Supplementary Information for Tutelary Power and Autocratic Legitimacy: Experimental Evidence from Kazakhstan's Diarchy*

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A Research Design

Our survey used a nationally representative sample of the adult population in Kazakhstan. To address potential social desirability bias, we relied on two indirect questioning techniques: the item count technique (a.k.a. the list experiment) and the endorsement experiment. This section describes the survey sampling and introduces the design and statistical analysis of the indirect questioning survey experiments.

A.1 Survey Sampling

The survey was conducted from January to March in 2021. The target sample size was $3,000$ respondents consisting of Kazakh citizens of age 18 or older and age 75 or younger. To obtain a nationally representative sample, we used a multi-stage cluster sampling design where the stratas are residency locations and households.

The first level of stratification is residency locations. The survey covers fourteen *oblasts* in the country and three cities (Almaty, Astana, and Shymkent). Each *oblast* is split into the urban and rural areas based on the definition by the National Statistical Committee of Kazakhstan, and thus there were 31 strata in total for the entire country. We allocated 150 Primary Stage Units (PSUs) of twenty households to each of these stratum so that the proportion of respondents from each stratum in the sample is proportional to the population proportion of each stratum. For the population proportion and allocated number of PSUs/interviews, see Table A.1.

Within each PSU, twenty households were sampled by enumerators. The starting point of sampling is the geographic center of the PSU in urban areas while in rural areas sampling began randomly with either an administrative building, a post office, a shool, a bus station in the center of a village, or the first or the last house from the entrance of a village. Starting from the given address/point, each interviewer followed the random route method, sample every third household on their right, and turned right at the end of each block. If a starting address or a selected building on the route was an apartment, the interviewer walked from the top floor selecting every sixth apartment unit on her right. For each selected household, the interviewer attempted up to three contacts at different times of the day, days of the week, and the weekend within the survey period to conduct a successful interview. In areas where the interviewer could not return on a different day, she or he made attempts with at least a two-hour gap between each attempt before substituting the household. Geolocation data for all visits were recorded in contact sheets completed by interviewers.

Only one respondent within each household was interviewed. The "last birthday method" was used to select a respondent if more than one adult person resided in a sampled household.

Oblast		Type of Residency		Allocated # of Interviews			Allocated # of PSUs	
		Urban	Rural	Total	Urban	Rural	Urban	Rural
Akmola Oblast	N	348673	391324	120	60	60	3	3
	%	47.12%	52.88%					
Aktobe Oblast	N	551132	312389	140	80	60	4	3
	%	63.82%	36.18%					
Almaty Oblast	N	460534	1566060	340	80	260	4	13
	%	22.72%	77.28%					
Atylau Oblast	N	298627	328575	100	40	60	2	3
	%	47.61%	52.39%					
West Kazakhstan Oblast	N	336460	313000	120	60	60	3	3
	%	51.81%	48.19%					
Zhambyl Oblast	N	444493	676276	180	80	100	4	5
	%	39.66%	60.34%					
Karaganda Oblast	N	1099029	281009	220	180	40	9	2
	%	79.64%	20.36%					
Kostanai Oblast	N	473971	400370	140	80	60	4	3
	%	54.21%	45.79%					
Kyzylorda Oblast	N	349129	439644	140	60	80	3	4
	%	44.26%	55.74%					
Mangystau Oblast	N	270794	398365	100	40	60	2	3
	%	40.47%	59.53%					
Turkestanskaya Oblast	N	381135	1575381	320	60	260	3	13
	%	19.48%	80.52%					
Pavlodar Oblast	N	533099	221340	120	80	40	4	2
	%	70.66%	29.34%					
North Kazakhstan Oblast	N	251365	305422	100	40	60	2	3
	%	45.15%	54.85%					
East Kazakhstan Oblast	N	847680	534173	220	140	80	7	4
	%	61.34%	38.66%					
Nur-Sultan City	N	1047966	0	180	180	0	9	0
	%	100%	0%					
Almaty	N	1829019	0	300	300	0	15	0
	%	100%	0%					
Symkent	N	1005996	0	160	160	0	8	0
	%	100%	0%					
Republic of Kazakhstan		10529102	7743328	3000	1720	1280	86	64

Table A.1: Sampling Stratas and Allocated Number of PSUs. The data on population come from statistics data of the Republic of Kazakhstan on July 1, 2018.

If there was no adult member or the selected household member refused to answer the survey, the interviewer continued to the next eligible household.

A.2 Item Count Technique

Soliciting truthful responses to a survey question is particularly challenging when there is a socially desirable answer to the question. This problem is called *social desirability bias*, which is the bias caused by the respondents who conceal the truth to make their past behavior or opinion seem appropriate or acceptable. For example, evidence suggests that survey respondents in the United States overreport their turnout in past elections (e.g., Silver, Anderson, and Abramson, 1986; Bernstein, Chadha, and Montjoy, 2001; Enamorado and Imai, 2019). In authoritarian countries, where people are expected to show support for their dictators, the problem is even severer if a survey tries to measure respondents' political attitudes. Since expressing political attitudes may harm the repondent even physically,

responses to a politically sensitive questions are unlikely to reflect the true attitudes in such contexts. Moreover, in some extreme cases, collecting and recording answers itself may be unethical due to the danger to the respondents.

To measure overall public support for the former and current authoritarian presidents in Kazakhstan while avoiding the concern about social desirability bias, we rely on an indirect questioning technique called the *item count technique*, or also known as the *list experiment* (Blair and Imai, 2012; Glynn, 2013). The key idea of this technique is that respondents are asked to tell only an aggregate number of actors whom they generally support, instead of whether they support each actor. In particular, the list experiment question in our survey reads:

> I'm going to read you a list with the names of different groups and individuals on it. After I read the entire list, I'd like you to tell me how many of these groups and individuals you broadly support, meaning that you generally agree with the goals and policies of the group of individuals. Please don't tell me which ones you generally agree with; only tell me HOW MANY groups and individuals you broadly support.

As it clearly states, our respondents were told *not* to choose options and therefore their attitudes were hidden even before the response record was de-identified.

While the item count technique does not allow us to measure respondents' support for dictators directly at the individual level, randomizing items within a list enables the identification of the support rate within a population. In a typical list experiment, each respondent is randomly assigned to a non-sensitive list group and a sensitive list group. Respondents in the non-sensitive list group are shown a list of three or four groups and individuals about whom opinions are not sensitive. However, the respondents assigned to the sensitive list group view a list that includes the name of a dictator *in addition to* the names included in the non-sensitive list. The difference of the average response between the two groups identifies the treatment effect of having the additional name in the list due to the random assignment of the lists. In other words, the proportion of the respondents who would increase their response (the number of actors they support) if the list included the additional name can be consistently estimated by the difference-in-means estimator.[1]

There are two sensitive list groups in addition to a non-sensitive list group for our list experiment, because we measure public support for each of the former and current presidents. In particular, our non-sensitive list group viewed the following list:

> Akim of your city/region

[1]For more details about statistical analysis of list experiments, see Blair and Imai (2012).

Foreign NGOs
Local farmers
Big businesses

The first sensitive list group is intended to measure support for the current President Tokayev:

Akim of your city/region
Foreign NGOs
Local farmers
Big businesses
President Kassym-Jomart Tokayev

whereas the second sensitive list group is about the former President Nazarbayev:

Akim of your city/region
Foreign NGOs
Local farmers
Big businesses
The Former President Nursultan Nazarbayev

It is worth noting that there is no reason to consider any of the four items in the non-sensitive list above being sensitive. With this assumption, we can use the average response in that group as an estimate of the average number of the non-sensitive actors whom the respondents in the other groups support, and hence the approval rate for Tokayev or Nazarbayev is estimated by taking the difference in the average response to this list question between the non-sensitive list group and the Tokayev or Nazarbayev list group.

A.3 Endorsement Experiment

In addition to the list experiment, we used another indirect questioning technique that is known as the endorsement experiment. In endorsement experiments, "randomly selected respondents are asked to express their opinion about several policies endorsed by a socially sensitive actor of interest. These responses are then contrasted with those from a control group that receives no endorsement. If the endorsement by a political actor induces more support for policies, then this is taken as evidence for the existence of support for that actor" (Bullock, Imai, and Shapiro, 2011). The endorsement experiment is more indirect than the list experiment, since endorsement experiment questions ask about support for policies, not politicians. In list experiments, respondents in the sensitive list group realize that they are asked about support for a dictator, though they also recognize their true attitudes will be hidden. However, respondents in an endorsement experiment do not even know that the

experiment is intended to measure support for a politician, since the question does not seem to be about the person. Therefore, the endorsement experiment better ameliorates the social desirability bias than the list experiment.

In our endorsement experiment, the first sentence of each question provided factual information about a policy item. Then, a randomly selected sentence referring to an endorser follows the first sentence. This sentence states that one of three endorsers is deeply involved in adopting and promoting a policy. An example of our endorsement experiment question is:

> Under a new system of compulsory health insurance, workers need to pay a larger amount of contributions, which in turn enables the government to provide indispensable health care for free, including ambulance, primary health care, emergency care, etc. **Since his inauguration in June 2019, President Kassym-Jomart Tokayev has been leading efforts to promote the policy while declaring his strong support for this new healthcare plan.** How much do you support such a plan? (bold added)

The text in bold is a randomly assigned endorsement, whereas the other two endorsement sentences are:

- "Since his presidential resignation in March 2019, Nursultan Nazarbayev has been leading efforts to promote the policy the policy while declaring his strong support for this new healthcare plan"
- "Since the presidential election last June, both President Kassym-Jomart Tokayev and Nursultan Nazarbayev have been equally leading efforts to promote the policy while declaring their strong support for this new healthcare plan"

The response variable is recorded on a 4-point Likert scale where (1) "Not at all" (2) "Just a little," (3) "Somewhat," (4) "A lot."

We did not use the "control" condition where no endorser is shown to the respondents for two reasons. First, our substantive focus is whether diarchical policymaking (i.e., Nazarbayev's backing for Tokayev) leads to greater support for the resulting policies. Therefore, our primary interest is in the effect of having *both* endorsers over Tokayev. In addition to this comparison, we included the Nazarbayev endorser condition to examine people's views on Nazarbayev's involvement without formal power. Second, the condition without any endorsers may obscure the effect of the other endorsements, because researchers will never know who is implicitly attached to each policy item in respondents' mind. In our

experiment where the endorsers are the former and current presidents, the no endorser condition is particularly problematic because they are in fact involved in the policies to some extent. We aimed to avoid this ambiguity by explicitly priming particular presidents' names.

Endorsement experiments typically use multiple policy items, and ours is not an exception. Due to the fact that respondents are not asked about their support for endorsers at all, a single policy question does not provide sufficient information to estimate it. A solution to this problem is to ask each respondent multiple questions and aggregate their answers statistically. In our experiment, we used six policy items: health insurance, education, green energy, anti-corruption, ODA, and AI. For English translation of all endorsement questions, see SI C.

A.3.1 Statistical Model for the Endorsement Experiment Data

To combine information from multiple questions, we use the Bayesian measurement model proposed by Bullock, Imai, and Shapiro (2011). It employs the item response theory (IRT) model with the probit link to aggregate each respondent's answers across multiple items, and a latent variable that represents support for an endorser is added to the "ability" parameter. The goal of the model is to conduct posterior inference on this latent variable by extracting common patterns across items and exploiting the randomization of endorsers. In addition, the use of this measurement model allows us to examine the relationship between respondents' covariates and the latent support for endorsers.

Formally, let Y_{ij} denote the observed ordered response variable, which takes one of the following values, $\{1, 2, 3, 4\}$. Let $T_i \in \{0, 1, 2\}$ indicate the randomized endorser variable, which represents the endorser assigned to respondent i. Then, the individual level model is given by the following ordered probit model,

$$\Pr(Y_{ij} \leq l \mid T_i = k) = \Phi(\alpha_{jl} - \beta_j(x_i + s_{ijk})) \tag{1}$$

for $k = 0, 1, 2$ where $\alpha_{j1} = 0$, $\alpha_{j4} = \infty$, and $\alpha_{jl} < \alpha_{j,l+1}$ for any j and l. In this model, x_i represents respondent i's overall support for the government policy and s_{ijk} denotes the effect of endorsement by endorser k on question j for respondent i. As in the standard IRT model, α_{jl}'s are the item difficulty parameters and β_j is the item discrimination parameter. In the current context, α_{jl}'s reflect the degree to which a policy is supported particularily whereas β_j represents the amount of information each question reveals about respondents' overall support for the government.

We model x_i and s_{ijk} hierarchically as follows using the individual level covariates Z_i and

the PSU's type (urban/rural) indicator $V_{\text{PSU}[i]}$,

$$x_i \overset{\text{indep.}}{\sim} \mathcal{N}(\delta_{\text{PSU}[i]} + Z_i^\top \delta^Z,\ 1) \tag{2}$$

$$s_{ijk} \overset{\text{indep.}}{\sim} \mathcal{N}(\lambda_{k,\text{PSU}[i]} + Z_i^\top \lambda_k^Z,\ \omega_k^2) \tag{3}$$

$$\delta_{\text{PSU}[i]} \overset{\text{indep.}}{\sim} \mathcal{N}(\delta + V_{\text{PSU}[i]}^\top \delta^V,\ \sigma^2) \tag{4}$$

$$\lambda_{k,\text{PSU}[i]} \overset{\text{indep.}}{\sim} \mathcal{N}(\lambda_k + V_{\text{PSU}[i]}^\top \lambda_k^V,\ \psi_k^2) \tag{5}$$

Conditionally conjugate prior distributions, the normal distribution for the coefficents and the inverse chi-squared distribution for the variance parameters, are placed to complete this Bayesian hierarchical model. Markov chain Monte Carlo (MCMC) simulations for posterior inference is implemented via the R package `endorse` (Shiraito and Imai, 2018).

Our main estimand of interest in this model is the probability that endorser k has a positive effect on respondent i's support for policy j, i.e., the probability that $s_{ijk} \geq 0$. From equations (3) and (5), we have

$$\Pr\left(s_{ijk} \geq 0 | Z_i, V_{\text{PSU}[i]}\right) = \Phi\left(\frac{\lambda_k + V_{\text{PSU}[i]}^\top \lambda_k^V + \lambda_{k,\text{PSU}[i]} + Z_i^\top \lambda_k^Z}{\sqrt{\omega_k^2 + \psi_k^2}}\right) \tag{6}$$

where Φ is the standard normal cumulative distribution function. We compute this quantity using each MCMC draw of the relevant parameters and average them across respondents.

B Principles of Research Ethics

It is important to adhere to the principles of research ethnics for studies including this project which involves human subjects in a survey experiment. Therefore, before starting each interview, enumerators informed respondents that that this project is a research study and interviews were not conducted unless the respondents understand the project's goals and agree with participating in the survey. After the interviews, respondents were debriefed by enumerators about the intentions of the survey to minimize the social and individual impacts of the research process on respondents.

The project does not involve any deception when we create treatments in both list and endorsement experiments. For endorsement experiments, based on information from the country's newspapers, we used policy items for which the Kazakh government actually promoted and the political leaders involved in their policy-making processes. For list experiments, all the items do not involve deception and are based on factual information in the country.

We fairly compensated survey participants for an approximately 40 minute interview. We offered 2 – 2.5 USD per respondent by presenting a small gift such as a box of tea or a large pack of cookies as a token of appreciation for their time. Given that the minimum hourly wage of the country in 2021 is about 0.6 USD, the amount of honorarium is substantively large.

C Endorsement Experiment Questions

Endorsement experiment questions are shown below. Respondents are assigned to one of the three groups, where group 1's endorser is "President Kassym-Jomart Tokayev," group 2's endorser is "the former President Nursultan Nazarbayev," and group 3's endorser is "both President Kassym-Jomart Tokayev and the former President Nursultan Nazarbayev." Each respondent receives a common endorser across the policy items. Response variables are recorded on a 4-point Likert scale: (1) Not at all (2) Just a little, (3) Somewhat, (4) A lot.

Healthcare Policy

1. Under a new system of compulsory health insurance, workers need to pay a larger amount of contributions, which in turn enables the government to provide indispensable health care for free, including ambulance, primary health care, emergency care, etc. Since his inauguration in June 2019, President Kassym-Jomart Tokayev has been leading efforts to promote the policy while declaring his strong support for this new healthcare plan. How much do you support such a plan?

2. Under a new system of compulsory health insurance, workers need to pay a larger amount of contributions, which in turn enables the government to provide indispensable health care for free, including ambulance, primary health care, emergency care, etc. Since his presidential resignation in March 2019, Nursultan Nazarbayev has been leading efforts to promote the policy the policy while declaring his strong support for this new healthcare plan. How much do you support such a plan?

3. Under a new system of compulsory health insurance, workers need to pay a larger amount of contributions, which in turn enables the government to provide indispensable health care for free, including ambulance, primary health care, emergency care, etc. Since the presidential election last June, both President Kassym-Jomart Tokayev and Nursultan Nazarbayev have been equally leading efforts to promote the policy while declaring their strong support for this new healthcare plan. How much do you support such a plan?

Education Policy

1. Under a new education initiative, the government intends to increase expenditures on education and science, which is expected to improve quality of education by reviewing qualification requirements for teachers, setting a single standard for state schools, and strengthening academic institutions by establishing partnerships with the world's leading universities. Since his inauguration in June 2019, President Kassym-Jomart

Tokayev has been leading efforts to promote this policy while declaring his strong support for this new education initiative. How much do you support such a plan?

2. Under a new education initiative, the government intends to increase expenditures on education and science, which is expected to improve quality of education by reviewing qualification requirements for teachers, setting a single standard for state schools, and strengthening academic institutions by establishing partnerships with the world's leading universities. Since his presidential resignation in March 2019, Nursultan Nazarbayev has been still leading efforts to promote this policy while declaring his strong support for this new education initiative. How much do you support such a plan?

3. Under a new education initiative, the government intends to increase expenditures on education and science, which is expected to improve quality of education by reviewing qualification requirements for teachers, setting a single standard for state schools, and strengthening academic institutions by establishing partnerships with the world's leading universities. Since the presidential election in June 2019, both President Kassym-Jomart Tokayev and Nulsultan Nazarbayev have been equally leading efforts to promote the policy while declaring their strong support for this new education initiative. How much do you support such a plan?

Green Energy Policy

1. Urged by the recent oil price shock, the country is purporting to make a firm commitment to the development of green energy for sustainable economic growth. Since his inauguration in June 2019, President Kassym-Jomart Tokayev has been leading efforts to promote this policy while declaring his strong support for this new green energy plan. How much do you support such a plan?

2. Urged by the recent oil price shock, the country is purporting to make a firm commitment to the development of green energy for sustainable economic growth. Since his presidential resignation in March 2019, Nursultan Nazarbayev has been still leading efforts to promote this policy while declaring his strong support for the new green energy plan. How much do you support such a plan?

3. Urged by the recent oil price shock, the country is purporting to make a firm commitment to the development of green energy for sustainable economic growth. Since the presidential election in June 2019, both President Kassym-Jomart Tokayev and Nursultan Nazarbayev have been equally leading efforts to promote this policy while declaring

their strong support for the new green energy plan. How much do you support such a plan?

Anti-Corruption Policy

1. In June 2019, the Anti-Corruption Agency was established to more effectively prevent civil servants from committing graft schemes and bribes, requiring all civil servants to publish income and expense declarations. After his inauguration, President Kassym-Jomart Tokayev led efforts to create this independent agency for corruption while declaring his strong support for this anti-corruption policy. How much do you support such a plan?

2. In June 2019, the Anti-Corruption Agency was established to more effectively prevent civil servants from committing graft schemes and bribes, requiring all civil servants to publish income and expense declarations. Even after his presidential resignation, Nursultan Nazarbayev still led efforts to create this independent agency for corruption while declaring his strong support for this anti-corruption policy. How much do you support such a plan?

3. In June 2019, the Anti-Corruption Agency was established to more effectively prevent civil servants from committing graft schemes and bribes, requiring all civil servants to publish income and expense declarations. After the presidential election in June 2019, both President Kassym-Jomart Tokayev Nursultan Nazarbayev equally led efforts to create this independent agency for corruption while declaring their strong support for this anti-corruption policy. How much do you support such a plan?

ODA

1. The government is currently working on strengthening Official Development Assistance (ODA) to support people living below the poverty line in other Central Asian countries and Afghanistan. Although this foreign aid program is expected to bolster ties between Kazakhstan and its neighbors, Kazakhstan also holds the similar poverty and inequality problems. President Kassym-Jomart Tokayev has been leading efforts to promote this program while declaring his strong support for it. How much do you support such a plan?

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problems. The former President Nursultan Nazarbayev has been leading efforts to promote this program while declaring his strong support for it. How much do you support such a plan?

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AI policy

1. The government is currently working to introduce Artificial Intelligence (AI) for the public administrative system. Although AI and big data analysis may risk personal data protection and other privacy issues, it may also correctly identify citizens' needs and efficiently implement public policies. President Kassym-Jomart Tokayev has been leading efforts to promote the AI policy while declaring his strong support for it. How much do you support such a plan?

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D Distribution of Response to Endorsement Experiment Items

Figure D.1 shows the empirical distribution of the response for each policy item by endorsers. Panels correspond to items whereas horizontal bars within each panel correspond to endorsers. Dark gray represents the proportion of "A lot" (i.e., greatest support) and the lighter gray is the lower the represented support level is. The shaded areas show the "Don't know" or "Refused" answer. The figure clearly shows that some policy items (in particular, "Education and Science" and "Corruption". For exact wording see Supplementary Information C) are overwhelmingly supported by the respondents. This is not desirable, unfortunately, for the endorsement experiment.

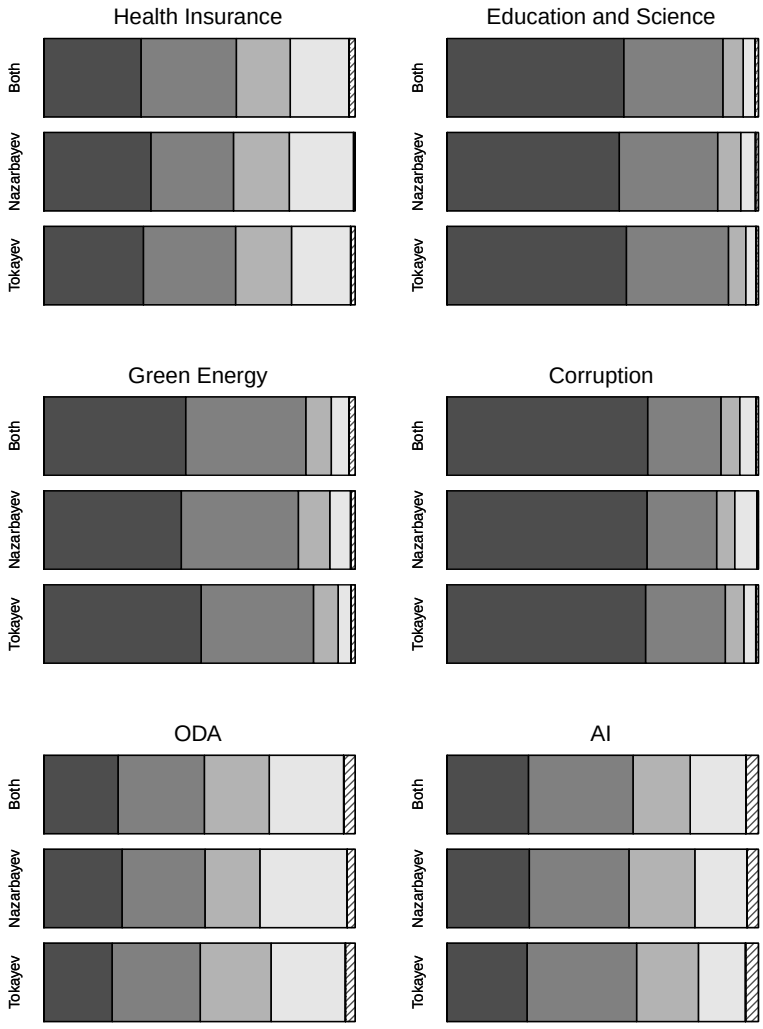

Figure D.1: Distribution of the Response to the Endorsement Experiment Items. Dark gray represents the proportion of "A lot" (greatest support) while light gray shows the proportion of "Not at all" (lowest support). Some policies (education and corruption) are highly supported regardless of the endorser.

E Preregistered Hypotheses and Analysis Plan

E.1 Hypotheses

In autocracies where a new leader succeeds power, gaining public support is highly important because the new regime faces lots of political uncertainty and hence remains unstable. To avoid the destabilization of new regimes, autocracies often allow retired leaders to influence decision-making processes within the government. In particular, in autocracies where power succession went smoothly, the former dictators still remain popular and hence are seen as powerful figures and often serve as the guardians for the new regimes.

There are pros and cons of such tutelary power in dictatorships. On the one hand, relying on the former leader's rich experience and high popularity among citizens, the new leader may be able to signal the new regime's strength and competence. On the other hand, the former leader is not endowed with formal power as the head of the government on the constitution. The lack of institutional legitimacy may negatively affect citizens' assessment of the former leader's involvement in decision-making processes.

Given this trade-off, we suggest that when deciding something formally, the joint decision-making of the former and current dictators is most likely to increase citizens' support for political leadership in new autocracies, compared to the scenarios where either only the former dictator or the current dictator involves in making policy decisions. Endorsement experiments (explained in the next section) are particularly suitable to investigate this hypothesis because this type of survey experiment includes policy information to elicit respondents' true preferences on politically sensitive questions like leadership in dictatorships.

H1: The joint policy decision-making of the new and old leaders is more likely to be supported by citizens in the framework of endorsement experiments, compared to decision-making solely by either the former or current dictator.

The discussion above premises that the former dictator is still popular and is supported by citizens as a leader in autocracies where peaceful leadership succession has been put in practice. List experiments enable us to measure broad popularity for "retired" political leaders regardless of their participation in formal decision-making processes while mitigating social desirability bias.

H2: The former dictator is more likely to be supported than the current dictator in the framework of list experiments.

E.2 Analysis Plan

E.2.1 Statistical models

1. Difference-in-means analysis for the list experiment. We compute the difference-in-means estimates for the comparison between the control list group and each of the treatment list groups (the current and former presidents).

2. Test for detecting design effects. Following Blair and Imai (2012) , we conduct a statistical test for detecting design effects. If design effects are detected, we adjust for the effects using the proposed method by the aforementioned paper.

3. The Bayesian measurement model proposed by Bullock, Imai, and Shapiro (2011) for the endorsement experiment. Using the R package "endorse", we fit the non-hierarchical model and two hierarchical models without covariates to estimate the average probability of support for the former president and the combination of the former and current presidents relative to the current president. We use urban and rural areas in 14 oblasts (provinces in Kazakhstan) and three major cities as groups in one hierarchical model whereas we use 150 primary sampling units in the other model. The quantity of interest is the probability of latent support for each actor being positive relative to the baseline.

E.2.2 Inference criteria

For the difference-in-means analysis for the list experiment, we use the conventional hypothesis test with the significance level being .05.

For the endorsement experiment, we present the posterior distribution of the quantity of interest using Markov chain Monte Carlo draws.

E.2.3 Data exclusion

We remove the data points that is highly likely to be fabricated by survey enumerators. We examine the mean and variance of the response variable for each enumerator and remove those respondents interviewed by any suspicious enumerators. We include the mean and variance for each enumerator in our analysis results.

E.2.4 Missing data

We conduct the available-case analysis for the list experiment.

For the endorsement experiment, the Bayesian measurement models we use handles missing responses so that those missing responses do not contribute to the posterior density.

E.2.5 Exploratory analysis

For both list and endorsement experiments, we conduct exploratory analysis on the relationship between respondents' covariates and their level of support for dictators using multivariate regression analysis provided by R packages "list" and "endorsement".

F Table for the Difference-in-means Estimates of List Experiment

	Tokayev	Nazarbayev	Control
Sample Mean	2.43	2.21	1.77
Sample Variance	1.84	1.48	0.82
N	1021	992	987

Table F.1: Statistics Used to Compute the Difference-in-means Estimates of Public Support for Tokayev and Nazarbayev in the List Experiment.

G Robustness of Broken List Experiment

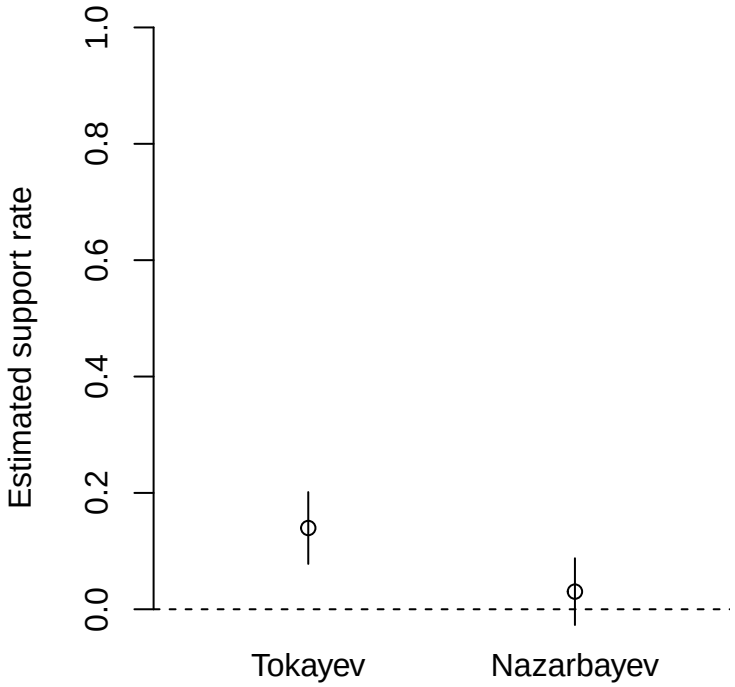

Figure G.1: Difference-in-means Estimates of Public Support for Tokayev and Nazarbayev in the List Experiment (Robustness Check for Implementation Failure). This figure shows the estimates assuming that all respondents in the sensitive list groups who answered "1" intended to answer "0". The vertical bars are the 95% confidence intervals. The dashed line at the bottom represents zero public support.

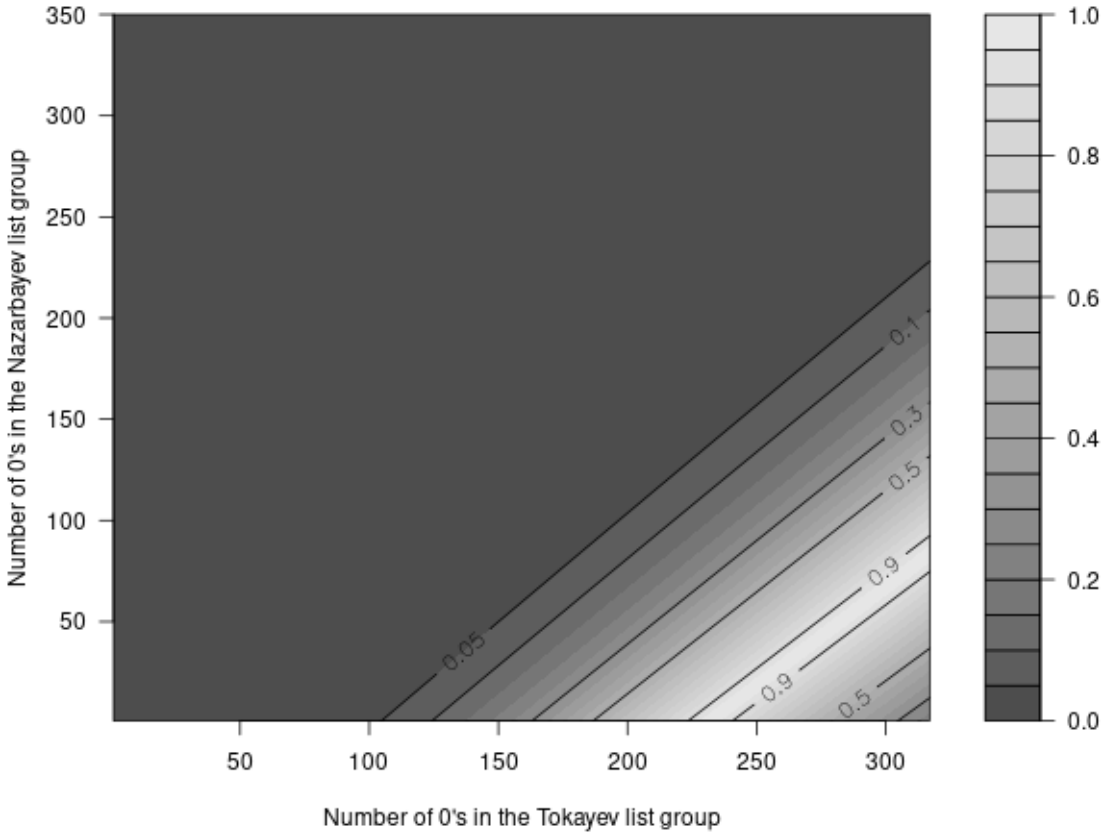

Figure G.2: P-values of the Difference between Tokayev's Support and Nazarbayev's Support under the Numbers of Respondents who Intended to Answer "0". The bottom-right region under the contour line of 0.05 indicates the combinations of the numbers of respondents with which the difference between Tokayev's support and Nazarbayev's support is not statistically significant at the 5% level. For instance, if 200 respondents in the Tokayev list group and 100 respondents in the Nazarbayev list group who answered "1" intended to answer "0", then the two support rates are statistically indistinguishable.

H Posterior Quantiles of Model Parameters

Tables H.1 and H.2 present the 2.5, 50, and 97.5 percentiles of the MCMC draws of the endorsement experiment model parameters that are used to create Figures 2 and 3.

	Item Parameters		
	2.5%	50%	97.5%
alpha.1	-2.42	-0.26	3.15
beta.1	0.66	0.72	0.79
alpha.2	-2.53	-0.71	2.10
beta.2	0.54	0.60	0.66
alpha.3	-2.33	-0.49	2.37
beta.3	0.55	0.61	0.68
alpha.4	-2.50	-1.34	0.56
beta.4	0.34	0.39	0.44
alpha.5	-1.88	0.05	3.05
beta.5	0.58	0.64	0.70
alpha.6	-1.78	0.19	3.26
beta.6	0.60	0.66	0.72

	λ		
	2.5%	50%	97.5%
female.1	-0.26	-0.02	0.23
age.1	-0.01	-0.00	0.00
income.1	-0.06	0.02	0.10
income.na.1	-0.35	0.12	0.62
highedu.1	-0.31	-0.03	0.24
kazakh.1	-0.46	-0.06	0.33
russian.1	-0.41	0.01	0.47
authatt.1	-0.15	0.00	0.17
trust.pres.1	-0.05	0.12	0.27
trust.pres.na.1	-0.54	0.45	1.40
trust.rulep.1	-0.26	-0.10	0.07
trust.rulep.na.1	-0.44	0.27	1.01
private.sec.1	-0.19	0.07	0.31
female.2	-0.44	-0.20	0.04
age.2	-0.01	-0.00	0.01
income.2	-0.07	0.00	0.08
income.na.2	-0.30	0.19	0.68
highedu.2	-0.41	-0.14	0.13
kazakh.2	-0.47	-0.12	0.26
russian.2	-0.54	-0.11	0.34
authatt.2	-0.13	0.03	0.19
trust.pres.2	-0.03	0.14	0.29
trust.pres.na.2	-0.84	0.08	0.98
trust.rulep.2	-0.29	-0.13	0.04
trust.rulep.na.2	-0.65	0.09	0.83
private.sec.2	-0.14	0.09	0.34

Table H.1: Quantiles of the MCMC Draws for Endorsement Experiment Model Parameters (Item Parameters and λ).

	κ		
	2.5%	50%	97.5%
(Intercept).1	-2.06	0.26	2.68
urbanTRUE.1	-0.47	-0.13	0.20
Tokayev.share.1	-3.51	-0.37	2.66
(Intercept).2	-2.91	-0.69	1.54
urbanTRUE.2	-0.41	-0.07	0.26
Tokayev.share.2	-1.64	1.18	4.05

	δ		
	2.5%	50%	97.5%
female	-0.41	-0.25	-0.08
age	-0.00	0.00	0.01
income	-0.07	-0.01	0.04
income.na	-0.50	-0.15	0.19
highedu	-0.15	0.03	0.21
kazakh	-0.19	0.10	0.36
russian	-0.34	-0.02	0.27
authatt	-0.10	0.02	0.13
trust.pres	0.06	0.17	0.28
trust.pres.na	-0.31	0.30	0.91
trust.rulep	0.19	0.31	0.42
trust.rulep.na	-0.17	0.33	0.84
private.sec	-0.41	-0.24	-0.07

	ζ		
	2.5%	50%	97.5%
(Intercept)	-0.80	3.04	8.52
urbanTRUE	-0.28	0.02	0.33
Tokayev.share	-3.01	-0.27	2.55

	ω^2		
	2.5%	50%	97.5%
omega2.1	0.28	0.40	0.58
omega2.2	0.29	0.42	0.58

	ψ^2		
	2.5%	50%	97.5%
psi2.1	0.26	0.37	0.55
psi2.2	0.22	0.32	0.46

Table H.2: Quantiles of the MCMC Draws for Endorsement Experiment Model Parameters (κ, δ, ζ, ω^2, and ψ^2).

I Convergence Diagnostics

	Item Parameters	
	Point est.	Upper C.I.
alpha.1	1.02	1.05
alpha.2	1.03	1.06
alpha.3	1.03	1.06
alpha.4	1.02	1.05
alpha.5	1.02	1.05
alpha.6	1.02	1.05
beta.1	1.01	1.03
beta.2	1.01	1.02
beta.3	1.02	1.04
beta.4	1.00	1.01
beta.5	1.02	1.06
beta.6	1.01	1.03

	λ	
	Point est.	Upper C.I.
female.1	1.03	1.07
age.1	1.07	1.15
income.1	1.09	1.19
income.na.1	1.08	1.18
highedu.1	1.02	1.04
kazakh.1	1.05	1.11
russian.1	1.05	1.11
authatt.1	1.01	1.01
trust.pres.1	1.04	1.09
trust.pres.na.1	1.01	1.02
trust.rulep.1	1.07	1.15
trust.rulep.na.1	1.05	1.10
private.sec.1	1.01	1.03
female.2	1.04	1.09
age.2	1.03	1.08
income.2	1.06	1.13
income.na.2	1.07	1.15
highedu.2	1.02	1.06
kazakh.2	1.07	1.16
russian.2	1.04	1.08
authatt.2	1.01	1.01
trust.pres.2	1.01	1.03
trust.pres.na.2	1.01	1.02
trust.rulep.2	1.05	1.12
trust.rulep.na.2	1.01	1.03
private.sec.2	1.02	1.04

Table I.1: Potential Scale Reduction Factor of the MCMC Draws for Endorsement Experiment Model Parameters (Item Parameters and λ).

	κ	
	Point est.	Upper C.I.
(Intercept).1	1.03	1.07
urbanTRUE.1	1.01	1.03
Tokayev.share.1	1.00	1.01
(Intercept).2	1.03	1.06
urbanTRUE.2	1.02	1.04
Tokayev.share.2	1.00	1.01

	δ	
	Point est.	Upper C.I.
female	1.03	1.06
age	1.02	1.06
income	1.05	1.11
income.na	1.05	1.12
highedu	1.02	1.04
kazakh	1.05	1.11
russian	1.03	1.08
authatt	1.01	1.02
trust.pres	1.02	1.05
trust.pres.na	1.01	1.02
trust.rulep	1.04	1.09
trust.rulep.na	1.02	1.04

	ζ	
	Point est.	Upper C.I.
private.sec	1.00	1.01
urbanTRUE	1.00	1.01
Tokayev.share	1.01	1.02

Table I.2: Potential Scale Reduction Factor of the MCMC Draws for Endorsement Experiment Model Parameters (κ, δ, and ζ).

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