.02)	0.001 (0.001)
Treated	M 18-25	M 18-25	M <26	M <26	M 18-25	M 18-25	M 23-25	M 23-25
Control	M 26-33	M 26-33	M >25	M >25	F 18-25	F 18-25	M 26-28	M 26-28
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual-Level FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2,226,243	2,226,243	3,548,014	3,548,014	2,186,887	2,186,887	932,377	932,377
R ²	0.67	0.73	0.68	0.74	0.69	0.73	0.68	0.73
Adjusted R ²	0.66	0.72	0.66	0.73	0.68	0.72	0.67	0.72

Notes:

***Significant at the 0.01 level.

**Significant at the 0.05 level.

*Significant at the 0.1 level.

Standard errors are clustered at the age-cohort level.

6.1 Addressing threats to causal inference

Causal identification in the difference-in-difference analysis is based on the parallel trends assumption. We assume that, conditional on individual-level fixed effects, sector fixed effects, and year fixed effects, progression in rank would have been the same for conscription affected cohorts as in their slightly older, non-affected age-adjacent cohorts in the absence of the policy change. It is worth dwelling on this assumption for a moment. To ascertain the plausibility of this assumption, it would be ideal to compare trends across treated and control groups before 1962. This is difficult in our setting due to the age of the individuals and the timing of treatment. E.g., for the affected cohort of 18-25 year-old men, the 18-year old individuals have just entered the sample and no additional pre-treatment periods are observable. The cleanest and longest comparison we can construct for an assessment of parallel trends in the pre-treatment period is the contrast of trajectories of 25- and 26-year old men, revealing no discernible difference in trends before treatment begins at age 25 (see Appendix C). In Appendix C we also provide balance statistics for pre-treatment covariates across treated and control cohorts to investigate to which extent the age-adjacent cohorts are different from each other on observable characteristics.

A substantive concern about the parallel trends assumption is the possibility that the two cohorts differ on some other unobserved characteristic that produces differential effects post-1962. Specifically, older cohorts may have been more exposed to Nazi propaganda via the Hitler Youth in comparison to younger cohorts and consequently more distrusted by the GDR regime. We find this to be implausible as an explanation for our

main findings. For one, boys joined the Hitler Youth at age 14 and the *Jungvolk* associate organization at age ten. This means that anyone aged 28 and younger in 1962 would have had no exposure to Nazi indoctrination for young men. In addition, our results on rank hold up for narrower cohort comparisons (23–25 vs. 26–28, see Model 7 in Table 1).

A similar concern arises with respect to the construction of the Berlin Wall in 1961. If there were higher rates of out-migration by high-aptitude individuals pre-1961, this could mean later-born cohorts include a higher share of high-aptitude individuals, generating career differentials due to compositional effects. Crucially, this alternative explanation requires a series of very strong assumptions. First, our analysis does not rely on cohorts born after 1961 (which were fully affected by the Wall); neither does our treatment rely on the differentiation between cohorts born before/after 1961 (treatment status is defined by age above/below 18 in 1962). Thus, it would have to be the case that fairly similarly aged young men in the 1950s anticipated, or accidentally sorted around, the specific age-cutoff of the conscription law in their migration behavior, even though the law itself and the specific age cut-offs were unknown.⁶⁴ Second, it would not only require differential out-migration of high-aptitude individuals, it would also require this differential to only exist for men, because we also show the existence of an effect for men vs. women within the same age-cohort (both of which should have been subject to out-migration).

To further safeguard against possible violations of the standard parallel trends assumption in the form of unobserved cohort differences, we employ additional approaches:

⁶⁴While cohorts born after 1961 fully retained high-aptitude individuals, both treated and control cohorts in our analysis had opportunities for out-migration before 1961.

We estimate models with sector-specific linear and flexible time trends and models that include pre-treatment controls interacted with linear time trends to account for unobserved differences in trends for unbalanced pre-treatment covariates.⁶⁵ We also estimate a very flexible event study specification, interacting the treatment indicator with year effects. The event study specification is useful because it allows for flexible trend effects that differ by cohort. This model confirms the patterns in Figure 2: treated cohorts initially lag in their career progression but eventually outpace non-conscripted cohorts.

Finally, we also implement a formal regression discontinuity design that uses different age cut-offs to define affected cohorts to construct an instrument for military service (see Appendix E). The RDD approach is another useful way to sharpen our cohort comparisons and mitigate any possible confounding by unobserved cohort differences that generate time-varying effects on careers. The RDD approach reproduces all major findings of the difference-in-difference estimation.

To check further robustness,⁶⁶ we also estimate (a) a simple, standard difference-in-difference specification that only includes 1960 as a pre-treatment period, 1989 as the post-treatment period, an indicator for the treated cohort, and the difference-in-difference interaction (without individual fixed effects), (b) models that exclude sector fixed effects due to concerns of post-treatment bias via career selection into specific sectors, and (c) alternative difference-in-difference specifications, where we use age as the key variable to determine the post-period—this means that in this model we compare the career trajectory of the affected cohort with the trajectory of the control group of the

⁶⁵See Section D in the Appendix.

⁶⁶See Section F in the Appendix.

same age (but not calendar year).⁶⁷

Another useful test is the estimation of a placebo effect. To that end, we compare the careers of women of the same age cohorts as in our main specification (see Section F.4 in the Appendix). The comparison of women reveals a small positive difference for rank and a minuscule or no significant difference in the probability of being named to the Nomenklatura. The fact that we find a small positive difference across female cohorts for the rank variable seems concerning at first glance because it could indicate effects by broader trends and not conscription. It is important to note though that a) the effect is only roughly a quarter of the effect for men, b) we can only distinguish this effects size from zero due to our large sample size, and c) the small positive effect may plausibly be driven by a spill-over effect—i.e., women of the conscription age-cohort may have worked harder than older women, due to expectation of career rewards for conscription-affected men or, alternatively, the reduced immediate labor market competition at entry. I.e., women aged < 25 in 1962 did not have to immediately compete with similarly aged men for entry-level jobs, allowing them to start their career early.

⁶⁷One possible issue with our main difference-in-difference specification is that we directly compare outcomes for men aged 18–25 versus men aged 26–33 (note that this concern does not apply to the within-cohort comparison of men and women). If men experience their most important career boosts at the ages of 18–25, we could be attributing some of the gains experienced by the draft-eligible cohort to the conscription effect, merely because the age-adjacent but older cohort already experienced this boost prior to 1962. Substantively, this is unlikely, since the most important career steps with regard to leadership positions are experienced at age 40 and older. See Figure 1.

7 Mechanisms and alternative explanations

What mechanism linked conscription to career advancement in the GDR? Our theoretical argument emphasizes the role of *indoctrination*. It is based on two interrelated assumptions: first, former conscripts were able to achieve higher ranks because of a specific behavioral effect of military training: it induced former recruits to show more effort and loyalty than their peers. Second, former conscripts displayed more effort and loyalty because military training made them *internalize* elite preferences.

Alternative explanations can challenge both of these assumptions: first, career advancement may have been independent of former recruits' more pronounced effort and loyalty. Instead, military service may have fostered careers because it provided recruits with *qualifications* and *resources* that were relevant for subsequent careers in the bureaucracy. Second, even if career advancement was driven by displays of effort and loyalty, they may not have resulted from an actual internalization of regime preferences. Instead, military service (like similar attempts at indoctrination in other autocratic mass organizations) may have provided former conscripts with a good understanding of the expectations of the elite's preferences. This may have put them in a better position to behave strategically according to the "rules of the game."

We address the first objection with a series of additional empirical tests. We assess whether military service (1) has provided former conscripts with preferential access to education, (2) may have contributed to the formation of career-boosting personal networks, or (3) may have been interpreted by the elite as a signal of loyalty/capacity in itself (independently of conscripts' subsequent behaviour). We present detailed results

of these tests in Appendix G. Based on our findings, we cannot fully rule out that some of these factors may have contributed to the career advancement of former conscripts (e.g., effects on education). Overall, however, results are too weak and/or inconsistent to explain the career premium of military service in the GDR convincingly. Moreover, as we are going to demonstrate below, former conscripts also differed from their peers in terms of their particular engagement in pro-regime *social* activities as well as their more pronounced self-reported loyalty. This indicates a broader behavioral impact of conscription that goes beyond the improvement of qualification and the provision of career-specific resources. Instead, findings are more in line with our basic assumption that military service induced former conscripts to show more effort and loyalty—in their professional as well as social behavior.

The remainder of this section aims at assessing the plausibility of the second objection to the indoctrination-mechanism sketched above: does the observable system engagement of former recruits indicate preference falsification instead of effective norm internalization through indoctrination?

7.1 Preference falsification in the GDR

Anecdotal evidence suggest that preference falsification may in fact be a plausible explanation of our main findings. Preference falsification was widespread in the GDR. People falsified their preferences because they feared reprisals for themselves (“I wanted to study [...]. I did not want to offer resistance”)⁶⁸ or for their relatives (“I did not want

⁶⁸Grafe 2010, p. 96.

my children to be burdened by a 'politically unreliable' father").⁶⁹ As a historian and former GDR citizen summarizes: "Opposition was the biographical exception in an environment of every-day opportunism."⁷⁰

Several historical studies on the GDR emphasize that the system of indoctrination socialized young people to adopt opportunistic behavioral patterns: they were taught what the regime wanted them to think and they learned what could happen if they revealed their true preferences.⁷¹ As one witness explains: "I learned something important for my life: there were things that were valid only in school. Home, the private world, was something entirely different. [...] What I learned was a matter of survival."⁷² Military service may have had a similar kind of effect: intense political socialization may have served as particularly effective training in preference falsification.

Access to socio-economic benefits may have motivated individuals to falsify their preferences in order to have a successful career in the bureaucracy. Such careers granted cadres access to substantial privileges: access to better-equipped hospitals, consumer goods from West Germany, higher pensions, access to free food in special restaurants, higher salaries, special vacation opportunities, better education and career prospects for children, and the right to travel to foreign countries.⁷³

It is difficult to identify preference falsification empirically. By definition, if preference falsification is at work, recruits' behavior should be similar to that generated by the

⁶⁹Grafe 2010, p. 138.

⁷⁰Wolle 2013, p. 420.

⁷¹Bundestag 2000, Volume 1, p. 543.

⁷²Grafe 2010, p. 24.

⁷³Bundestag 2000, Volume 4, p. 30, p. 1608; Volume 2, p. 850; see also Wolle 2013.

indoctrination mechanism. In light of this inherent challenge, the auxiliary analyses presented below should not be interpreted as hard empirical tests but rather as assessments of the relative plausibility of the two competing mechanisms.

7.2 Variation in types of voluntary engagement

We start by investigating how military service increased observable loyal behavior in terms of voluntary membership and engagement. According to both rival mechanisms presented above, conscripted cadres should be more likely to demonstrate such social engagement in line with this ideological preference of the regime. However, the two explanations would assume different motives: cadres should display higher levels of engagement because they actually share the underlying socialist values, or because they act opportunistically.

We expect these different motives to lead to different patterns of engagement. A strategy of preference falsification would focus on signals that can effectively indicate compliance with regime expectations but that are associated with relatively low costs in terms of time and resource investment. Obviously, signals are most effective, when they are costly to the sender. Thus, even preference falsifiers have to incur certain costs to signal system engagement. However, we expect them to strategically balance expected benefits and costs when selecting specific types of signals. Conversely, cadres who are intrinsically motivated should be less cost-sensitive.

We investigate two types of voluntary engagement to assess these observable implications: The first is membership in various socialist mass organizations. Here, we focus on membership in the ruling SED party, the number of memberships in a broad set of af-

filiate organizations, and the number of memberships in the core affiliate organizations: the Free German Youth (*Freie Deutsche Jugend*, FDJ), the Free German Trade Union Federation (*Freier Deutscher Gewerkschaftsbund*, FDGB) and the Society for German–Soviet Friendship (*Gesellschaft für Deutsch-Sowjetische Freundschaft*, DSF).

Membership was essential for career advancements: citizens would not be able to attend university without belonging to the FDJ and would not be allowed to attain higher career levels in the industrial sector without belonging to the FDGB.⁷⁴ At the same time, pure memberships represented a rather “cheap” signal of loyalty. Cadres could easily join even a large number of mass organizations and formally claim membership without any additional substantive investment in terms of time and effort.⁷⁵

The second indicator captures a type of engagement beyond pure membership. We count the number of voluntary functions taken over by cadres in various political and social mass organizations. Contrary to other members, functionaries held positions in the internal management and external representation of mass organizations, such as group leader in youth organizations, treasurer, or chairman of local organization chapter.⁷⁶ This type of engagement required substantially more investment than pure membership. Anecdotal evidence suggests that such voluntary posts were often seen as bringing “more disadvantages than advantages”⁷⁷ because of the time required and because functions may have entailed potentially sensitive tasks (e.g. functions in the FDGB entailed

⁷⁴Bundestag 1995, Volume 7, p. 1243.

⁷⁵Bundestag 1995, Volume 1, p. 238, Volume 2 p. 1743.

⁷⁶Salheiser 2009.

⁷⁷Bundestag 1995, Volume 2, p. 1741.

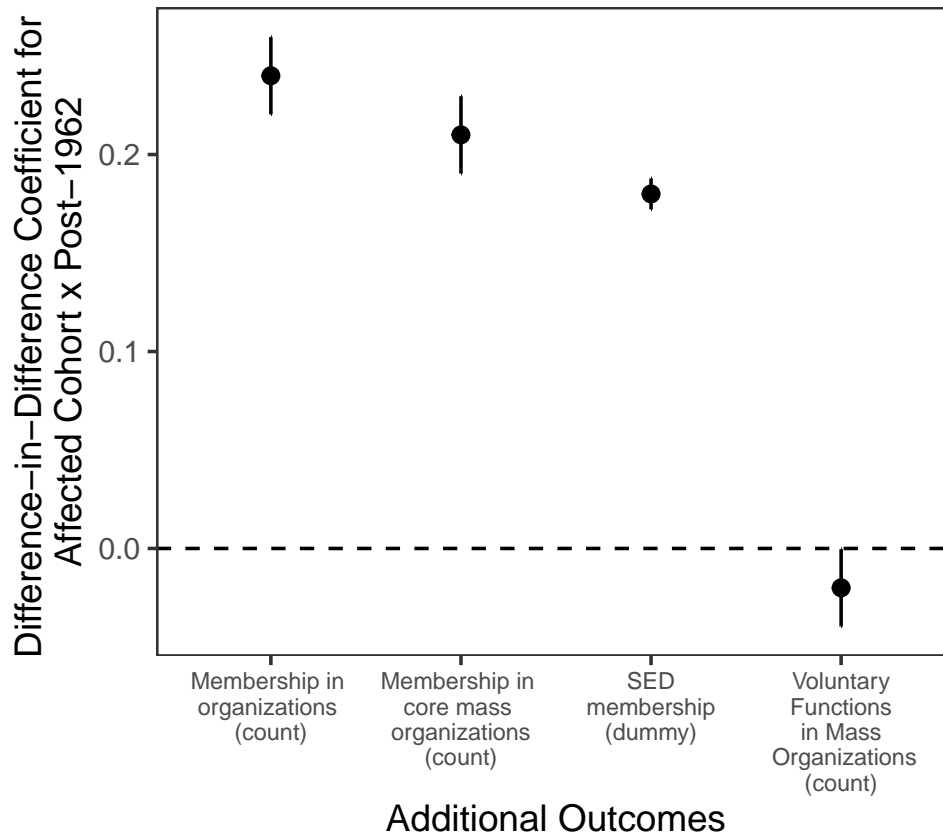


Figure 3: Coefficient plot for additional outcomes on indoctrination and observable loyal behavior. $N = 2226243$. Covariates and treatment/control definition equivalent to Model 1 in Table 3. For a description of outcome variables see Table 2.

mediation between employees and leading industry cadres).⁷⁸

Figure 3 reports estimates for the effects of military service on different measures of voluntary engagement in mass organizations. We find that affected cohorts joined regime-affiliated organizations at higher rates. The only exception from this pattern is the count of voluntary functions (left panel in Figure 3, last coefficient), which is negative. These results are in line with the assumption that former conscripts adapt their behavior to hide their true preferences but also try to avoid overly costly signals of loyalty.

⁷⁸Bundestag 1995, Volume 2, p. 1741; Volume 1, p. 237.

7.3 Variation in voluntary engagement across ranks

Table 4: Analysis of System Engagement

	SED	Org Count Core	Org Count	Vol. Funct.
	(1)	(2)	(3)	(4)
Rank	0.02 (0.01)	0.06*** (0.02)	0.10*** (0.02)	0.04* (0.02)
Affected Cohort*Post-1961	0.11*** (0.03)	0.18*** (0.02)	0.19*** (0.02)	-0.02 (0.02)
Post-1961*Rank	-0.04** (0.01)	-0.02 (0.02)	-0.05** (0.02)	0.01 (0.03)
Affected Cohort*Rank	0.02 (0.02)	0.11*** (0.04)	0.11*** (0.03)	0.02 (0.03)
Affected Cohort*Post-1961*Rank	0.04** (0.02)	-0.11*** (0.03)	-0.10*** (0.03)	-0.01 (0.03)
Treated	M 18-25	M 18-25	M 18-25	M 18-25
Control	M 26-33	M 26-33	M 26-33	M 26-33
Year FE	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes
Individual-Level FE	Yes	Yes	Yes	Yes
N	263,882	263,882	263,882	263,882
R ²	0.79	0.66	0.75	0.57
Adjusted R ²	0.78	0.64	0.74	0.55

Notes:

***Significant at the 0.01 level.

**Significant at the 0.05 level.

*Significant at the 0.1 level.

Standard errors are clustered at the age-cohort level.

Motives for preference falsification should be strongest among individuals who fear negative career effects (or other types of reprisal) upon detection of their true preferences. We expect this fear to diminish as cadres climb up the career ladder in the state bureaucracy and gain political influence and bargaining power that could shield them from potential punishments. We derive this expectation from the observation that high-

level cadres generally enjoyed higher levels of regime trust. For example, high-level cadres had a certain protection from surveillance by the secret service,⁷⁹ they were allowed to consume Western media without reprisals,⁸⁰ and they were sometimes even granted the right to temporarily leave the country.⁸¹ Whereas “true believers” can be expected to continue to behave according to the normative expectations of the regime as they progress through the hierarchy of the administration, individuals who fake their preferences will tend to reduce their investments in costly signals of loyalty as they expect a diminishing need and/or return for the falsification of their preferences.

Given this expectation, we estimate our standard models with a triple interaction between the conscription-affected cohort dummy, the post-1961 dummy, and individuals’ rank in the hierarchy, using membership in the SED, other mass organizations, and volunteer functions as outcomes. We expect that former conscripts tend to reduce effort in terms of organizational membership as they progress through hierarchical ranks. This expectation is captured by the interaction term *Affected Cohort*Post-1961*Rank*. We find support for this (see Table 4). Mirroring findings presented above, we see that former conscripts show higher levels of social engagement but tend to reduce this engagement on higher levels of the hierarchy. This is not the case for SED membership, though. Membership in the party was generally seen as a requirement for all higher-level functionaries. This may have made former conscripts less cost-sensitive when it comes to this kind of social engagement.

⁷⁹Bundestag 2000, Volume 2, p. 850.

⁸⁰Nawrocki 1967.

⁸¹Wolle 2013.

7.4 Variation in self-reported socialist preferences before/after regime change

As a third auxiliary test we investigate how male GDR citizens with NVA service history scored on survey questions measuring socialist preferences before and after the fall of the regime. If the preference falsification hypothesis is correct, former conscripts should display higher levels of self-reported regime loyalty only in the pre-1989 survey, conducted while the SED regime was still in place. When answering a survey conducted by the regime, respondents likely were cautious not to reveal any true preference. This pressure to fake socialist preferences should disappear in the post-1989 survey, which was conducted after the fall of the regime, when repression became unlikely. If former conscripts were more likely to be true believers of socialist ideology than non-conscripts, we should observe higher levels of self-reported regime loyalty to persist even after the end of the socialist regime. Consequently, we expect a negative effect of the regime collapse on NVA conscripts' support for socialist preferences compared to non-conscripts.

We take advantage of the fact that the GDR conducted a number of surveys among its population to gauge their citizens' ideological conviction. Specifically, we rely on surveys, carried out in 1983, 1985, and late 1988/early 1989 (well before the first protests that led to the revolution in late 1989). We combine this survey data with information from a survey conducted between 1990 and 1996, after the overthrow of the socialist regime, for a total of 4665 respondents. See Appendix H for details on the sources of the surveys as well as survey items used.

Using these surveys, we construct an index measure of socialist preferences, based on

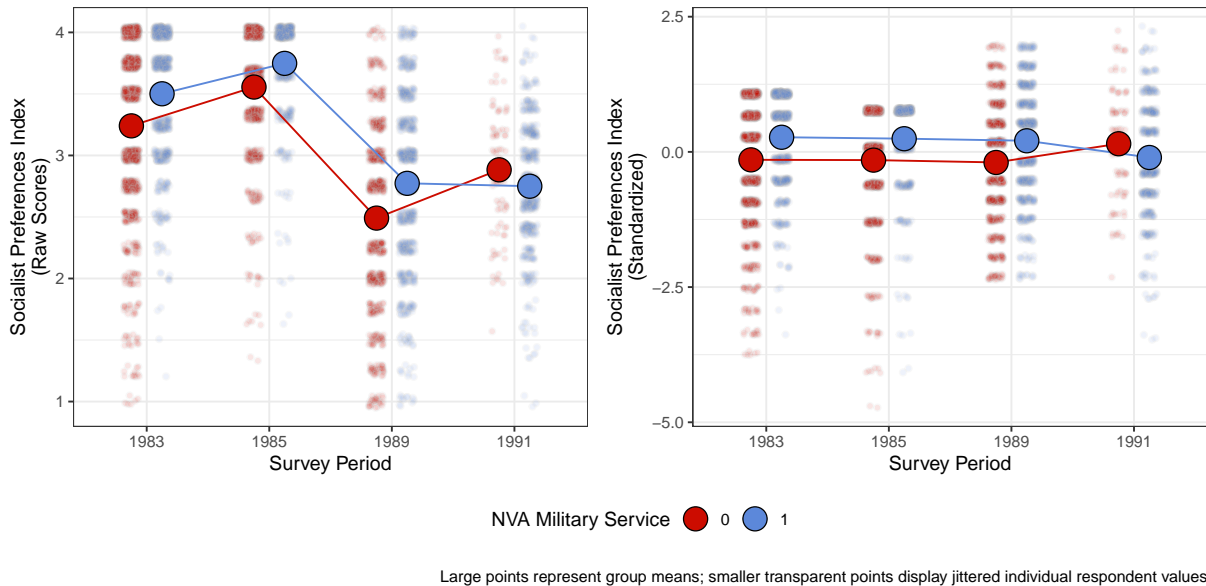


Figure 4: Military Service and Self-Reported Socialist Preferences

survey items that plausibly capture socialist preferences. Example survey items include questions such as “I am convinced by the Marxist-Leninist worldview” or “Socialism will prevail globally” (pre-1989 surveys), or “Socialism was basically a good idea that was poorly executed” (post-1989 survey). Even though the exact question wording differs across surveys, we assume that, in the averaged aggregate, they adequately capture a respondent’s underlying socialist preferences. Since all items are measured on a four point scale, we construct an index of socialist preferences where 4 indicates the strongest agreement with a socialist worldview. We present the socialism preference index in both raw average scores and as mean-standardized scores to account for idiosyncratic differences across surveys.

Using these data, [Figure 4](#) demonstrates that 1) trends for NVA conscripts and non-conscripts were parallel before 1989; 2) NVA conscripts consistently display stronger so-

cialist preferences than non-conscripts before 1989; and that 3) after 1989/1990, this difference disappears: conscripts do not report stronger socialist beliefs than non-conscripts in the survey taken after 1990.

To subject these descriptive patterns to a more formal statistical test, we employ a difference-in-differences design on a combined sample of all survey respondents. Using this design, we compare socialist preferences of respondents with completed military service to those without completed military service, both before and after the revolution in 1989/1990. This strategy is particularly useful to disentangle the effects of NVA service on socialist preferences from the general effects of the regime collapse in 1989 on socialist preferences. Importantly, the models also allow us to account for age as a confounding variable, since completion of military service strongly correlates with age. Finally, since field work for the post-1990 survey was conducted between September 1991 and September 1992, we include interview month fixed effects to absorb the effects of the collapse of the Soviet Union in December 1991.

In these models the NVA service dummy represents the indicator for the treatment group and the post-1990 dummy represents the post-treatment variable. The outcome is the socialist preference index. We expect the interaction between *Post-1990* and *NVA Military Service* to be negative, which would indicate that the difference in socialist preferences between NVA conscripts and non-conscripts is reduced post-1990.

Table 5 reports the results. Across all models, the coefficient for the *Post 1990 x NVA Military Service* variable is negative, statistically significant and substantively large. The results from the mean-standardized outcome in columns 3 and 4 indicates that the difference in socialist preferences between conscripts and non-conscripts drops by about

Table 5: Military Service and Self-Reported Socialist Preferences: Difference-in-Differences

	Socialist Preferences Index (raw scores)		Socialist Preferences Index (standardized)	
	Model 1	Model 2	Model 3	Model 4
Post 1990 x NVA Military Service	-0.384*** (0.066)	-0.234*** (0.069)	-0.660*** (0.123)	-0.417*** (0.128)
Wehrdienst NVA	0.251*** (0.019)	0.098*** (0.028)	0.406*** (0.030)	0.155*** (0.044)
Age		0.082*** (0.014)		0.142*** (0.022)
Age^2		-0.001*** (0.000)		-0.002*** (0.000)
Num.Obs.	4665	4665	4665	4665
R2	0.327	0.337	0.036	0.050
Survey Period FE	Yes	Yes	Yes	Yes
Interview Month FE	No	Yes	No	Yes

Notes: * Significant at the 0.1 level, ** Significant at the 0.05 level, *** Significant at the 0.01 level

half a standard deviation after the fall of the regime.

These findings mirror those of historical studies that question the deeper normative effects of military service in the GDR. Shortly after the fall of the Berlin Wall, Gose administered a survey to a small sample of roughly 200 veterans of the NVA and the German Bundeswehr as well as to civilians from both parts of Germany.⁸² He finds that East-German veterans rejected communist political systems to a greater degree than non-veterans, concluding that “although veterans experienced more intense political socialization for communism in the military, it may have had the opposite effect on them.”⁸³

⁸²Gose 1995.

⁸³ibid., p. 198.

8 Conclusion

In this paper we have advanced a theory of conscription as an autocrat's instrument to instill system engagement in its bureaucratic workforce. We have tested this hypothesis with an original data set that gives us unprecedented insight into the inner workings of the former GDR. By studying the introduction of conscription in 1962, we have demonstrated that conscripted cohorts systematically and substantially advanced to higher ranks within the GDR bureaucracy. Auxiliary investigations of the underlying mechanism, however, cast doubt on the assumption that this effect resulted from norm internalization through indoctrination. In the light of our empirical findings, it seems more likely that military service enabled individuals to mimic the behavior required by the regime without being true ideological zealots.

Future research should assess the empirical scope of our argument. We have investigated indoctrination and system engagement in a case where a number of conditions make it appear likely that we have observed an effect: the GDR was a regime with an interest in indoctrinating its population, possessed a coherent state ideology, and had the capacity to implement indoctrination. Nevertheless, we have found that it was precisely in this most likely environment that actual preference indoctrination failed. Based on this finding, we would expect that indoctrination attempts are similarly or more difficult in less conducive contexts—for instance in predatory, personalized regimes such as North Korea. Moreover, future studies could investigate the effectiveness of indoctrination attempts in other autocratic institutions. While our findings indicate that military service may improve preference falsification, similar analyses of other mass organiza-

tions could strengthen our more general understanding of the intended and unintended consequences of indoctrination.

We believe that our finding has a number of important implications for future research on the micro-foundations of autocratic rule. First, we have provided empirical evidence supporting theoretical work that emphasizes the potential failure of regime indoctrination to actually convince citizens of regime ideology.⁸⁴ In particular, our results indicate that a purported pillar of indoctrination, military service, is partially ineffective. Given that military service provides a most likely case for indoctrination to be successful, due to the totality of the life within the institution, our findings highlight the agency of citizens in an autocratic regime to withstand indoctrination.

Second, our findings highlight the need for future research to further investigate the empirical relationship between preference falsification and autocratic stability. Based on our results and favored interpretation, conscription seems to be partially effective. On the one hand, it increases regime engagement of cadres at scale, bolstering regime stability. On the other hand, failed indoctrination via conscription introduces an information problem for the autocratic elite: the elite does not know whether the observed agent loyalty is actually loyalty. When and how this discrepancy is revealed and when and how it is most likely to contribute to regime breakdown constitutes an exciting avenue for future research.

⁸⁴Little 2017.

References

- Adena, Maja, Ruben Enikolopov, Maria Petrova, Veronica Santarosa, and Ekaterina Zhuravskaya. 2015. "Radio and the Rise of The Nazis in Prewar Germany." *The Quarterly Journal of Economics* 130(4): 1885–1939. doi:[10.1093/qje/qjv030](https://doi.org/10.1093/qje/qjv030).
- Akerlof, George A., and Rachel E. Kranton. 2000. "Economics and Identity." *The Quarterly Journal of Economics* 115(3): 715–753. doi:[10.1162/003355300554881](https://doi.org/10.1162/003355300554881).
- Bachman, Jerald G., Peter Freedman-Doan, David R. Segal, and Patrick M. O'Malley. 2000. "Distinctive Military Attitudes among U.S. Enlistees, 1976-1997: Self-Selection versus Socialization." *Armed Forces & Society* 26(4): 561–585. doi:[10.1177/0095327X0002600404](https://doi.org/10.1177/0095327X0002600404).
- Barany, Zoltan. 2018. "Soldiers of Arabia: Explaining Compulsory Military Service in the Gulf." *Journal of Arabian Studies* 8(1): 118–140. doi:[10.1080/21534764.2018.1551471](https://doi.org/10.1080/21534764.2018.1551471).
- Best, Heinrich, and Stefan Hornbostel. 2003. "Die Analyse prozess-produzierter Daten am Beispiel des Kaderdatenspeichers des Ministerrates der DDR." *Historical Social Research* 28(1/2): 108–127. doi:[10.12759/hsr.28.2003.1/2.108-127](https://doi.org/10.12759/hsr.28.2003.1/2.108-127).
- Boyer, Christoph. 1999. "Kaderpolitik und zentrale Planbürokratie in der SBZ/DDR." In *Sozialistische Eliten: Horizontale Und Vertikale Differenzierungsmuster In Der DDR*, ed. Stefan Hornbostel. One thousand, nine hundred ninety-ninth ed. Opladen: Leske + Budrich Verlag, 11–31.
- Brehm, John O., and Scott Gates. 1999. *Working, Shirking, and Sabotage: Bureaucratic*

- Response to a Democratic Public: Bureaucratic Response to a Democratic Republic.* Ann Arbor: Univ of Michigan Pr.
- Bundestag, Deutscher. 1995. *Materialien Der Enquete-Kommission „Aufarbeitung von Geschichte Und Folgen Der SED-Diktatur in Deutschland (12. Wahlperiode Des Deutschen Bundestages)*. Baden/Frankfurt am Main: Deutscher Bundestag.
- Bundestag, Deutscher. 2000. *Materialien Der Enquete-Kommission „Aufarbeitung von Geschichte Und Folgen Der SED-Diktatur in Deutschland (13. Wahlperiode Des Deutschen Bundestages)*. Baden/Frankfurt am Main: Deutscher Bundestag.
- Cantoni, Davide, Yuyu Chen, David Y. Yang, Noam Yuchtman, and Y. Jane Zhang. 2017. “Curriculum and Ideology.” *Journal of Political Economy* 125(2): 338–392. doi:[10.1086/690951](https://doi.org/10.1086/690951).
- Darden, Keith. 2008. “The Integrity of Corrupt States: Graft as an Informal State Institution.” *Politics & Society* 36(1): 35–59. doi:[10.1177/0032329207312183](https://doi.org/10.1177/0032329207312183).
- Dixit, Avinash K. 2010. “Democracy, Autocracy and Bureaucracy.” *Journal of Globalization and Development* 1(1). doi:[10.2202/1948-1837.1010](https://doi.org/10.2202/1948-1837.1010).
- Dukalskis, Alexander, and Johannes Gerschewski. 2017. “What Autocracies Say (and What Citizens Hear): Proposing Four Mechanisms of Autocratic Legitimation.” *Contemporary Politics* 23(3): 251–268. doi:[10.1080/13569775.2017.1304320](https://doi.org/10.1080/13569775.2017.1304320).
- Erikson, Robert S., and Laura Stoker. 2011. “Caught in the Draft: The Effects of Vietnam Draft Lottery Status on Political Attitudes.” *American Political Science Review* 105(2): 221–237. doi:[10.1017/S0003055411000141](https://doi.org/10.1017/S0003055411000141).

- Ertola Navajas, Gabriela, Paula López Villalba, Martín Rossi, and Antonia Vazquez. 2019. *Shaping Personality and Beliefs: The Role of Military Conscription*. Working Paper Universidad de San Andres, Departamento de Economia.
- Fize, Etienne, and Charles Louis-Sidois. 2018. Military Service and Political Behaviors. SSRN Scholarly Paper ID 2905732 Social Science Research Network Rochester, NY: .
- Frye, Timothy, Ora John Reuter, and David Szakonyi. 2014. "Political Machines at Work Voter Mobilization and Electoral Subversion in the Workplace." *World Politics* 66(02): 195–228. doi:[10.1017/S004388711400001X](https://doi.org/10.1017/S004388711400001X).
- Frye, Timothy, Ora John Reuter, and David Szakonyi. 2019. "Vote Brokers, Clientelist Appeals, and Voter Turnout: Evidence from Russia and Venezuela." *World Politics* 71(4): 710–746. doi:[10.1017/S0043887119000078](https://doi.org/10.1017/S0043887119000078).
- Garcia, Ryan J. B. 2015. "National Service and Civic Engagement: A Natural Experiment." *Political Behavior* 37(4): 845–864. doi:[10.1007/s11109-014-9293-1](https://doi.org/10.1007/s11109-014-9293-1).
- Gebauer, Ronald. 2006. "Wo Geht's Nach Oben? Karrieremobilität von DDR-Kadern Zwischen Aufstieg, Rückstufung Und Abstieg—Die Entwicklung Eines Hierarchiepositionsschemas von DDR-Führungskadern Für Längsschnittdaten Als Methodische Herausforderung." In *Die Geplante Gesellschaft. Analysen Personenbezogener Massendatenspeicher Der DDR*, eds. Heinrich Best, and Dietmar Remy. Jena: SFB 580 Mitteilungen, Heft 18.
- Geddes, Barbara, Joseph Wright, and Erica Frantz. 2014. "Autocratic Breakdown

- and Regime Transitions: A New Data Set." *Perspectives on Politics* 12(2): 313–331. doi:[10.1017/S1537592714000851](https://doi.org/10.1017/S1537592714000851).
- Gläßel, Christian, and Katrin Paula. 2019. "Sometimes Less Is More: Censorship, News Falsification, and Disapproval in 1989 East Germany." *American Journal of Political Science* Online First. doi:[10.1111/ajps.12501](https://doi.org/10.1111/ajps.12501).
- Goffman, Erving. 1961. *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates*. 1st ed. New York, NY: Anchor Books / Doubleday.
- Gose, Mark N. 1995. *The Role of the Military in Building Political Community: The Case of the Two German States*. Dissertation Boulder: University of Colorado.
- Grafe, Roman. 2010. *Die Schuld der Mitläufer: Anpassen oder Widerstehen in der DDR*. Pantheon Verlag.
- Green, Amelia Hoover. 2017. "Armed Group Institutions and Combatant Socialization: Evidence from El Salvador." *Journal of Peace Research* 54(5): 687–700. doi:[10.1177/0022343317715300](https://doi.org/10.1177/0022343317715300).
- Green, Donald P., Tiffany C. Davenport, and Kolby Hanson. 2019. "Are There Long-Term Effects of the Vietnam Draft on Political Attitudes or Behavior? Apparently Not." *Journal of Experimental Political Science* 6(2): 71–80. doi:[10.1017/XPS.2018.18](https://doi.org/10.1017/XPS.2018.18).
- Harrison, Mark. 2002. "Coercion, Compliance, and the Collapse of the Soviet Command Economy." *The Economic History Review* 55(3): 397–433. doi:[10.1111/1468-0289.00226](https://doi.org/10.1111/1468-0289.00226).
- Herspring, Dale R., and Ivan Volgyes. 1977. "The Military as an Agent of Political

- Socialization in Eastern Europe: A Comparative Framework." *Armed Forces & Society* 3(2): 249–270. doi:[10.1177/0095327X7700300207](https://doi.org/10.1177/0095327X7700300207).
- Huang, Haifeng. 2018. "The Pathology of Hard Propaganda." *The Journal of Politics* 80(3): 1034–1038. doi:[10.1086/696863](https://doi.org/10.1086/696863).
- Jones, Ellen, and Fred W. Grupp. 1982. "Political Socialization in the Soviet Military." *Armed Forces & Society* 8(3): 355–387. doi:[10.1177/0095327X8200800301](https://doi.org/10.1177/0095327X8200800301).
- Kasza, Gregory James. 1995. *The Conscripted Society: Administered Mass Organizations*. Yale University Press.
- Krebs, Ronald R. 2004. "A School for the Nation? How Military Service Does Not Build Nations, and How It Might." *International Security* 28(4): 85–124. doi:[10.1162/0162288041588278](https://doi.org/10.1162/0162288041588278).
- Kuran, Timur. 1989. "Sparks and Prairie Fires: A Theory of Unanticipated Political Revolution." *Public Choice* 61(1): 41–74. doi:[10.1007/BF00116762](https://doi.org/10.1007/BF00116762).
- Lee, Stephen J. 2013. *Hitler and Nazi Germany*. Routledge.
- Lipsky, Michael. 1980. *Street-Level Bureaucracy. Dilemmas of the Individual in Public Service*. The Russell Sage Foundation.
- Little, Andrew T. 2017. "Propaganda and Credulity." *Games and Economic Behavior* 102(C): 224–232.
- March, James G., and Johan P. Olsen. 2010. *Rediscovering Institutions*. Simon and Schuster.

- Miller, Charles, Benjamin Barber, and Shuvo Bakar. 2018. "Indoctrination and Coercion in Agent Motivation: Evidence from Nazi Germany." *Rationality and Society* 30(2): 189–219. doi:[10.1177/1043463118754875](https://doi.org/10.1177/1043463118754875).
- Miller, Gary J., and Andrew B. Whitford. 2007. "The Principal's Moral Hazard: Constraints on the Use of Incentives in Hierarchy." *Journal of Public Administration Research and Theory* 17(2): 213–233. doi:[10.1093/jopart/mul004](https://doi.org/10.1093/jopart/mul004).
- Miller, Marcus, and Jennifer C. Smith. 2015. "In the Shadow of the Gulag: Worker Discipline under Stalin." *Journal of Comparative Economics* 43(3): 531–548. doi:[10.1016/j.jce.2015.01.005](https://doi.org/10.1016/j.jce.2015.01.005).
- Müller, Tanja R. 2012. "From Rebel Governance to State Consolidation – Dynamics of Loyalty and the Securitisation of the State in Eritrea." *Geoforum* 43(4): 793–803. doi:[10.1016/j.geoforum.2012.01.009](https://doi.org/10.1016/j.geoforum.2012.01.009).
- Nawrocki, Joachim. 1967. "Privilegien Wie in Einem Fürstentum." *Spiegel* 40.
- Peisakhin Leonid, and Rozenas Arturas. 2018. "Electoral Effects of Biased Media: Russian Television in Ukraine." *American Journal of Political Science* 62(3): 535–550. doi:[10.1111/ajps.12355](https://doi.org/10.1111/ajps.12355).
- Ripp, Christian. 2000. "Die 'sozialistische Soldatenpersönlichkeit' : Die Soziale Konstruktion Des Preußischen Wehrpflichtigen in Der DDR." *Männlichkeiten: the Dark Continent* 4(1-2): 82–97.
- Rogg, Matthias. 2008. *Armee des Volkes? Militär und Gesellschaft in der DDR*. 1., auflage ed. Berlin: Ch. Links Verlag.

- Ross, Sabine. 1997. "Karriere Auf Der Lochkarte. Der 'Zentrale Kaderdatenspeicher' Des Ministerrats Der DDR." In *Gesellschaft Ohne Eliten?: Führungsgruppen in Der DDR*, eds. Arnd Bauerkämper, Jürgen Danyel, Peter Hübner, and Sabine Ross. Berlin: Metropol Verlag , 109–31.
- Rozenas, Arturas, and Yuri M. Zhukov. 2019. "Mass Repression and Political Loyalty: Evidence from Stalin's 'Terror by Hunger'." *American Political Science Review* 113(2): 569–583. doi:[10.1017/S0003055419000066](https://doi.org/10.1017/S0003055419000066).
- Salheiser, Axel. 2005. "Die ökonomische Elite der DDR im Datenbestand des Teilprojekts A1 des SFB 580: Leitungspersonal der volkseigenen Industrie im Zentralen Kaderdatenspeicher." *Historical Social Research* 30(2): 73–95. doi:[10.12759/hsr.30.2005.2.73-95](https://doi.org/10.12759/hsr.30.2005.2.73-95).
- Salheiser, Axel. 2009. *Parteitreu, Plangemäß, Professionell?: Rekrutierungsmuster Und Karriereverläufe von DDR-Industriekadern*. VS Forschung | Research VS Verlag für Sozialwissenschaften.
- Selb, Peter, and Simon Munzert. 2018. "Examining a Most Likely Case for Strong Campaign Effects: Hitler's Speeches and the Rise of the Nazi Party, 1927–1933." *American Political Science Review* 112(4): 1050–1066. doi:[10.1017/S0003055418000424](https://doi.org/10.1017/S0003055418000424).
- Shapiro, Carl, and Joseph Stiglitz. 1984. "Equilibrium Unemployment as a Worker Discipline Device." *American Economic Review* 74(3): 433–44.
- Svolik, Milan W. 2013. "Contracting on Violence The Moral Hazard in Authoritarian Repression and Military Intervention in Politics." *Journal of Conflict Resolution* 57(5): 765–794. doi:[10.1177/0022002712449327](https://doi.org/10.1177/0022002712449327).

The Fraser Institute. 2019. *Economic Freedom of the World: 2019 Annual Report*. Vancouver, Canada: Fraser Institute.

Wenzke, Rüdiger. 2013. *Ulbrichts Soldaten: Die Nationale Volksarmee 1956 bis 1971*. Ch. Links Verlag.

Wolle, Stefan. 2013. *Die heile Welt der Diktatur: Alltag und Herrschaft in der DDR 1971-1989*. Ch. Links Verlag.