

Generation of Synthetic Responses to Survey Questions
Using GPT-3:
A Case of Hard-to-Reach Members of Russian Elites
(based on the Survey of Russian Elites)*

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Abstract

The goal of this study is to use a large language model, such as GPT-3, to generate responses from hard-to-reach elite members to multiple-choice questions. The most relevant or data-consistent responses can then be used to infer potential responses from selected elite members and apply them in predictive modeling or evidence-based policy-making. Building on the work of Argyle et al. (2023), this paper develops a methodological framework for this generative approach and tests the ideas on a subset of questions from the *Survey of Russian Elites* by simulating responses from Russia’s President Vladimir Putin and opposition leader Alexei Navalny. The GPT-3’s *Davinci* model is the superior model compared to all other GPT-3 models and serves as the primary model for this paper. An additional analysis is conducted using the GPT-3’s *Babbage* model, fine-tuned to Vladimir Putin’s and Alexei Navalny’s texts. The findings suggest that, in general, language models provide meaningful results, but the original *Davinci* model outperforms the fine-tuned *Babbage* model.

Keywords: GPT-3, large language model, Survey of Russian Elites, synthetic data.

Introduction

This study aims to develop a methodological framework for generating responses from a language model, GPT-3, that can be used for academic research and policy analysis (Brown et al. 2020). Specifically, the study focuses on generating responses from hard-to-reach members of the Russian elite on various topics including politics, economics, and culture. The proposed framework builds on the work of Argyle et al. (2023) and utilizes conditional probabilities of tokens in data simulation.

Used as an information retrieval tool, the language model cannot replace an actual survey, but it can generate responses that are supported by the generative model and the data on which it has been trained. The quality of the generated responses depends on the relevance of the trained data to researcher’s questions. For example, if the model is trained primarily on a corpus of English-language texts, it will eventually generate responses based solely on this data and will reflect inherent biases of that data. Because the GPT-3 is a probabilistic model, the generated responses are based on probabilities and thus do not exhibit the more complex behavioral patterns associated with individual strategic behavior. Therefore, the GPT-3 model can serve the purpose of probabilistic generation of individually relevant information based on the data it was trained on.

Our expectations for response generation are as follows: first, the model must generate the most likely response that is robust to semantically similar questions; second, response generation must not depend on the presence of irrelevant alternatives and different orderings of response options; third, the generated responses should be validated using external data sources or other language models trained or fine-tuned to different data.

Proposed study is specifically focused on the *Survey of Russian Elites* that covers the period 1993–2020 (Zimmerman, Rivera and Kalinin 2022). The data from 2020 and partly 2016 contains a large range of questions related to the national interests of Russia, US-Russia relations, the role of military force in international relations, the greatest threats to stability and security, Russia’s relations with other countries (e.g., U.S., Ukraine, Belarus, Japan, and

China), the enlargement of the European Union, NATO expansion, Russia’s civilizational path and many other questions focusing on international and domestic issues. For a general overview of 2016 and 2020 *Surveys* consult with (Rivera et al. 2016, 2020).

The idea of this study is to use the GPT-3 model to generate individual responses to a subset of the questions from the *Survey*. Here I am mostly interested in generation of responses from two synthetic politicians: Russian President Vladimir Putin and Russian opposition leader Alexei Navalny. For validation purposes, I also generate responses that are attributed to an average Russian citizen and average member of the Russian elite. The *Davinci* model is the central model used for generating responses to closed-ended questions. Besides, the study also conducts an auxiliary analysis using the *Babbage* model, specifically fine-tuned to the texts of Vladimir Putin and Alexei Navalny.

The paper is structured as follows: Section 1 provides an overview of the GPT-3 language model. Section 2 explores the empirical strategy for generating responses to multiple-choice answers using the GPT-3 model. Section 3 discusses the generated responses using the *Davinci* model and provides an auxiliary analysis based on generated text fragments from the *Babbage* model. In the concluding section, this study presents its main findings, provides recommendations, and discusses potential avenues for future research.

Methodological framework

GPT-3

Large language models have gained increasing popularity in recent years due to their ability to predict the likelihood of the next word or words in a sequence, based on statistical analysis of existing text sequences. These models assign a probability to each word sequence and also to the likelihood of a given word following a particular word sequence, relying on a probabilistic approach rather than conventional logic. Any language model can be defined

as a probability distribution over sequence of tokens $p(x_1, \dots, x_L)$ where each token comes from some vocabulary. A tokenizer is used to convert any input string or word into a sequence of tokens.

The GPT-3, or “generative pre-trained transformer”, is an advanced language model developed by OpenAI that boasts 175 billion parameters and has been trained on a vast and diverse corpus of texts totaling 570 gigabytes. The GPT-3 is pre-trained on five datasets: *Common Crawl*, *WebText2*, *Books1*, *Books2*, and *Wikipedia*, allowing it to perform a wide range of natural language processing tasks using one-shot or few-shot learning, without requiring additional fine-tuning.

The GPT-3 is a standard autoregressive decoder-only language model which given a prompt $x_{1:i}$ produces both contextual embeddings and a distribution over next tokens x_{i+1} , such that $x_{1:i} \Rightarrow \phi(x_{1:i}), p(x_{i+1} \mid x_{1:i})$ (Liang et al. 2022). Simply speaking, instead of looking for the perfect solution each time, the model tries to find the best probabilistic match in the data set on which it has been trained. The model uses *byte pair encoding* as a tokenizer with vocabulary size of 50K. *Byte pair encoding* was proposed by Sennrich and Birch (2015) and is one of the commonly used tokenizers based on the idea of starting with each character as a token and then combining tokens that co-occur a lot. For example,

**[Vladimir, Putin, thinks, national, interests, of, Russia] \Rightarrow
should, extend, beyond, its, current, borders.**

In recent literature, there have been attempts to assess the performance of GPT-3 in various domains. One study by Argyle et al. (2023) proposes the use of GPT-3 as proxies for specific human subpopulations in social science research. The authors condition the model on thousands of sociodemographic backstories from real human participants in multiple large surveys conducted in the United States and demonstrate that GPT-3 can closely replicate human responses. In another paper, Kalinin (2023) utilizes GPT-3 generated responses for geopolitical forecasting related to the Russia-Ukraine war. Furthermore, Bommarito and Katz (2022) evaluate the performance of GPT-3 on the NCBE MBE practice exam through

an experimental study. Other examples of the application of GPT-3 can be found in OpenAI (2023)’s report. These studies highlight the potential of GPT-3 in various domains and its ability to generate responses that are comparable to those of humans.

GPT-3’s *Davinci* model can learn to generate letter choice responses to multiple choice questions by identifying the type of question and its semantic meaning. In order to utilize the GPT-3 language model for generating responses, certain prerequisites must be met. First, the model must generate a response that represents the most likely viewpoint of the individual in question. Second, the algorithm should generate a measure of uncertainty to enable researchers to evaluate the quality of the retrieved data. Third, the generated response should not be influenced by the ordering of choices. To control for possible ordering effects, requests should be sent to the GPT-3 API for all permutations of n options, with basic option-wise summary statistics calculated. Fourth, the generated response should not depend on irrelevant alternatives. That is, inclusion of irrelevant options in the choice set should not affect the response. Finally, the responses generated by the model should be logical and intuitive, ideally validated using survey data or other language models trained or fine-tuned on different data. For example, in the case of generation of Vladimir Putin’s responses, alternative language models (e.g., GPT-2 or GPT-3) can be trained on newspaper articles and/or transcripts of presidential speeches from the presidential website www.kremlin.ru; in case of Alexei Navalny’s this can be done by drawing data from his official website www.navalny.ru.

This study operates under certain assumptions that GPT-3-generated responses must satisfy. First, it is assumed that the quality of the generated responses is directly related to the quality of the data used to train or fine-tune the model. If a model is trained on non-relevant data, it may produce biased and incorrect responses. Second, the original GPT-3 model is only marginally applicable to current political situations. As the model is trained on a corpus of texts before the political events of 2022, it is unaware of the 2022 Russia-Ukraine war. Although the model may still provide useful policy-relevant information, researchers must be mindful that the generated responses are based on past data. Third,

the model is unable to replicate individual strategic behavior in its responses. Instead, it generates the most likely responses based on the data it was trained on. For example, if GPT-3 is mainly trained on Western data, it cannot produce strategically consistent responses regarding Vladimir Putin’s strategic vision of the Russia-Ukraine crisis. Instead, it will produce probability-based responses supported by dominant Western views of the events. If it is necessary to fine-tune the model to reflect the Kremlin’s perspective on world events, it must first be fine-tuned to the Kremlin’s data, which can be costly and time-consuming depending on the amount of data and specific model.

Empirical Strategy

In this paper I will use the questions from the *Survey of Russian Elites*, which covers the period 1993–2020 (Zimmerman, Rivera and Kalinin 2022). The *Survey* includes members of the Moscow elites working in the major public and private sectors of Russian society. Specifically, the interviews were conducted with high-ranking individuals employed in the media, state-owned enterprises, private businesses, academic institutions with strong international connections, as well as the executive branch, the federal legislature, the armed forces and security agencies.

The data include a wide range of questions related to Russia’s national interests, U.S.-Russian relations, the role of military force in international relations, the greatest threats to stability and security, Russia’s relations with other countries (e.g., the United States, Ukraine, Belarus, Japan and China), the enlargement of the European Union, NATO expansion, Russia’s civilizational path and many other questions related to the international and domestic agenda.

I selected 130 original questions of interest and changed them to insure clarity and simplicity. I also added placeholders for automated insertion of person’s name or the concept of interest. Out of the 130 original questions, I selected the subset of 14 questions that were

most relevant to my analysis and modified them to enhance clarity and simplicity, while also adding placeholders for automated insertion of relevant names or concepts. Furthermore, I included an additional question related to the Russian-Ukrainian war that was not included in the 2020 *Survey*. These questions were addressed to synthetic Vladimir Putin¹ and Alexei Navalny, as well as the Russian elites and average citizens. An example of the questions is provided below.

Example 1

“[PERSON] thinks that

A. The national interests of Russia for the most part should be limited to its current territory.

B. The national interests of Russia for the most part should extend beyond its current territory.”

I also supply the model with supplementary information. Specifically, the questions about Vladimir Putin and Alexei Navalny are preceded by additional information about each of the politicians. For example: “Vladimir Putin is the President of Russia” or “Alexei Navalny is the leader of Russian opposition.” This preface was intended to contextualize all questions and produce responses for synthetic individual.

Since the generated results by GPT-3 depend on the choice orderings, to solve this problem I can resort either to randomization of choice orderings (random permutation) or to permutation algorithm that can be used to derive variation of generated responses and associated probabilities. The obtained probabilities for each winning option allow us to compute measures of uncertainty and assess the degree of variability in generated responses.

The permutation algorithm used in this work implies that for each permuted question a new request is sent to OpenAI’s API, so the computational cost increases exponentially as the number of multiple choice questions increases. For example, the question with 2 op-

¹In subsequent sections of the text, I will refer to the “synthetic Vladimir Putin” and “synthetic Alexei Navalny” as if they were the real individuals, using the names “Vladimir Putin” and “Alexei Navalny” without explicitly indicating their synthetic nature.

tions will end up with 2 question-permutations, 3 options – with 6 question-permutations, 4 options – with 24 question-permutations, 5 options – 120 question-permutations, 6 options – 720 question-permutations, 7 options – 5040 question-permutations, 8 options with question-permutations 40320, etc. For this reason, for some questions we can either turn off permutations or use the random permutation algorithm, which will be less efficient and contain sampling error.

The GPT-3 model outputs a *log probability* for every known token for both prompts and completions. The reason for this is that it is computationally easier to compute the probability of a sequence of tokens if individual probabilities are expressed in *log probabilities* rather than in probabilities or percentages. Therefore to convert log probabilities to probabilities, I use the following formula: $prob(x) = 100 \times e^{\log prob(x)}$. These probabilities $prob(x)$ can be manipulated using two important parameters that control the randomness of generated response: *temperature* and *Top P* (OpenAI 2022).

Temperature and *Top P*, sometimes called the “creativity dials,” because these parameters control the amount of creativity in response generation. *Temperature* takes a value between 0 and 1. At 0, randomness is removed by boosting the most likely token to 100%. A lower temperature value means that the API will predict the first thing the model sees; a higher value means that the model evaluates possible responses that might fit into the context before predicting the result. *Top P* controls how many random results the model should consider for completion; it determines the scope of randomness defined by temperature dial. *Top P*’s range is from 0 to 1: a value close to zero means the random responses will be limited to a certain fraction. This makes the engine deterministic, which means that it will always generate the same output for a given input text. If the value is set to 1, the API will consider all responses for completion, taking risks and coming up with creative responses.

Hence, *Temperature* and *Top P* are correlated: changing the value of one will affect the other. By setting *Temperature* value to 1, we can control randomness and make the engine deterministic, and by setting *Top P* value to 1, we allow the model unleash its creativity by

exploring the full range of responses. In my study to insure replicability of GPT-3-generated results I set *Temperature* to 0 and *Top P* to 1.

Other important parameters used for GPT-3 text generation are as follows: *engine* is set to “text-davinci-002” (the most powerful and expensive GPT-3’s execution engine), *max_tokens* is set to 1 (the maximum number of tokens to generate in the completion is 1, since we only need one letter choice as the answer to a particular question); *logprobs* is set to 10 (the list of log probabilities for 10 most likely tokens). Finally, both *presence_penalty* and *frequency_penalty* are used to penalize new tokens based on their existing frequency in the text by increasing or decreasing the model’s likelihood to generate text about new topics or the model’s likelihood to repeat the same line verbatim (both parameters are set to their default value 0).

The Python script that implements automated generation of responses using the GPT-3 model is available on GitHub (<https://github.com/kkalininMI/GPT3-Surveys>). For simplification purposes, one needs to fill out only the spreadsheet (see Figure A1 in the Appendix A) and run the Python code. The spreadsheet contains the following fields or variables: *Index* (question’s index 1...N), *Variable name* (can be taken from external data set in case if there is a need to make comparisons between generated responses and survey outputs), *Permutation* (“Yes” if permuted options for specific question are allowed and “No” otherwise); *Questions* (a question can contain a placeholder “[Person]” or “[YEAR]” to be filled with specific name or concept); *Options1...10* (separate fields for multiple choice options). The user does not need to number or alphabetize options because the code will automatically insert the appropriate letters during the processing stage.

Upon running the script, the algorithm generates results in the form of a Python dictionary, which comprises details concerning the posed questions, a collection of the most probable choices, as well as the mean and standard deviation values of the probabilities across all permutations. The algorithm extracts the option with the highest probability for each permutation and calculates option-wise statistics, such as the mean and standard

deviation. The rationale behind focusing solely on the most probable choices is to ensure that the resulting tokens are sensible, given that the options with lower probabilities could be nonsensical. Moreover, certain options may never be chosen by the model and thus are disregarded in the output.

A single API request or GPT-3 query provides normalized probabilities for generated responses for each permutation, which sum up to one. However, option-wise aggregate estimates for all permutations do not sum up to one, and thus normalization of the resulting quantities of interest is necessary to ensure consistency. Presently, the script does not implement such normalization. Due to the variability of chosen options in multiple trials, it is possible that several options may exceed 70%, indicating multimodality or an absence of a definite solution due to a lack of information in the model. This situation may be interpreted as a “don’t know” response.

Although computing permutations of questions can be computationally expensive, an increase in the number of permutations can increase confidence in the results and help assess the amount of relevant information in the large language model. Conversely, when the number of options and permutations is limited to two, we may have less confidence in the generated results.

Generation of Responses Using GPT-3

Text Generation Using the *Davinci* Model: Closed-Ended Questions

My analysis in the section is divided into four parts: a) national interests and militarism; b) Russia’s civilizational path and allies; c) Russia, Ukraine and NATO; and d) Russia’s domestic politics. Each part contains 3-4 modified questions taken from the *Survey of Russian Elites* (See Table A1 in the Appendix A). Each Figure compares information from seven categories: *GPT-3 Elites* (inserted text into the placeholder [Person]: “The typical member

of the Russian elites”), *GPT-3 Russians* (inserted text: “an average Russian”), *GPT-3 Putin* (inserted text: “Vladimir Putin”), and *GPT-3 Navalny* (inserted text: “Alexei Navalny”). The last three categories contain information from the *Survey of Russian Elites* 2020 (if not mentioned otherwise): *Survey Elites* (all members of the Russian elites are included); *Survey G.Elites* (members of Russian elites affiliated with the government are included), and *Survey N.Elites* (members of Russian elites not associated with the government are included).

The division of elites into two separate categories is based on the rationale developed by Noah Buckley and Joshua Tucker. The aim is to identify members of elites whose views can be closest to either Vladimir Putin’s or Alexei Navalny’s. Those members of elites working in the executive or legislative branches, the military, or security agencies are classified as “core” or “government” elites, whereas those employed in the media, science and education fields, state-owned enterprises, or private business are “non-core” or non-government elites (Buckley and Tucker 2019). This categorization is intended to partially validate responses generated for Vladimir Putin and Alexei Navalny, with the former’s position closely related to that of the government elites and the latter’s position closely related to that of the non-government elites.

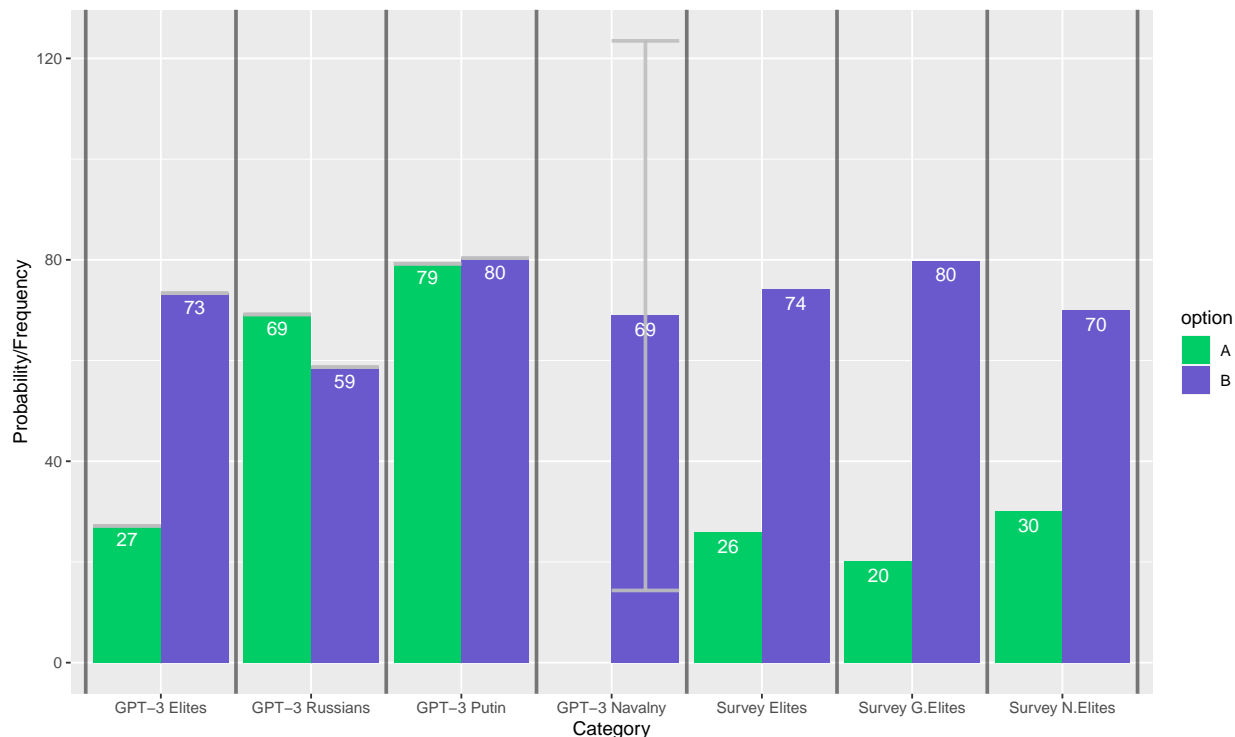
Recall that the probability percentages of responses generated by the *Davinci* model are intended to represent the probabilities of multiple choices across different permutations, so they are not normalized and do not add up to one. The resulting standard deviations of the probabilities for all permutations are used to construct 95% confidence intervals where possible.

National Interests and Militarism

The question of where Russia’s national interests lie is one of the most important questions and serves as the opening question of the *Survey of Russian Elites*. According to the 2020 *Survey*, the substantial majority of elites support the idea that the national interests of Russia should extend beyond its current territory (74%). The GPT-3 generated response

shows that with 73% probability the elites will be supportive of expansionism and with 27% of limitations of the national interests. Observed close match between the survey-based and the GPT-3 text-based inference is quite remarkable, but such consistency in numbers, as we shall see further, is the exception rather than the rule (See Figure 1).

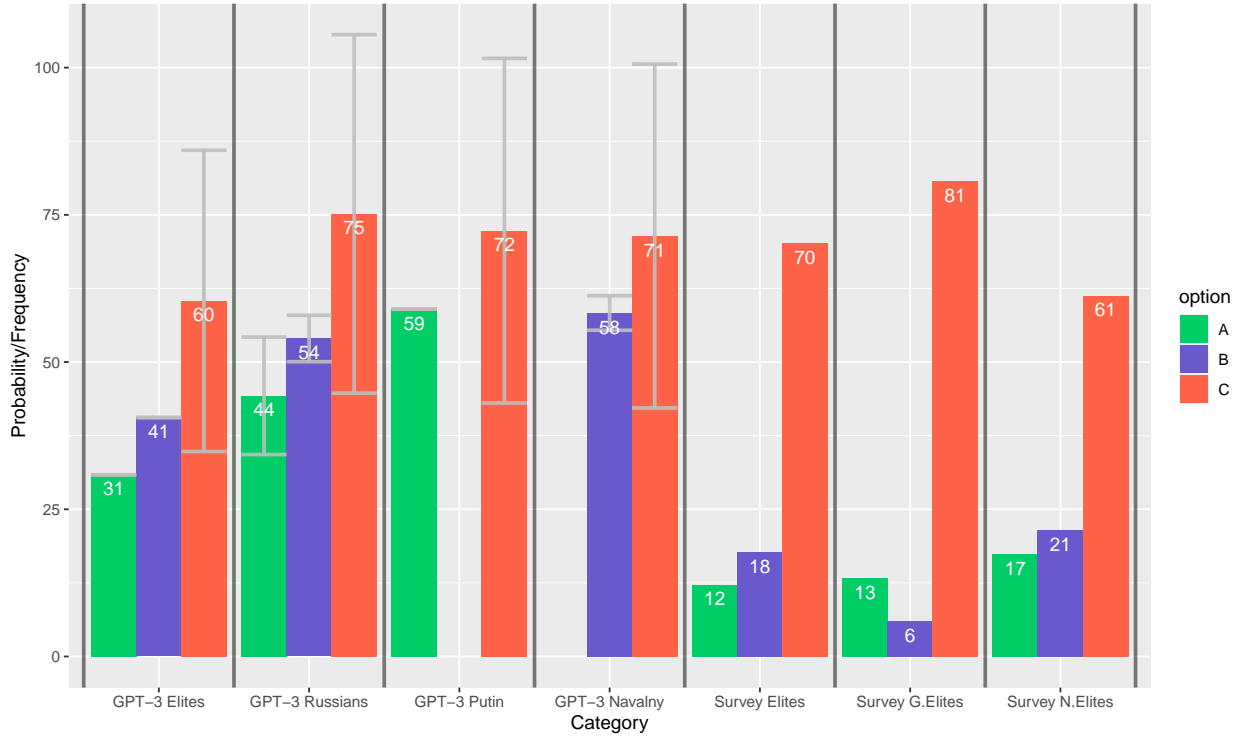
Figure 1: The Limits of National Interests (FPNATINT)



Question: *[PERSON] thinks that* **A.** *The national interests of Russia for the most part should be limited to its current territory.* **B.** *The national interests of Russia for the most part should extend beyond its current territory.*

The GPT-3-generated response for Russians (“an average Russian”) is leaning towards the idea that the national interests of Russia should be limited to its current territory. In the case of Vladimir Putin, the model yields equal probabilities for both options, which effectively translates to an inability to make a definitive choice between the two, akin to the “don’t know” option. GPT-3-generated response for Alexei Navalny is that the national interests should extend beyond its current territory is consistent with our observation for all Russian elites (although the zero probability for the option that ‘national interests should be limited to its current territory’ may not be a valid generated response).

Figure 2: The Scope of National Interests (FPNATINT1)

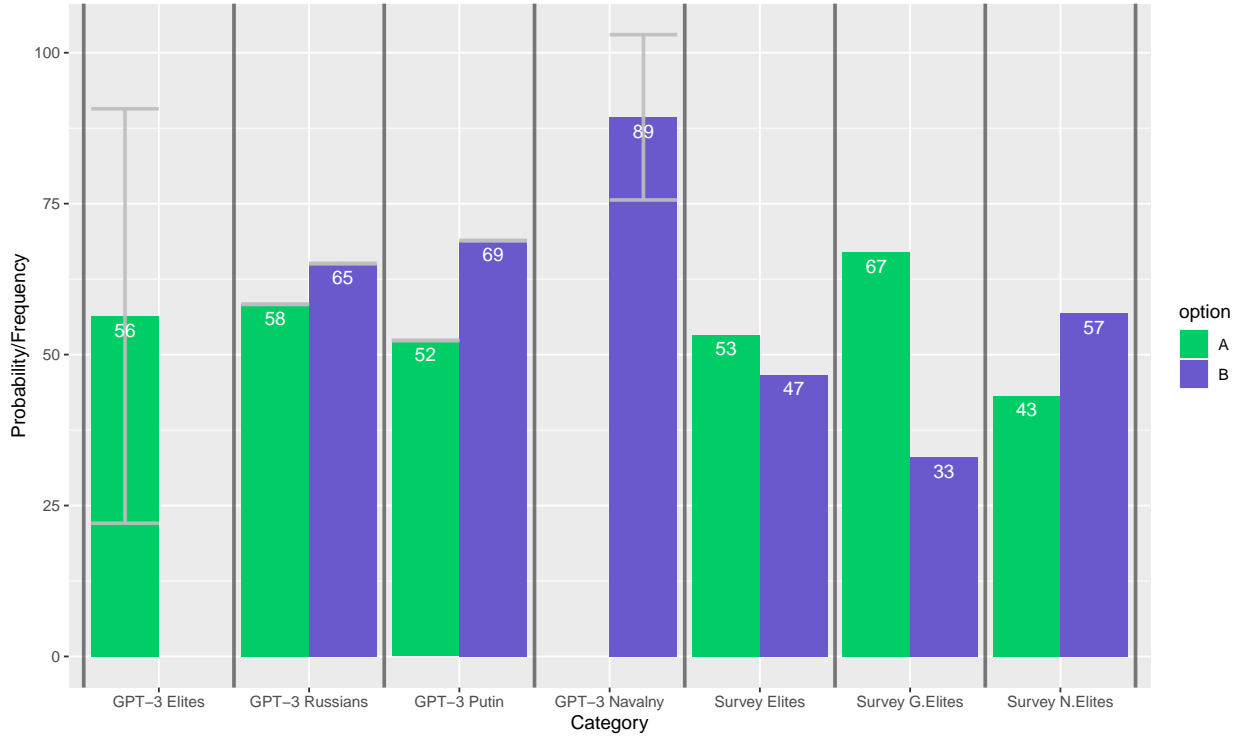


Question: *[PERSON]* thinks that **A.** Russia has vital interests in the “Near Abroad” but not beyond that. **B.** Russia has vital interests in the “Near Abroad” and Eastern Europe, but not beyond that. **C.** Russia has vital interests in parts of the world not only in the “Near Abroad” and Eastern Europe, but also in various parts of the world.

The results of the study demonstrate that a substantial portion of elites endorse the notion that Russia’s national interests expand beyond its present borders, acknowledging its critical interests in various parts of the world (70%). Conversely, a smaller proportion of elites adhere to the belief that Russia’s vital interests are confined to the “Near Abroad” (18%) or the “Near Abroad” and Eastern Europe (12%). Importantly, it is worth noting that government elites exhibit a greater inclination towards expansionist views (81%) when compared to non-government elites (61%).

The results generated by GPT-3 align with those of the *Survey*, indicating a substantial degree of support for an expansionist mindset. The model predicts that the elites would opt for this choice with a probability of 60%, while for the general Russian population, this

Figure 3: Importance of Military Force (MILROLE)

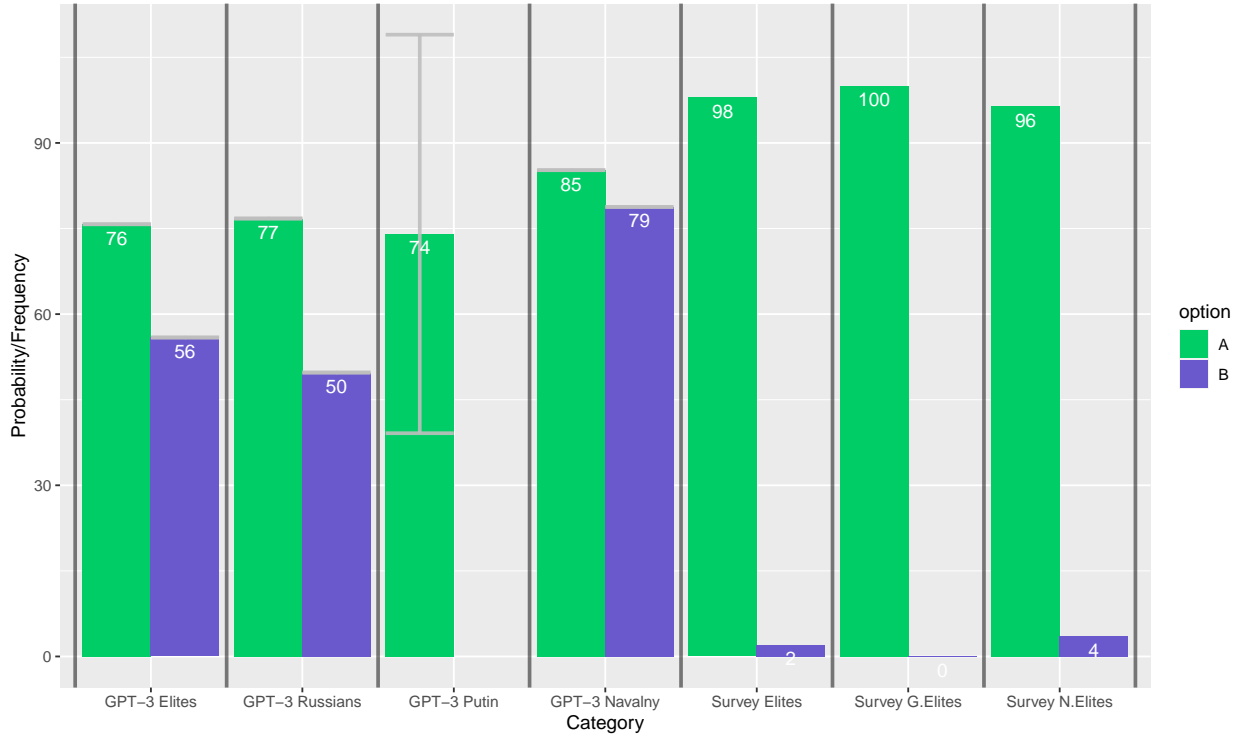


Question: *[PERSON] thinks that A. Military force ultimately decides everything in international relations. B. The economic, and not military, potential of a country determines the place and role of a country in the world today.*

figure stands at 75%. For both synthetic politicians, the probability of choosing this option is approximately 70%. In contrast, the other alternatives are comparatively less favored. It is worth noting that certain options have a zero probability in both cases: for Putin, this option is the notion that Russia’s vital interests lie exclusively in the “Near Abroad” and Eastern Europe, while for Navalny, it is the belief that Russia’s interests are limited only to the “Near Abroad”.

In Figure 3, the responses to the survey question regarding the significance of military force reveal a clear division of opinions. On one hand, there is a group that holds the view that military force is the ultimate determining factor in international relations, constituting 53% of respondents. On the other hand, there is a group that emphasizes the importance of economic capabilities over military force in defining the country’s role in the world, constituting 47% of respondents. Notably, the assessment of the significance of military force is

Figure 4: Defense of Territorial Integrity (LFINTEG)



Question: In [PERSON]'s opinion, defending the territorial integrity of the Russian Federation makes the use of the Russian military permissible? **A.** Yes **B.** No

distinctly higher among government elites, at 67%, compared to non-government elites, at 43%. Conversely, non-government elites assign greater importance to non-military capabilities, at 57%, compared to government elites, at 33%.

In terms of the responses generated by the GPT-3 model, it appears that there is a general trend of support for the importance of military force in international relations among the categories of elites, Russians, and Vladimir Putin, with probabilities ranging from 52% to 58%. However, for non-militaristic beliefs, Russians and Vladimir Putin have higher probabilities, with 58% and 59%, respectively. In contrast, the response generated for Alexei Navalny strongly favors non-militarism, with a probability of 89%. It is noteworthy that this is the only response generated by the model for Navalny.

The survey question on the defense of territorial integrity reveals that almost all elites surveyed (98%) consider the use of Russian military forces acceptable for defending territorial

integrity, with government elites showing 100% consensus in favor of this option (see Figure 4).

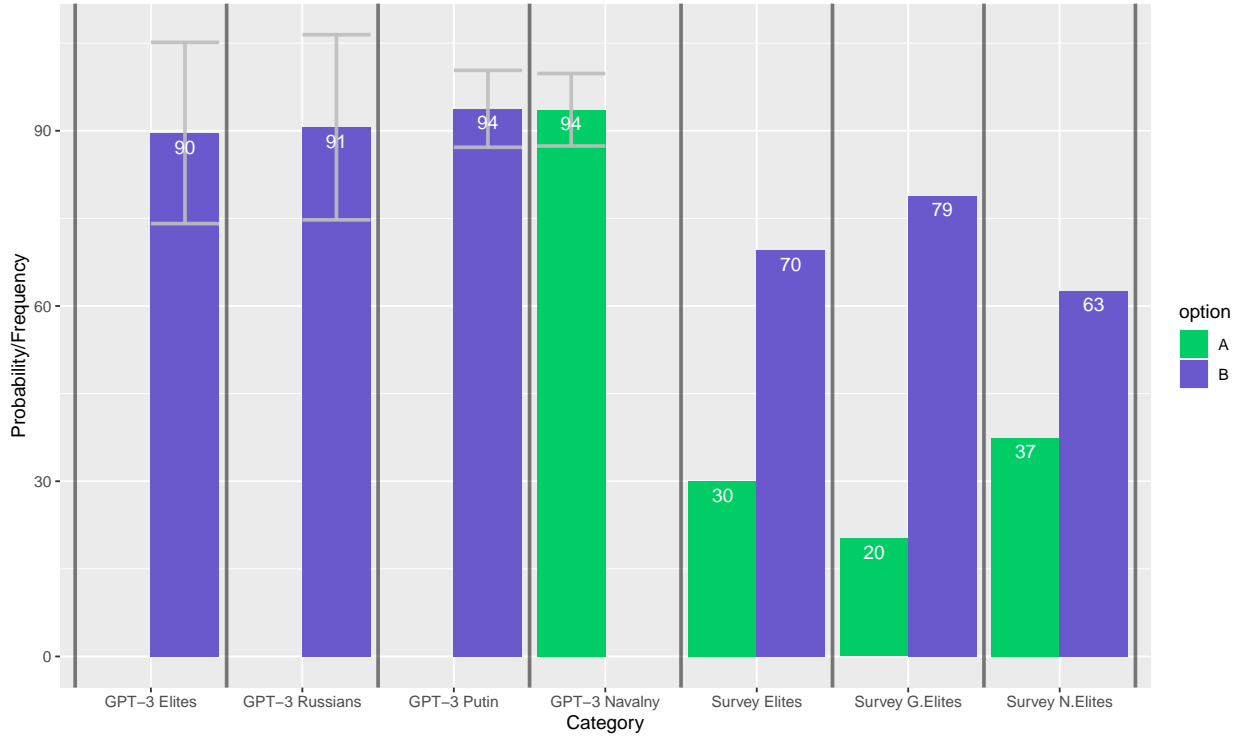
The responses generated by GPT-3 for elites show a relatively stronger preference for using armed forces to defend territorial integrity compared to not using it (76% vs. 56%); for Russians, the preference is 77% vs. 50%. Vladimir Putin’s generated response also reflects overwhelming support for using military force (74%), consistent with the preferences of elites in the survey. However, Alexei Navalny’s generated response shows equal likelihood for both options, with a preference of 85% for ‘yes’ and 79% for ‘no’, indicating that the model fails to provide a definitive answer. Thus, based on the language model, Russian society in general and Vladimir Putin in particular demonstrate high level of militarism, which is confirmed by both the *Survey* and our GPT-3 analysis.

Russia’s Path and Allies

Based on the data presented in Figure 5, a large majority of the Russian elites prefer Russia to follow a unique Russian path rather than that of developed countries, with 70% choosing this option. The government elites are more supportive of this idea than non-government elites, with a difference of 16% between the two groups (79% vs. 63%). The GPT-3 generated responses are consistent with the survey responses, showing a high probability of 90% in favor of a unique path for Russia. However, there is an interesting contrast in the responses generated by the model for synthetic politicians: Putin’s response supports the idea of a unique Russian path, while Navalny’s response favors the idea of Russia following the path of developed countries.

Due to computational constraints, the question about the model of political and economic development for Russia is limited to three country-options: Germany, China, the United States, and an option claiming that the experience of other countries is not applicable to Russia (See Figure 6). The *Survey* shows that while the majority of elite respondents is

Figure 5: Russian Path (EUROPHIL)



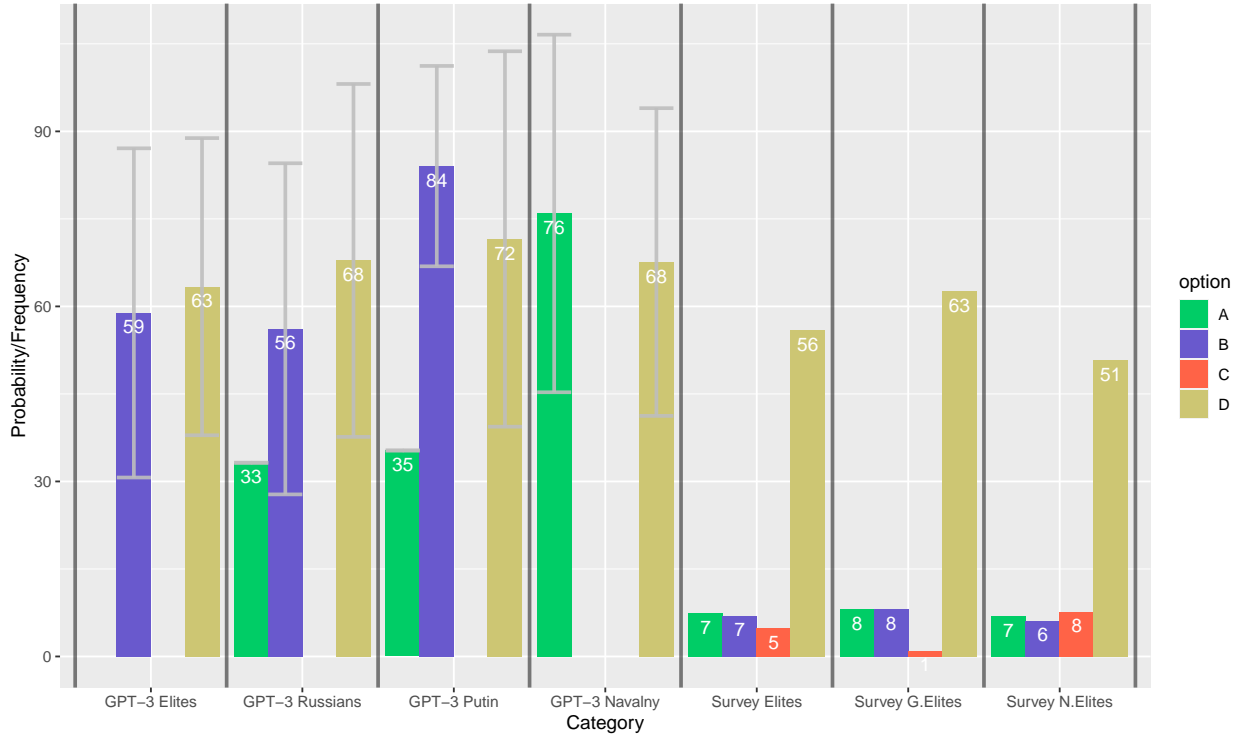
Question: Which of these statements is closer to [PERSON]’s point of view? **A.** Russia should follow the path of developed countries and assimilate the experience and achievements of Western civilization. **B.** Taking into account the history and geographic position of Russia at the crossroads of Europe and Asia, it should follow a unique Russian path.

leaning toward the option that other countries cannot serve as a model for Russia, the other three country-options do not enjoy much support from the elites, ranging from 1% to 8%.

The GPT-3 generated responses showed some consistency with the survey results. The option that other countries cannot serve as a model for Russia had the highest probability of occurrence among the elites and Russians, at around 70%. However, China was the second most popular country-option among the elites (59%) and Russians (56%), and ranked first in Vladimir Putin’s response (84%). In contrast, the response generated for Alexei Navalny referred to Germany as a model country for Russia (76%). This finding demonstrates opposing views on the future socio-economic trajectory of Russia between the Russian elite and the opposition.

The question of a similar nature asks about Russia’s coalition building preferences with

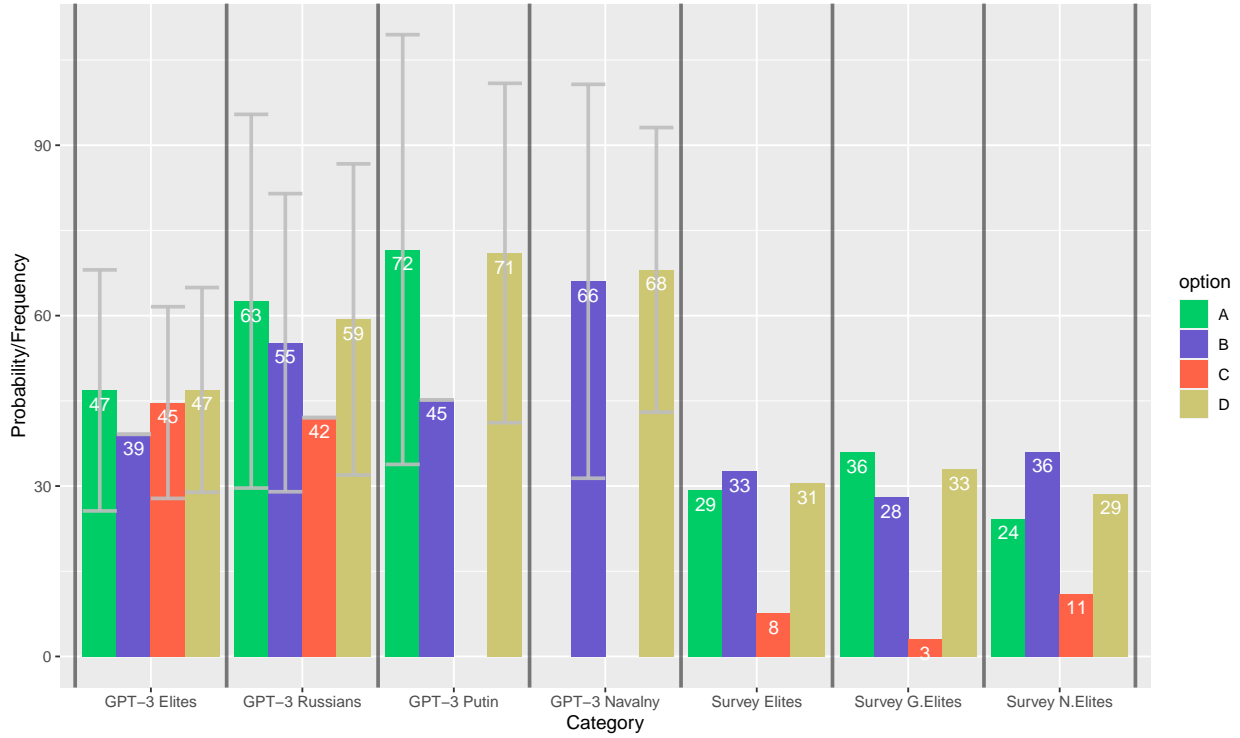
Figure 6: Model for Russia (SEMODEL)



Question: Which country does [PERSON] think can serve as a model of political and economic development for Russia? A. Germany B. China C. US D. Many countries could serve as a model, but they aren't appropriate for Russia.

China, European Union or the US. The survey results presented in Figure 7 indicate that China and European Union are the most preferred coalition partners among the elites, with 33% support. The government elites look more favorably on China than on the European Union, with 36% versus 28%, respectively, while nongovernment elites prefer the European Union over China, with 36% versus 24%, respectively. The GPT-3 generated responses for Russian elites, average Russians and Vladimir Putin, show a slight prevalence of the “coalition with China” over the “none of the above” response (47%, 63% and 72% over 47%, 59%, and 71%, respectively). In contrast, Alexei Navalny’s response favors the coalition with the European Union (66%) or the “none of the above” option (68%), ignoring the China option. Notably, GPT-3 assigns a zero probability to the possibility of Vladimir Putin or Alexei Navalny being interested in a coalition with the United States.

Figure 7: Coalition Partners (COALITION)



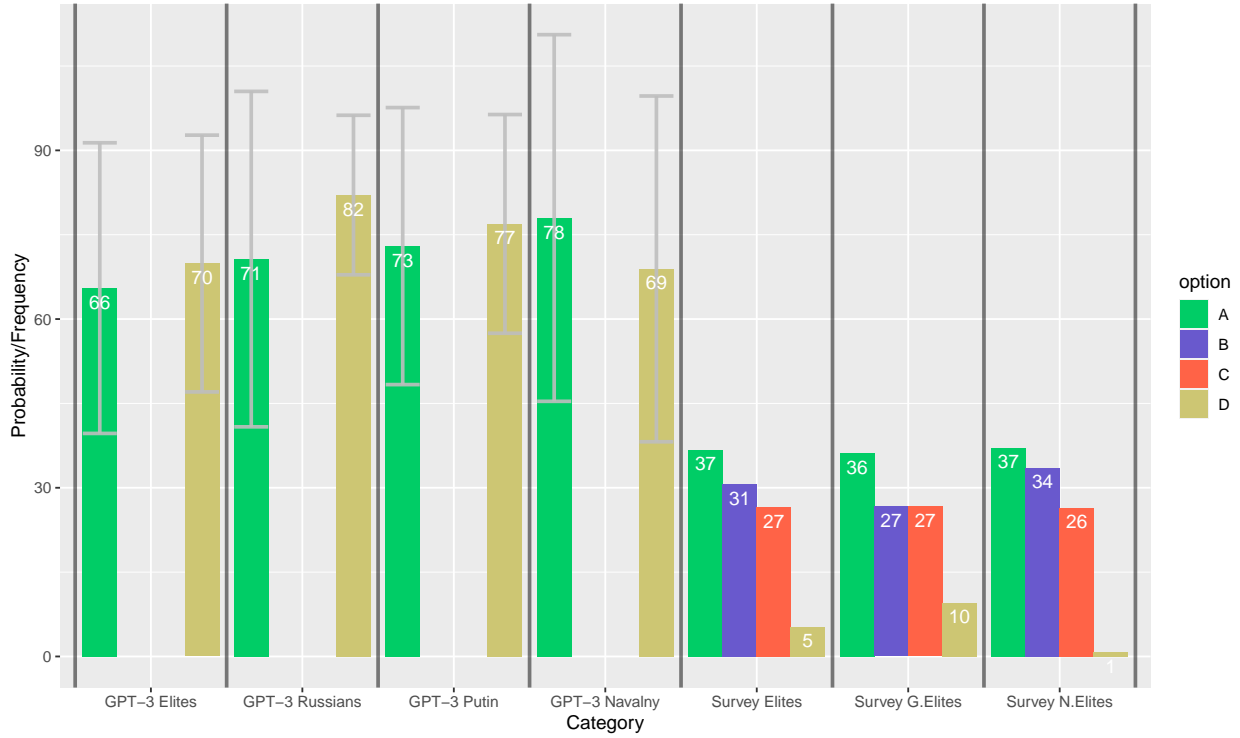
Question: *[PERSON]* would prefer Russia to form a coalition with **A.** China **B.** European Union **C.** US **D.** None of the above

Russia, Ukraine and NATO

The next set of questions is related to the attitudes of Russian elites toward Ukraine and NATO. As depicted in Figure 8, the majority of elites surveyed (68%) are in favor of Ukraine’s independence or partial independence, with government and non-government elites displaying roughly the same degree of support (63% and 71%, respectively). However, the responses generated by GPT-3 show considerable uncertainty with regards to the two opposing viewpoints, i.e., independence versus unification. Thus, it is unable to provide an unequivocal conclusion due to insufficient data. Interestingly, the model assigns a zero probability to intermediate categories, thereby revealing the existence of divergent opinions.

The next question about the admission of the CIS countries to NATO yields the highest negative score, both in the *Survey* and the GPT-3 generated results (Figure 9). It is apparent that the attitudes of elites toward the possibility of one or more CIS countries joining

Figure 8: Russia and Ukraine (RUSNUK)

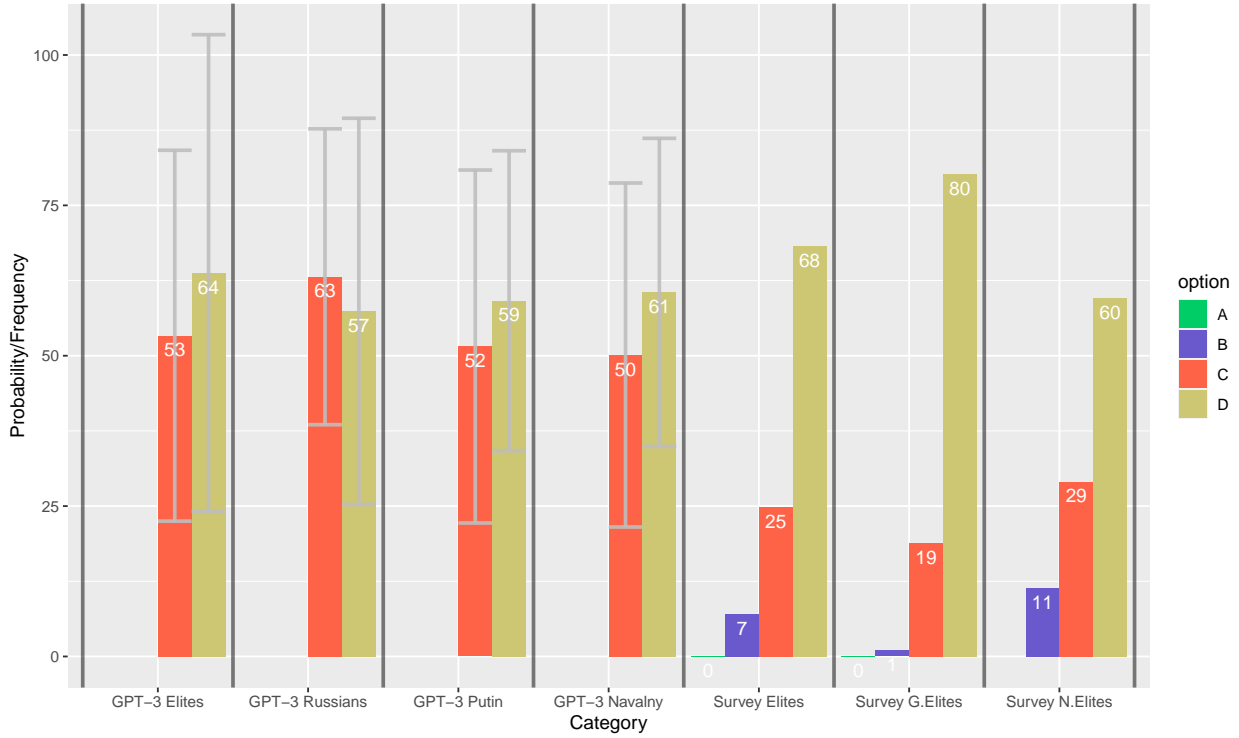


Question: *[PERSON] thinks that Russia and Ukraine should be completely independent countries.* **A.** *Russia and Ukraine should be completely independent countries.* **B.** *Russia and Ukraine should be partially independent countries.* **C.** *Russia should unite with only part of Ukraine.* **D.** *Russia and Ukraine should be united into a single country.*

NATO are overwhelmingly negative (25%) or very negative (68%), with government elites demonstrating the most pessimistic views (19% and 80%) compared to non-government elites (29% and 60%), with no neutral or positive assessments. All responses generated by GPT-3 are similarly negative, with positive responses being virtually non-existent.

Another interesting question refers to the attitude of Russian elites towards the future of eastern Ukraine (See Figure 10). The results, as depicted in Figure 10, indicate that the majority of elites favor eastern Ukraine’s independence ($\sim 46\%$) or substantial autonomy (31%). However, the responses generated by the GPT-3 model are in stark contrast with the survey results. The model predicts a high likelihood of eastern Ukraine becoming a part of the Russian Federation, with probabilities of 73% among elites, 80% among Russians, and 77% for Vladimir Putin’s response (which is the only response generated for him, indicat-

Figure 9: NATO and CIS (NATOCIS)

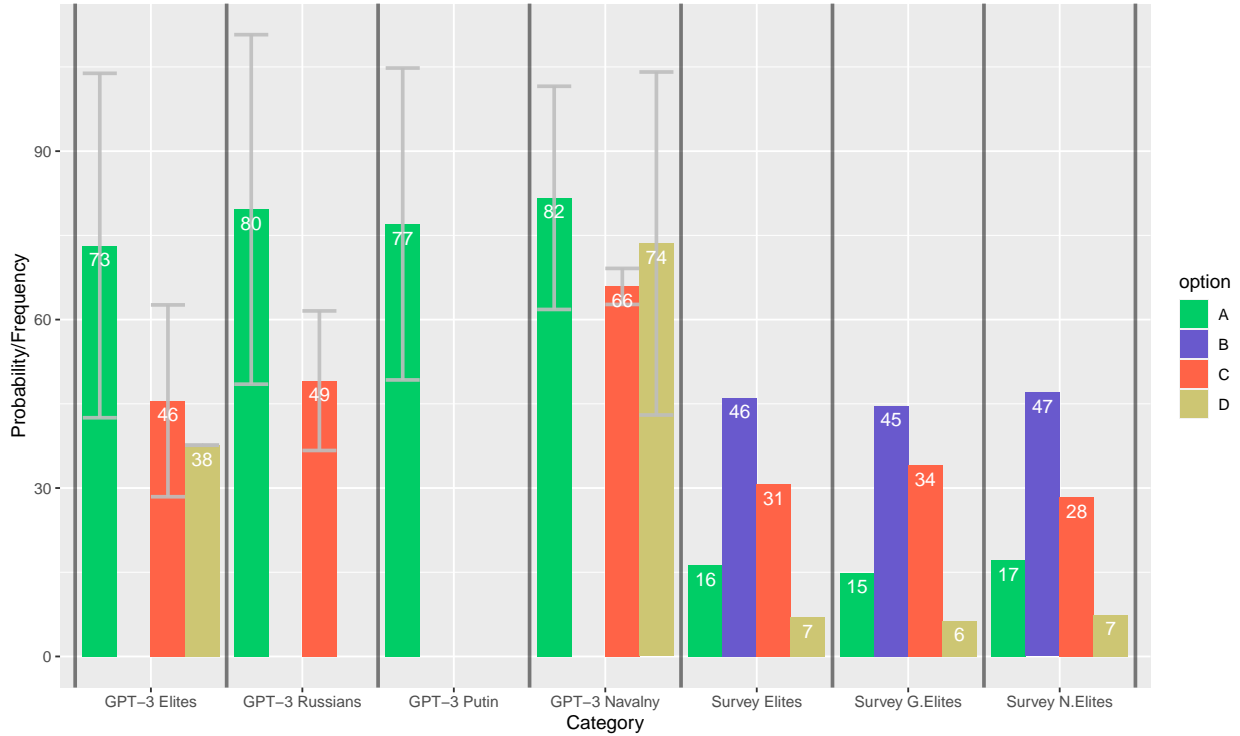


Question (2016 results for survey responses): *[PERSON]’s attitude toward a decision to admit one or more members of the CIS into NATO is* **A.** *Very positive* **B.** *Rather positive* **C.** *Rather negative* **D.** *Very negative*

ing high confidence in the result), thus supporting neo-Eurasianist political agenda(Kalinin 2019). This discrepancy between the survey results and the GPT-3 generated responses is noteworthy and calls for further investigation.

The question about the origins of the Ukrainian crisis is depicted in Figure 11. According to a 2016 *Survey*, the origins of the crisis are mainly attributed to U.S. attempts to foment another “color” revolution in Ukraine (76%) and the European Union’s persistence on bringing Ukraine into its sphere of influence (59%). The GPT-3 responses are moderately consistent with the *Survey* yielding 56% and 50% probability that elites will be supportive of these options. However, the results obtained from the GPT-3 model demonstrate no statistically significant responses, with the last option of “attempts by Russia to ‘buy’ Yanukovich’s loyalty” having zero probability across all the categories. Vladimir Putin’s

Figure 10: Russia and Eastern Ukraine (UKROPTIONS)

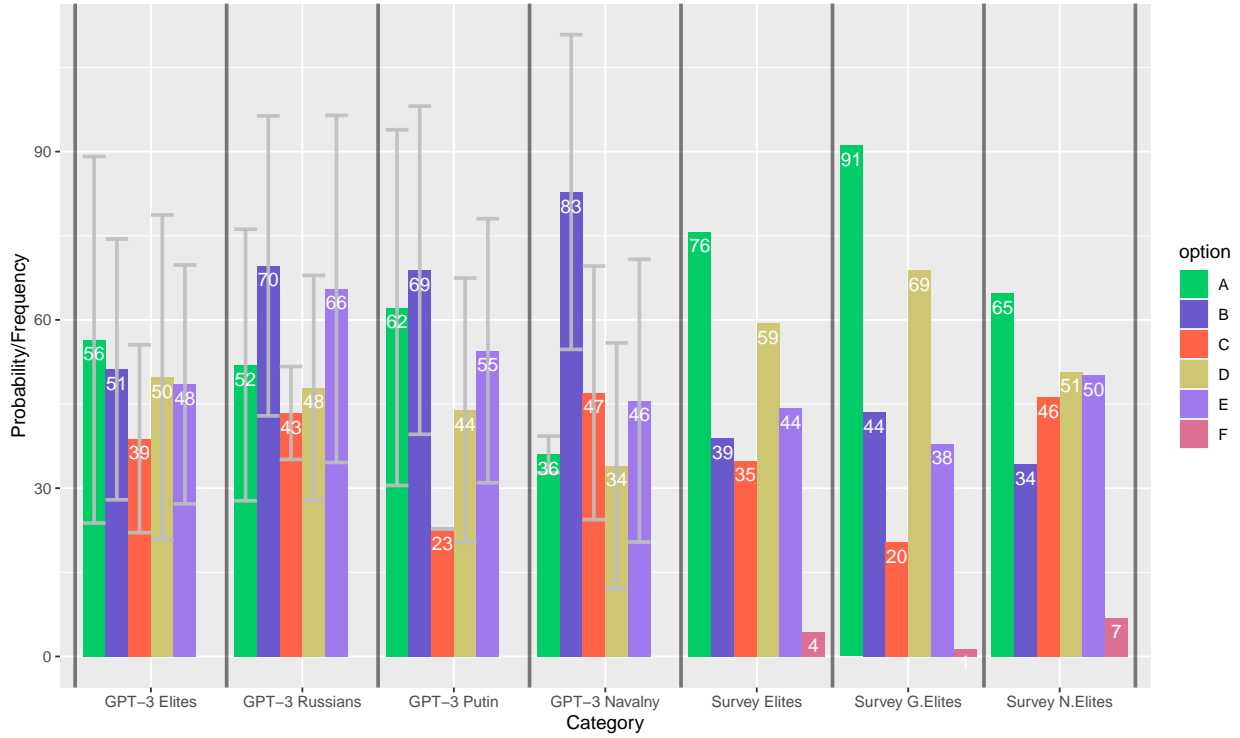


Question: *[PERSON]* would prefer. **A.** eastern Ukraine to become part of the Russian Federation. **B.** eastern Ukraine to become an independent government. **C.** eastern Ukraine to remain part of Ukraine but receive more independence from Kiev. **D.** eastern Ukraine to remain part of Ukraine under the same conditions that existed before the crisis.

most likely response is that the “corrupt regime of former Ukrainian President Yanukovich should be blamed for the 2014 Ukrainian crisis” (69%), which is hardly credible since he is likely to shift all the blame to external actors. This finding highlights the limitations of GPT-3 in providing responses underlying the complex behavioral patterns associated with individual strategic behavior. Given Alexei Navalny’s reputation as Russia’s most prominent anti-corruption campaigner, the option of Yanukovich’s corrupt regime being responsible for the crisis seems most plausible (83%).

It is important to acknowledge that the inferences drawn from the GPT-3-generated responses pertaining to the Russia-Ukraine war in 2022 are speculative, given the scarcity of relevant training data on present geopolitical circumstances. The responses depicted in Figure 12 rely predominantly on historical data, which may not fully capture the nuances

Figure 11: Ukrainian Crisis 2014 (UKRCRISIS)

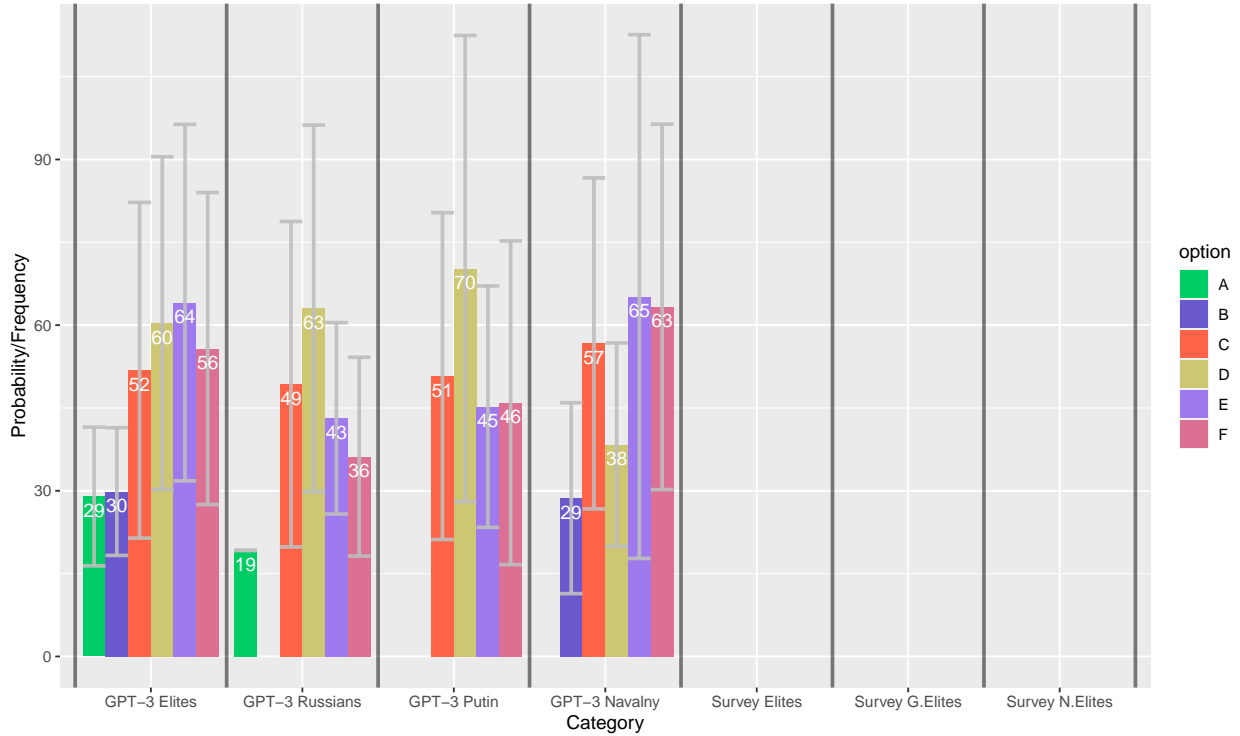


(2016) Question: (top-3 answers combined) *[PERSON]* thinks that the crisis in Ukraine was led by **A.** Attempts by the United States to foment another “color” revolution in Ukraine. **B.** The corrupt regime of former Ukrainian President Yanukovych. **C.** The hopes of regular Ukrainians that association with the European Union would solve fundamental problems in the country. **D.** The persistent actions of the European Union to bring Ukraine into its sphere of influence. **E.** Attempts by Yanukovych to maneuver between Russia and the European Union. **F.** Attempts by Russia to “buy” Yanukovych’s loyalty.

and complexities of the current conflict. Nonetheless, the generated results demonstrate that the three most popular responses among elites and Russians are the occupation/annexation of the entire Ukraine (64%), the protection of the population of Donbass (60%), and the occupation and annexation of Donbass (DNR and LNR) (56%). It is important to bear in mind that these generated responses require further validation, as their accuracy and reliability may be limited.

Vladimir Putin’s priority, according to the generated responses, is the protection of the Donbass population (70%). Notably, the official reasons for starting the war, such as the demilitarization of Ukraine and prevention of NATO military bases on Ukrainian territory, have zero probability of being selected. The GPT-3 model suggests that Alexei Navalny

Figure 12: Ukrainian Crisis 2022 (WHYWARUKRAINE)



(2016) Question: On February 24, 2022, Vladimir Putin authorized a “special military operation” against Ukraine. What, according to [PERSON], are the goals of this military operation? **A.** Protect Russia by demilitarizing Ukraine. **B.** Prevent the placement of NATO military bases on Ukraine’s territory. **C.** Change the political course of Ukraine and cleanse it of Ukrainian Nazis. **D.** Protect the population of Donbass (DNR and LNR). **E.** Occupy all of Ukraine and annex it to Russia. **F.** Occupy and annex Donbass (DNR and LNR).

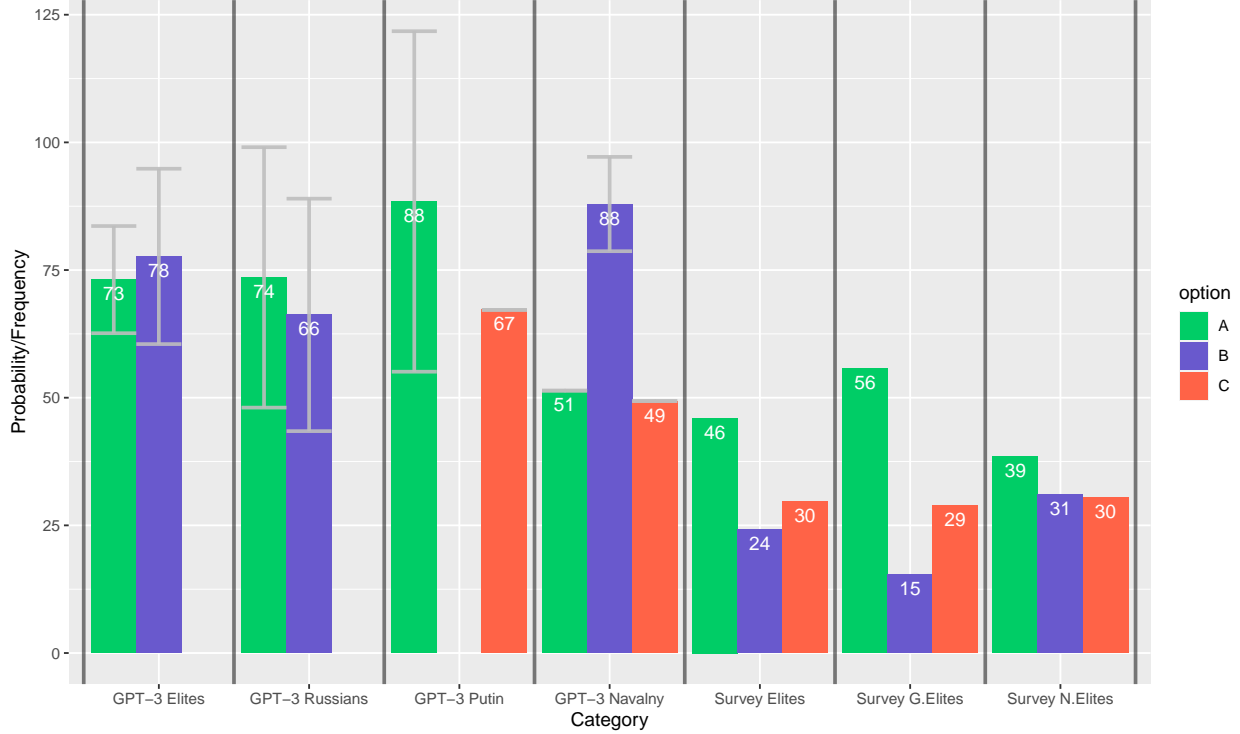
believes that Vladimir Putin authorized a “special military operation” to occupy and annex not only Donbass (63%), but the entire Ukraine (65%), as well as to change Ukraine’s political course and purge it of Ukrainian Nazis (57%). However, due to wide confidence intervals across all categories, it is difficult to draw statistically significant findings from the generated responses. In conclusion, while the GPT-3 model provides reasonable responses, without further fine-tuning on more recent data, its results remain somewhat speculative.

Russia’s Domestic Politics

We shall now shift our focus several questions related to Russia’s domestic politics. In this regard, the question related to the state’s responsiveness over the last twenty years, beginning

in 2000, is of some intrinsic interest (See Figure 13).

Figure 13: Responsiveness of the Russian State (EVPURESPONSE)

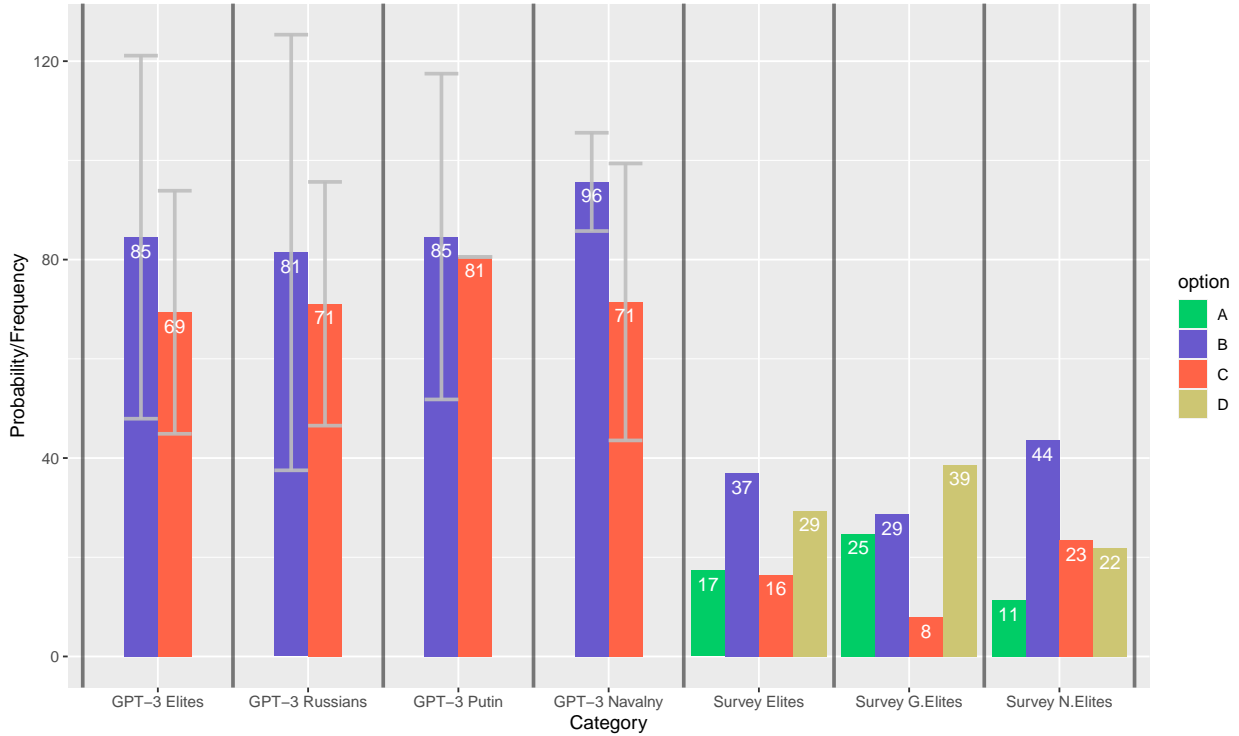


Question: *In the last twenty years since the year 2000, according to [PERSON], the responsiveness of the state to the needs of the population* **A.** Increased **B.** Decreased **C.** Remained unchanged

The *Survey* results suggest that the elites assess the state’s responsiveness positively (46%): unsurprisingly, government elites provide more positive feedback about the positive changes (56%) as compared to non-government elites (39%). However, the GPT-3 generated responses for both elites and Russians demonstrate equal probability of supporting positive and negative responses (73% vs. 78%). Regarding Vladimir Putin’s generated responses, he is likely to answer positively (88%) or neutrally (67%) to this question, with zero probability of a negative response. In contrast, the generated responses for Alexei Navalny suggest a higher probability of a negative response (88%) to this question.

Another interesting question examines the goals of the 2020 constitutional referendum. Again, since the model was trained on the data collected prior to official referendum, the

Figure 14: Constitutional Referendum, 2020 (CONSTREFGOALS)

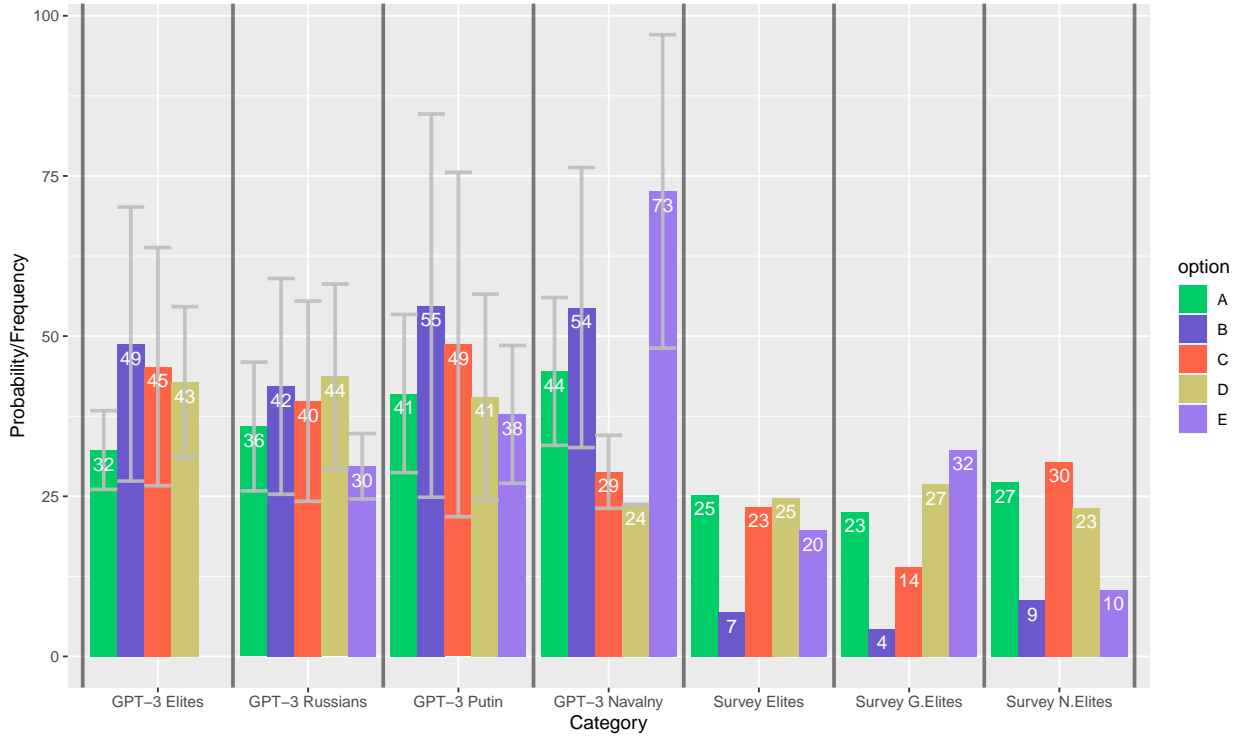


Question: *What is the main goal of the changes to Russia’s constitution, according to [PERSON]?* **A.** *Liberalization of the political system* **B.** *Preserving Putin’s power beyond his current presidential term* **C.** *Laying the groundwork for Putin to transfer power to a chosen successor or successors* **D.** *Improving the efficiency of the public administration*

GPT-3 answers are largely speculative. According to Figure 14, the two most frequent responses among the elites regarding the referendum’s purpose were to preserve Vladimir Putin’s power beyond his current presidential term (37%) and to improve the efficiency of public administration (29%). Notably, there were only two GPT-3-generated responses across all categories claiming that the goal of the referendum was to preserve Putin’s power and lay the groundwork for power transfer, with no statistically significant differences between the two. Although the model does not express confidence in these responses, the zero probability for other options related to liberalization of the political system and improving the government’s efficiency is a noteworthy finding.

The final question of interest pertains to Vladimir Putin’s plans for leaving office (as depicted in Figure 15). The *Survey* data does not provide conclusive results, indicating

Figure 15: Putin’s Departure from the Presidency (LIKELYPUFUTURE)



Question: In [PERSON]’s opinion, how will Vladimir Putin distribute power when he leaves the presidency? **A.** Transfer all power to a trusted successor **B.** Transfer all power to several trusted and like-minded associates, having carefully balanced them against each other **C.** Keep all power in his own hands despite leaving the presidency **D.** Improving the efficiency of the public administration **E.** Let voters decide in fully free and fair elections, even if this allows a true opposition figure to win

equal probability of various options such as “power transfer to a trusted successor” (25%), “retaining all power despite leaving the presidency” (23%), “improving the efficiency of public administration” (25%), and “allowing fully free and fair elections to decide” (20%). The option of transferring all power to a few trusted and like-minded associates is least supported by elites (7%). There exists a notable difference between government and non-government elites: for instance, while 14% of government elites prefer retaining all power despite leaving the presidency, 30% of non-government elites support this option. On the other hand, 32% of government elites and 10% of non-government elites prefer the option of allowing fully free and fair elections to decide.

The responses generated by GPT-3 are somewhat noisy and contrast with the survey results: the three most popular responses for the elites, Russians and Putin categories are

“transfer all power to several trusted and like-minded associates...”, “keep all power in his own hands despite leaving the presidency” and “improve the efficiency of the public administration”.

Text Generation Using the Fine-Tuned *Babbage* Model: Open-Ended Questions

In the next stage, the GPT-3 model is fine-tuned using publicly available data on Vladimir Putin and Alexei Navalny. All data are collected in June 2022 from www.kremlin.ru (8,603 transcripts from 2000 to 2022) and <http://www.navalny.ru> (2,954 posts, 2009-2022). However, while the Kremlin provides translated transcripts on its website, Navalny’s website contains posts only in Russian, and therefore the *googletrans* Python library, based on Google Translate API, was employed for translation purposes.

The collected data has been formatted for fine-tuning using the *jsonl* file format, which contains two fields: “prompt”, with the names of politicians and the year when the text fragment was published, and “completion”, containing a 300-word text fragment per line derived from the text corpora. Other hyperparameters used in the study include the number of epochs (4), batch-size (64), and learning rate multiplier (0.2). While it is desirable to evaluate models with different parameter settings, it can be both expensive and time-consuming, and hence the default model is used in this study.

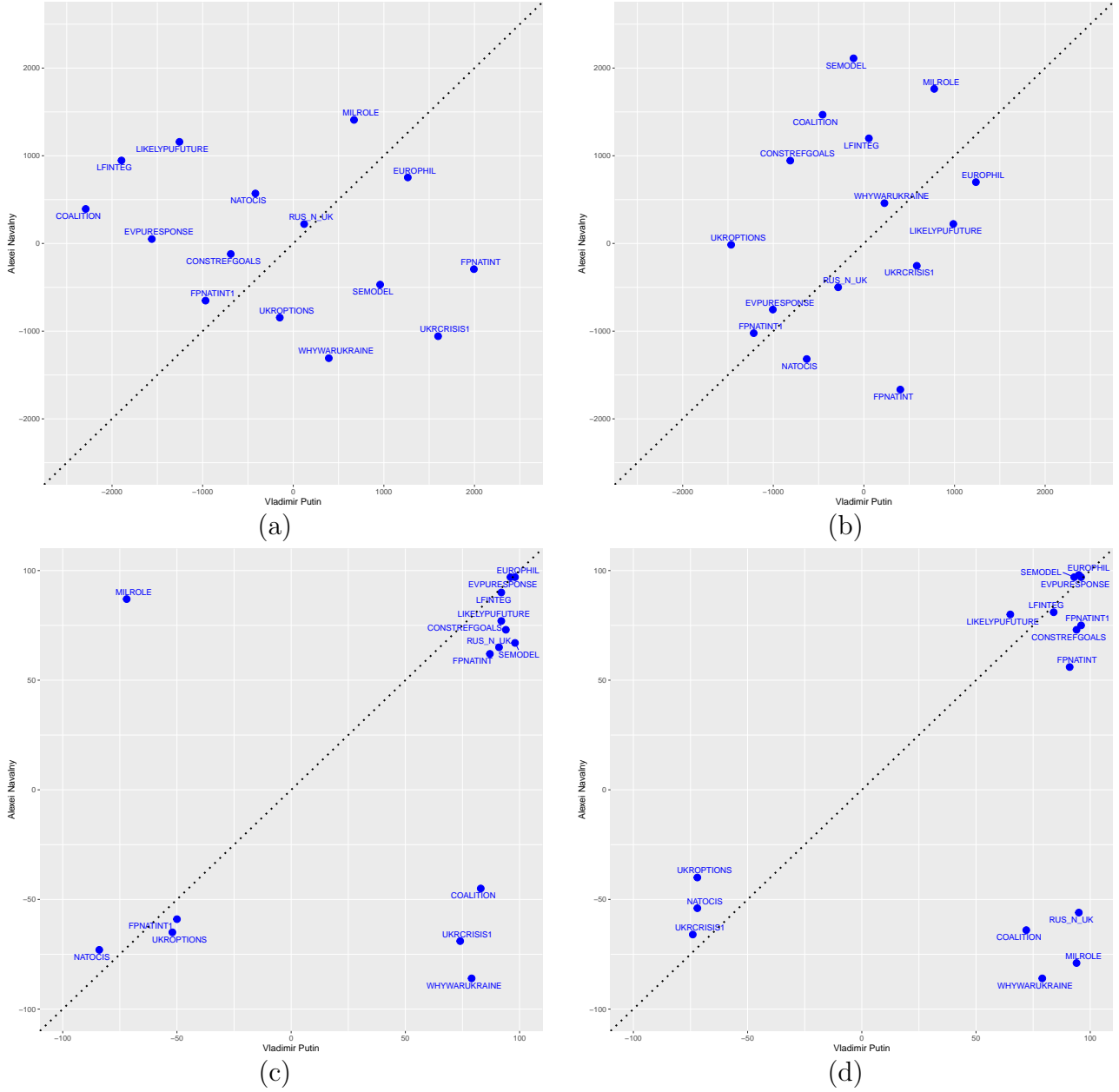
OpenAI offers three models, namely *Ada*, *Babbage*, and *Curie*, which differ in their size and computational requirements. Given the relatively large dataset and my interest in a low-cost model, I chose to use the *Babbage* model, which has 1.3 billion parameters and is 135 times smaller than the *Davinci* model. Despite its smaller size and limited capabilities, such as simple classification and semantic search, this model can generate interesting results. However, for more complex tasks, such as question answering and summarization, it is advisable to use the *Curie* model, which has advanced capabilities and can handle various subtle tasks, including sentiment classification and question answering.

In the initial attempt to replicate the analysis using the fine-tuned *Babbage* model, it was found that the model was unable to provide a letter choice for the multiple choice questions. To overcome this limitation, responses were generated in the form of text fragments of more 100 tokens in length, which translates to roughly 75 words. Additionally, to make responses more time sensitive, each question referred to two different time periods: “before 2014”, which denotes the time before the occupation of Crimea, and “after 2020”, when the regime became more repressive and violent towards the political opposition. (I added a placeholder “[YEAR]” to each question for automated substitution).

The results of the generated text fragments can be found in Tables A2 and A3 in Appendix A. Each question section presents a generated response following the prompt after “...”. To associate the text fragment with a multiple-choice question, semantic similarity is computed between the generated text fragment and each multiple-choice option. This is accomplished by obtaining embeddings for each generated text and multiple-choice option using the fine-tuned *Babbage* model and then calculating the cosine similarity between them. Cosine similarity is a metric that measures the cosine of the angle between two n -dimensional embedding vectors projected into multidimensional space, given by $\cos(\theta) = \frac{\mathbf{A} \cdot \mathbf{B}}{|\mathbf{A}| |\mathbf{B}|}$. The multiple-choice option with the highest similarity to the generated text fragment is selected as the best matching option.

In addition to the similarity measure, sentiment analysis was performed on the generated text fragments using the *Davinci* model. The model assigns one of three labels: *positive*, *negative*, or *neutral*, and provides probabilities for a set of generated choice tokens. However, since the model can be flexible in generating choice tokens, the probabilities may not always add up to one. To overcome this, I combined tokens belonging to the same category by adding their respective probabilities. For instance, tokens such as *Positive*, *positive*, *Pos*, and *pos* belong to the same positive category, and therefore, their probabilities were summed up. This approach helped to simplify the calculation of sentiment scores and obtain a more reliable assessment of sentiment for the generated text fragments.

Figure 16: Semantic Similarity and Sentiment Proximity



Notes: Semantic Similarity between Vladimir Putin's and Alexei Navalny's responses: Before 2012 (a) and After 2020 (b); sentiment proximity between Vladimir Putin's and Alexei Navalny's responses (a negative sign stands for a negative attitude, and a positive sign stands for a positive attitude).

Figure 16 presents a visualization of semantic proximity between the responses generated for Vladimir Putin and Alexei Navalny. To reduce dimensionality, the t-SNE (T-Distributed Stochastic Neighbouring Entities) technique is utilized, which is particularly effective for

visualizing high-dimensional data. The results indicate that up until 2012, semantically similar responses are generated by the model, which are lined up along the diagonal in Figure 16 (a). These responses relate to questions regarding Russia-Ukraine relations, attitudes towards the admission of certain CIS countries to NATO, and Russia’s civilizational path. However, there are considerable differences between the two politicians on a range of issues, including coalition partners, the origins of the 2014 and 2022 Ukrainian crisis, and the permissibility of using Russian armed forces for defense of territorial integrity. In contrast, for the post-2020 period, semantically similar responses are generated, as shown in Figure 16 (b), which include the scope of national interests, state responsiveness, and attitudes toward “special military operation”. On the other hand, divergent positions are reflected in questions concerning the use of military force in international relations, coalition partners, and the model country for Russia’s political and economic development.

Figures 16(c) and (d) present a single large cluster in which Vladimir Putin’s and Alexei Navalny’s positions are positively and sentimentally similar. This cluster encompasses attitudes towards Russia’s civilizational path, socio-economic development model, and the use of military for defense of territorial integrity, among others. Meanwhile, Vladimir Putin’s and Alexei Navalny’s negatively and sentimentally similar positions are associated with Russia’s scope of national interests, attitudes towards the future of eastern Ukraine, and admission of CIS states into NATO.

The quality of the generated results can be evaluated based on several criteria. First, the reasonableness of the generated results can be examined to determine whether they are meaningful and consistent with expectations. Second, a semantic consistency check can be conducted by comparing the outputs generated by the *Davinci* and *Babbage* models using similarity analysis. Lastly, a sentiment consistency check can be performed by comparing the outputs generated by both models using sentiment analysis.

However, since the *Davinci* model is used for closed-ended questions and the *Babbage* model for open-ended questions, conducting semantic and sentiment consistency checks may

be redundant, particularly for the former. Therefore, the best generated responses are compared across both models, without taking into account any measures of uncertainty. My basic assumption is that in the case of the *Davinci* model, the “correct” generated response is the one that gets the highest probability score, and in the case of the *Babbage* model, the generated response is the one that gets the highest similarity score.

Table 1: Comparison of Generated Responses Across the Models

N	Question	Vladimir Putin				Alexei Navalny			
		S GE	<i>Davinci</i> (general)	<i>Babbage</i> (before)	<i>Babbage</i> (after)	S NE	<i>Davinci</i> (general)	<i>Babbage</i> (before)	<i>Babbage</i> (after)
1	FPNATINT	B	B	B	A	B	B	B	B
2	FPNATINT1	C	C	C	C	C	C	C	B
3	MILROLE	A	B	B	B	B	B	A	B
4	RUS_N.UK	A	D	D	D	A	A	A	A
5	NATOCIS	D	D	D	D	D	D	A	A
6	COALITION	A	A	A	A	B	D	A	A
7	UKRCRISIS1	A	B	A	E	A	B	A	A
8	UKROPTIONS	B	A	C	C	B	A	D	D
9	LFINTEG	A	A	A	A	A	A	A	B
10	LIKELYPUFUTURE	E	B	E	E	C	E	E	C
11	CONSTREFGOALS	D	B	A	A	B	B	C	C
12	SEMODEL	D	B	D	D	D	A	C	C
13	EUROPHIL	B	B	A	A	B	A	B	A
14	EVPURESPONSE	A	A	A	A	A	B	C	C
15	WHYWARUKRAINE	<i>na</i>	D	D	D	<i>na</i>	E	B	B

Notes: See Table A1 in Appendix A for an interpretation of the variable names used. S – stands for the *Survey of Russian Elites*, GE – government elites, NE – nongovernment elites.

Table 1 contains generated responses across both models. The Table illustrates three interesting findings. First, generated responses for Vladimir Putin demonstrate greater consistency across the models – most of inconsistent responses are related to the future which is expectantly problematic and designed to be accounted for by fine-tuned version of the *Babbage* model. Second, the generated responses for Alexei Navalny show weaker consistency than those for Vladimir Putin. This inconsistency may be attributed to several factors, such as the fact that Alexei Navalny’s responses are based on a smaller dataset, with many questions from the *Survey of Russian Elites* being irrelevant to his blog’s content. Additionally, Alexei Navalny’s data has been automatically translated, and while *Google Translate* is a

powerful tool, its output may not always be ideal. Furthermore, some of Alexei Navalny’s responses for the post-2020 period resemble those of Vladimir Putin. This similarity might be attributed to the *Babbage* model’s attempt to fill the gaps in Alexei Navalny’s data with Vladimir Putin’s responses. This assumption is supported by the correlation analysis of t-SNE scores, which indicates that the correlation between the two politicians’ responses has changed from negative before 2012 (-0.32) to positive after 2020 (0.27). Given the political developments in Russia since 2020, including the regime’s increased repression and brutality against political opponents, the observed positive correlation between the two politicians’ responses is quite surprising.

Finally, the results of the study reveal limited consistency between the *Survey* responses of government elites in 2020 and Vladimir Putin across the models, with discrepancies in attitudes towards NATO expansion, national interests, and the responsiveness of the Russian state. Conversely, the comparison of generated responses for Alexei Navalny and non-government elites demonstrates greater consistency on questions related to the limits of national interests and attitudes towards independence of Russia and Ukraine.

When it comes to the quality of the generated responses, Table 1 indicates that, despite being fine-tuned, the *Babbage* model does not significantly improve the similarity between the synthetic politicians’ responses and the ground truth when compared to the *Davinci* model. This is especially noteworthy because the *Davinci* model does not require additional steps to transform text fragments into letter choices, which can introduce errors and biases. Therefore, the *Davinci* model seems to perform better than the fine-tuned *Babbage* model in this particular setting.

Conclusion

The goal of this study was to develop a comprehensive methodological framework for extracting relevant semantic information utilizing GPT-3, for notable members of the elite and

can be utilized for the purposes of academic inquiry and policy analysis.

The proposed response generation algorithm entails that the model generate the most probable response that is robust to semantically similar questions. Second, the generation of responses should not be influenced by irrelevant alternatives and their different orderings. Third, the generated responses should be subjected to validation procedures utilizing external data sources or other language models that are trained or fine-tuned with different data.

The GPT-3's *Davinci* model was identified as having the ability to recognize the format of multiple-choice questions as well as their content. This study proposed the use of a permutation algorithm to address ordering effects and to introduce variation in the generated responses and their associated probabilities. The resulting letter choice probabilities allowed for the calculation of measures of uncertainty and the determination of the degree of variability in the generated responses for each particular question.

The paper demonstrated how the GPT-3 *Davinci* model can be used to generate responses from hard-to-reach members of the Russian elite in response to multiple-choice questions related to domestic and international politics. The individuals in question are two of Russia's most prominent politicians: president Vladimir Putin and opposition leader Alexei Navalny. The model is useful not only in identifying the most likely synthetic responses but also in excluding the least likely ones.

Additionally, this paper provided an auxiliary analysis that uses the *Babbage* model fine-tuned to Vladimir Putin's and Alexei Navalny's texts. Fine-tuning the *Babbage* model, which is relatively inexpensive to train, allowed for the incorporation of more relevant information about these politicians. However, the *Babbage* model has limitations in that it cannot recognize the format of a multiple-choice question. To address this issue, this paper proposed an algorithm that matches generated text fragments with multiple-choice options using the embeddings similarity algorithm. The results obtained from the *Babbage* model are partially consistent with the output of the *Davinci* model.

The primary results obtained from the generation of synthetic data for Vladimir Putin

and Alexei Navalny suggest that although both language models can produce significant outcomes, the *Davinci* model without fine-tuning outperforms the fine-tuned *Babbage* model.

My recommendations for future use of the GPT-3 model for semantic information extraction purposes are as follows: First, researchers should strive to collect as much data as possible about members of the elite to enhance the accuracy of the generated responses. Second, it may be advisable to run a separate model for an elite member with insufficient data to prevent contamination from another elite member with more data. Third, while the fine-tuned *Babbage* model produces interesting results, the larger fine-tuned *Curie* model will be more powerful for semantic information extraction purposes. Therefore, the *Curie* model may be more appropriate for generating synthetic responses than the *Davinci* model.

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A Appendix. Supplementary Tables and Figures

Table A1: Selected Questions from the Survey of Russian Elites

Variable	Question
FPNATINT	[PERSON] thinks that
	<p>A. The national interests of Russia for the most part should be limited to its current territory.</p> <p>B. The national interests of Russia for the most part should extend beyond its current territory.</p>
FPNATINT1	[PERSON] thinks that
	<p>A. Russia has vital interests in the “Near Abroad” but not beyond that.</p> <p>B. Russia has vital interests in the “Near Abroad” and Eastern Europe, but not beyond that.</p> <p>C. Russia has vital interests in parts of the world not only in the “Near Abroad” and Eastern Europe, but also in various parts of the world.</p>
MILROLE	[PERSON] thinks that
	<p>A. Military force ultimately decides everything in international relations.</p> <p>B. The economic, and not military, potential of a country determines the place and role of a country in the world today.</p>
RUSNUK	[PERSON] thinks that
	<p>A. Russia and Ukraine should be completely independent countries.</p> <p>B. Russia and Ukraine should be partially independent countries.</p> <p>C. Russia should unite with only part of Ukraine.</p> <p>D. Russia and Ukraine should be united into a single country.</p>
NATOCIS	[PERSON]’s attitude toward a decision to admit one or more members of the CIS into NATO is
	A. Very positive

To be continued

Table A1: Selected Questions from the Survey (*continued*)

Variable	Question
	<p>B. Rather positive</p> <p>C. Rather negative</p> <p>D. Very negative</p>
COALITION	<p>[PERSON] would prefer Russia to form a coalition with</p> <p>A. China</p> <p>B. European Union</p> <p>C. US</p> <p>D. None of the above</p>
UKRCRISIS	<p>[PERSON] thinks that the crisis in Ukraine was led by</p> <p>A. Attempts by the United States to foment another “color” revolution in Ukraine.</p> <p>B. The corrupt regime of former Ukrainian President Yanukovich.</p> <p>C. The hopes of regular Ukrainians that association with the European Union would solve fundamental problems in the country.</p> <p>D. The persistent actions of the European Union to bring Ukraine into its sphere of influence.</p> <p>E. Attempts by Yanukovich to maneuver between Russia and the European Union.</p> <p>F. Attempts by Russia to “buy” Yanukovich’s loyalty.</p>
UKROPTIONS	<p>[PERSON] would prefer</p> <p>A. eastern Ukraine to become part of the Russian Federation.</p> <p>B. eastern Ukraine to become an independent government.</p> <p>C. eastern Ukraine to remain part of Ukraine but receive more independence from Kiev.</p> <p>D. eastern Ukraine to remain part of Ukraine under the same conditions that existed before the crisis.</p>

To be continued

Table A1: Selected Questions from the Survey (*continued*)

Variable	Question
LFINTEG	In [PERSON]’s opinion, defending the territorial integrity of the Russian Federation makes the use of the Russian military permissible?
	A. Yes
	B. No
LIKELYPUFUTURE	In [PERSON]’s opinion, how will Vladimir Putin distribute power when he leaves the presidency?
	A. Transfer all power to a trusted successor
	B. Transfer all power to several trusted and like-minded associates, having carefully balanced them against each other
	C. Keep all power in his own hands despite leaving the presidency
	D. Improving the efficiency of the public administration
	E. Let voters decide in fully free and fair elections, even if this allows a true opposition figure to win
CONSTREFGOALS	What is the main goal of the changes to Russia’s constitution, according to [PERSON]?
	A. Liberalization of the political system
	B. Preserving Putin’s power beyond his current presidential term
	C. Laying the groundwork for Putin to transfer power to a chosen successor or successors
	D. Improving the efficiency of the public administration
SEMODEL	Which country does [PERSON] think can serve as a model of political and economic development for Russia?
	A. Germany
	B. China
	C. US
	D. Many countries could serve as a model, but they aren’t appropriate for Russia.

To be continued

Table A1: Selected Questions from the Survey (*continued*)

Variable	Question
EUROPHIL	<p>Which of these statements is closer to [PERSON]’s point of view?</p> <p>A. Russia should follow the path of developed countries and assimilate the experience and achievements of Western civilization.</p> <p>B. Taking into account the history and geographic position of Russia at the crossroads of Europe and Asia, it should follow a unique Russian path.</p>
EVPURESPONSE	<p>In the last twenty years since the year 2000, according to [PERSON], the responsiveness of the state to the needs of the population</p> <p>A. Increased</p> <p>B. Decreased</p> <p>C. Remained unchanged</p>
WHYWARUKRAINE	<p>On February 24, 2022, Vladimir Putin authorized a “special military operation” against Ukraine. What, according to [PERSON], are the goals of this military operation?</p> <p>A. Protect Russia by demilitarizing Ukraine.</p> <p>B. Prevent the placement of NATO military bases on Ukraine’s territory.</p> <p>C. Change the political course of Ukraine and cleanse it of Ukrainian Nazis.</p> <p>D. Protect the population of Donbass (DNR and LNR).</p> <p>E. Occupy all of Ukraine and annex it to Russia.</p> <p>F. Occupy and annex Donbass (DNR and LNR).</p>

Figure A1: Preparation of Data for Response Generation Using GPT-3's *Davinci* Model

Index	Variable	Permutation	Questions	Option1	Option2	Option3	Option4	Option5	Option6	Option7	Option8	Option9	Option10					
1				The national interests of Russia for the most part should be limited to its current territory.	The national interests of Russia for the most part should extend beyond its current territory.													
2	1_FPNATINT	yes	[PERSON] thinks that	Military force ultimately decides everything in international relations.	The economic, and not military, potential of a country determines the place and role of a country in the world today.													
3	2_MILROLE	yes	[PERSON] thinks that	Russia and Ukraine should be completely independent countries.	Russia and Ukraine should be partially independent countries.	Russia should unite with only part of Ukraine.	Russia and Ukraine should be united into a single country.											
4	3_RUS_N_UK	yes	[PERSON] thinks that			The hopes of regular Ukrainians that association with the European Union would solve fundamental problems in the country.	The persistent actions of the European Union to bring Ukraine into its sphere of influence.	The Ukrainian opposition, having resorted to armed protest on the streets.	Attempts by Yanukovich to maneuver between Russia and the European Union.	Attempts by Russia to "buy" Yanukovich's loyalty.								
5	4_UKRCRISIS1	no	[PERSON] thinks that the crisis in Ukraine was led by	Attempts by the US to foment another "color" revolution in Ukraine.	The corrupt regime of former Ukrainian President Yanukovich.													
6	5_UKROPTIONS	yes	[PERSON] would prefer	eastern Ukraine to become part of the Russian Federation.	eastern Ukraine to become an independent government.	eastern Ukraine to remain part of Ukraine but receive more independence from Kiev.	eastern Ukraine to remain part of Ukraine under the same conditions that existed before the crisis.											
7	6_CRIMEAVIOLAT	yes	[PERSON] thinks that in annexing Crimea, Russia violated post-war and post-Soviet international agreements and international law?	Definitely yes	Probably yes	Probably no	Definitely no											
				Hostile attitudes toward Russia; a	Criticism of the annexation of a													

Notes: Example of data preparation using an Excel spreadsheet to generate responses. The code and data can be found on *GitHub*: <https://github.com/kkalininMI/GPT3-Surveys>

Table A2: Vladimir Putin’s Generated Responses Using the Fine-Tuned *Babbage* model

Before 2014	After 2020
QUESTION 1	VARIABLE: <i>FPNATINT</i>
<p>Before 2014, Vladimir Putin thinks that the national interests of Russia for the most part should be [limited to its current territory, extend beyond its current territory]?...Vladimir Putin: I think that the national interests of Russia should be limited to its current territory. But we are not going to limit ourselves to our present borders, and we will expand into other territories as well. We have a lot of potential in Siberia and the Far East, for example. And this is why it’s important for us to develop these regions, because they are very promising areas for economic development. This is also one of the reasons why we need an effective government system there’</p>	<p>After 2020, Vladimir Putin thinks that the national interests of Russia for the most part should be [limited to its current territory, extend beyond its current territory]?...Vladimir Putin: I think that the national interests of Russia should be limited to its current territory. That is, we have a very large country with many different ethnic groups and religions living in it. We need to preserve our unity as much as possible, but at the same time we must not forget about other regions where there are no Russians or people who speak Russian as their native language. And this is something that has always been an issue for us because historically speaking, Russia was never united by one common...</p>
<p>The national interests of Russia for the most part should extend beyond its current territory Similarity score: 69.0 Sentiment score: Positive 95.0</p>	<p>The national interests of Russia for the most part should be limited to its current territory. Similarity score: 73.0 Sentiment score: Positive 83.0</p>
QUESTION 2	VARIABLE: <i>FPNATINT1</i>
<p>Where, according to Vladimir Putin, should Russia’s vital interests be located Before 2014: [Near Abroad, Eastern Europe or different parts of the world]?... Vladimir Putin: I think that the main thing is to ensure our national security. We have a very good military-political system, and we are not going to change it for anything in the world. But if you look at what is happening in other countries, they are also trying to strengthen their own security systems. And this does not mean that we should do something similar or follow them blindly; on the contrary, we must be guided by our interests and values and make sure that these values’</p>	<p>Where, according to Vladimir Putin, should Russia’s vital interests be located After 2020: [Near Abroad, Eastern Europe or different parts of the world]?... Vladimir Putin: I think that the answer to this question is obvious. We are not going anywhere, we have no plans to move away from our traditional place in the world. But if you look at what Russia has achieved over these last years and compare it with what we had before, then you will see that there are some very serious differences between us and ourselves. And they should be acknowledged openly and honestly by all of us both those who live here or work abroad, as well as those who...</p>

To be continued

Table A2: Vladimir Putin’s generated responses (*continued*)

Before 2014	After 2020
Russia has vital interests in parts of the world not only in the Near Abroad and Eastern Europe, but also in various parts of the world. 71.0 Positive 95.0	Russia has vital interests in parts of the world not only in the Near Abroad and Eastern Europe, but also in various parts of the world. 72.0 Positive 95.0
QUESTION 3	VARIABLE: <i>MILROLE</i>
Before 2014, is everything in international relations, according to Vladimir Putin, is decided by [military force, economic potential] of a country?...Vladimir Putin: I think that the main thing is to have a good relationship with your neighbors. And this is not only about Russia, but also about other countries in Europe and the world as a whole. This is what we are striving for. We want to build relations based on trust and mutual benefit, which would be beneficial for all parties involved in these processes. Question: Mr President, you said that you will continue to work towards strengthening Russian-American relations despite the fact that there are some problems’	After 2020, is everything in international relations, according to Vladimir Putin, is decided by [military force, economic potential] of a country?... Vladimir Putin: I think that the main thing is to have a clear understanding of what you want. If we are talking about the future, then it is necessary to understand how things will develop in the future and what kind of relations we should build with our partners. This is very important for us. We must be ready for this, because if we do not know where we are going, then there can be no agreements or decisions on any issues at all. And this applies both to international affairs and...
The economic, and not military, potential of a country determines the place and role of a country in the world today. 67.0 Positive 94.0	The economic, and not military, potential of a country determines the place and role of a country in the world today. 67.0 Positive 89.0
QUESTION 4	VARIABLE: <i>RUSNUK</i>

To be continued

Table A2: Vladimir Putin's generated responses (*continued*)

Before 2014	After 2020
Before 2014, does Vladimir Putin think that Russia and Ukraine should be [completely independent, partially independent, united into a single country]?...Vladimir Putin: I think that we should be united. We have a common history, culture and language. And this is the basis for our relations with Ukraine. Question: Mr President, you said that Russia has always been an open country and will remain so in the future. But what about Crimea? What are your plans to restore its autonomy? Vladimir Putin: You know, it's not just about Crimea; it's also about Sevastopol and other regions of Ukraine as well	After 2020, does Vladimir Putin think that Russia and Ukraine should be [completely independent, partially independent, united into a single country]?...Vladimir Putin: I think that we should be united. We have a common history, culture and language. And this is the basis for our relations with Ukraine. This is what makes us different from other countries in Europe or Asia, where there are no such ties between their states and their citizens. But it's not only about Russia-Ukraine relations; it's also about the development of European integration processes as a whole, including those within NATO and the EU...
Russia and Ukraine should be united into a single country. 74.0	Russia and Ukraine should be united into a single country. 71.0
Positive 95.0	Positive 95.0
QUESTION 5	VARIABLE: <i>NATOCIS</i>
Before 2014, what is Vladimir Putin's attitude toward a decision to admit one or more members of the CIS into NATO [very positive, rather positive, rather negative, rather negative]?...Vladimir Putin: I think that NATO is a military bloc, and we are not interested in it. We have no plans to join NATO. And if the decision of our partners is made on the basis of some kind of political considerations, then this will be detrimental for us. But as far as Russia's position goes, I would like to say that we do not see any threat from NATO membership for us because there are no threats against Russia; they exist only in the minds of those who...	After 2020, what is Vladimir Putin's attitude toward a decision to admit one or more members of the CIS into NATO [very positive, rather positive, rather negative, rather negative]?...Vladimir Putin: I think that NATO is a military bloc, and we are not interested in it. We have no plans to join NATO. And if the decision of our partners is made on the basis of some kind of political considerations, then this will be detrimental for us. But as far as Russia's position goes, we believe that there should be no such decisions at all because they would undermine the foundations of international relations and security in Europe...
Attitude toward a decision to admit one or more members of the CIS into NATO is very negative 75.0	Attitude toward a decision to admit one or more members of the CIS into NATO is very negative 73.0
Negative 83.0	Negative 83.0
QUESTION 6	VARIABLE: <i>COALITION</i>

To be continued

Table A2: Vladimir Putin's generated responses (*continued*)

Before 2014	After 2020
Before 2014, would Vladimir Putin prefer Russia to form a coalition with the country [China, European Union, United States, None of the countries]?... Vladimir Putin: I think that the Chinese leadership is interested in a stable and predictable development of relations with Russia. We are ready to work together on all issues, including those related to the settlement of conflicts in Asia-Pacific region. Question: Mr President, you have said that China has been your main partner for many years now. What do you expect from this relationship? Vladimir Putin: It's not just about our partnership; it's also about how we cooperate with each other...	After 2020, would Vladimir Putin prefer Russia to form a coalition with the country [China, European Union, United States, None of the countries]?...Vladimir Putin: I think that the Chinese leadership is interested in a stable and predictable development of relations with Russia. We are ready to work together on this, including within the framework of international organizations such as BRICS, APEC and SCO. In general, we have no problems with China's leaders or its people. Question: Mr President, you said that you would like to see Russian-Chinese relations develop along the lines of partnership rather than confrontation. What do you mean by this?'
Russia should form a coalition with China 69.0	Russia should form a coalition with China 68.0
Positive 96.0	Positive 96.0
QUESTION 7	VARIABLE: <i>UKRCRISIS1</i>
Before 2014, Vladimir Putin thinks that the 2014 crisis in Ukraine was led by... the United States. Vladimir Putin: I think that the crisis in Ukraine was not led by anyone, but it is a natural consequence of the actions taken by our partners. We are ready to work with all those who want to restore peace and stability in this region, including Russia's partners from NATO. Question: Mr President, you have said many times that Russia has no plans to invade Ukraine or annex any territory there. But what about Crimea? What will happen if Crimean people vote for independence	After 2020, Vladimir Putin thinks that the 2014 crisis in Ukraine was led by... the West, and that the Ukrainian people were forced to take up arms against their own will. Vladimir Putin believes that Ukraine's armed forces are not ready for combat operations in Donbass. He also thinks that the current conflict is a result of Kiev's policy of "unilateral sanctions" against Russia. Vladimir Putin says he does not believe in any military solution to this conflict, but rather calls on all parties involved in it to find a peaceful way out through negotiations with each...
Attempts by the United States to foment another "color" revolution in Ukraine. 73.0	Attempts by Yanukovich to maneuver between Russia and the European Union. 72.0
Positive 74.0	Negative 74.0
QUESTION 8	VARIABLE: <i>UKROPTIONS</i>

To be continued

Table A2: Vladimir Putin's generated responses (*continued*)

Before 2014	After 2020
<p>Before 2014, would Vladimir Putin prefer eastern Ukraine to [become part of the Russian Federation, become an independent government, remain part of Ukraine but receive more independence from Kiev, remain part of Ukraine under the same conditions that existed before the crisis]?... Vladimir Putin: I think that the Ukrainian people themselves should decide their future. The Ukrainian people have always been a multi-ethnic and multi-religious nation, and they will continue to be so in the future. We are ready for this, we want it, but only if there is mutual understanding between all ethnic groups living in Ukraine. If this does not happen then we will need to take some decisions on our own behalf as well as on behalf of other countries with which Ukraine has close relations...</p>	<p>After 2020, would Vladimir Putin prefer eastern Ukraine to [become part of the Russian Federation, become an independent government, remain part of Ukraine but receive more independence from Kiev, remain part of Ukraine under the same conditions that existed before the crisis]?... Vladimir Putin: I think that the Ukrainian people themselves should decide this. The Ukrainian people have always been a multi-ethnic and multi-religious nation, and they will continue to be so in the future. We are not going to impose anything on anyone. But we do believe that it is necessary for Ukraine to develop as an independent state with its own identity, without any external influence or interference from outside countries. This is our position, and we will stick to it no matter what happens in Ukraine</p>
<p>eastern Ukraine to remain part of Ukraine but receive more independence from Kiev. 75.0</p> <p>Positive 80.0</p>	<p>eastern Ukraine to remain part of Ukraine but receive more independence from Kiev. 75.0</p> <p>Positive 86.0</p>
QUESTION 9	VARIABLE: <i>LFINTEG</i>
<p>Before 2014, Vladimir Putin's opinion, is defending the territorial integrity of the Russian Federation makes the use of the Russian military [permissible, not permissible]?... Vladimir Putin: I think that the use of Russian Armed Forces is not only permissible, but also necessary. We have a very good example in Syria. The Syrian army has been fighting terrorists for many years now and it has achieved some results. But we must understand that this fight will be long and hard, because there are still terrorist groups operating in Syria who are trying to carry out attacks on Russia's territory. Therefore, we need to act with great care and prudence when using our Armed...</p>	<p>After 2020, Vladimir Putin's opinion, is defending the territorial integrity of the Russian Federation makes the use of the Russian military [permissible, not permissible]?... Vladimir Putin: I think that the use of the Armed Forces is not only permissible, but also necessary. The situation in Ukraine is such that it cannot be resolved without using force. We have to do this because we are a nuclear power and we must protect our territory from aggression by any means possible. But if you look at what has happened over these last years, you will see that there were no attempts to use force against Russia or its allies in Europe or Asia. There was no attempt to attack...</p>

To be continued

Table A2: Vladimir Putin’s generated responses (*continued*)

Before 2014	After 2020
defending the territorial integrity of the Russian Federation makes the use of the Russian military permissible 73.0 Positive 92.0	defending the territorial integrity of the Russian Federation makes the use of the Russian military not permissible 72.0 Positive 88.0
QUESTION 10	VARIABLE: <i>LIKELYPUFUTURE</i>
Before 2014, in Vladimir Putin’s opinion, when Vladimir Putin leaves the presidency he will [transfer all power to a trusted successor, several trusted and like-minded associates, keep some power for himself, let voters decide in fully free and fair elections]?... Vladimir Putin: I don’t think that’s the way it will be. As for my future plans, you know, I have no such plans. You can ask me about them if you like. Question: But do you want to stay in politics? Vladimir Putin: No, of course not. Question: Do you want to retire from politics? Vladimir Putin: No, of course not! (Laughter.) Question: So what is your plan after the presidential election? Will there be a new...	After 2020, in Vladimir Putin’s opinion, when Vladimir Putin leaves the presidency he will [transfer all power to a trusted successor, several trusted and like-minded associates, keep some power for himself, let voters decide in fully free and fair elections]?... Vladimir Putin: I think that the President of Russia is a person who has been elected by the people, and not appointed by them. And if he wants to leave his post, then it will be done in accordance with our Constitution. Question: But you have already said that you are ready for this? Vladimir Putin: Yes, I am ready for this. Question: So what do you want to say about your future plans? Vladimir Putin: You know, we all have different ideas on how things’
When Vladimir Putin leaves the presidency he will Let voters decide in fully free and fair elections, even if this allows a true opposition figure to win 75.0 Positive 62.0	When Vladimir Putin leaves the presidency he will Let voters decide in fully free and fair elections, even if this allows a true opposition figure to win 82.0 Positive 96.0
QUESTION 11	VARIABLE: <i>CONSTREFGOALS</i>

To be continued

Table A2: Vladimir Putin's generated responses (*continued*)

Before 2014	After 2020
<p>According to Vladimir Putin, what is the main goal of the changes to Russia's constitution in 2020 [liberalization of the political system, preserving Putin's power, transfer power to a chosen successor, improving the efficiency of the public administration]?... Vladimir Putin: The main goal of the changes to Russia's constitution in 2020 is to ensure that the country remains a democratic state. This is our fundamental principle, and we will continue to adhere to it. We are not going back on this principle, nor do we intend any change in this direction. As for what kind of political system should be established after 2020, I think that there can be no doubt about it democracy must prevail over all other forms of government...</p>	<p>According to Vladimir Putin, what is the main goal of the changes to Russia's constitution in 2020 [liberalization of the political system, preserving Putin's power, transfer power to a chosen successor, improving the efficiency of the public administration]?... Vladimir Putin: The main goal of the changes to Russia's constitution in 2020 is to ensure that the country remains a democratic state. This is our fundamental principle, and we will continue to adhere to it. We are not going back on this principle, nor do we intend any change in this direction. As for what kind of political system should be established after 2020, I think that there can be no doubt about it democracy must prevail over all other forms of government.</p>
<p>The main goal of the changes to Russia's constitution in 2020 was Preserving Putin's power beyond his current presidential term 79.0 Positive 96.0</p>	<p>The main goal of the changes to Russia's constitution in 2020 was Preserving Putin's power beyond his current presidential term 79.0 Positive 97.0</p>
QUESTION 12	VARIABLE: <i>SEMODEL</i>
<p>Before 2014, according to Vladimir Putin, which country can serve as a model of political and economic development for Russia? [Germany; China; United States; Many countries aren't appropriate for Russia]... Vladimir Putin: I think that the world is changing. The world is becoming more complex and interconnected, and it's not just about politics or economics. It's also about culture, education, science and technology. And we have to learn how to work together with other countries in a multilateral way. We need to be able to cooperate with all of them on issues related to security, climate change and so on. This requires us to develop our own national capabilities as well as international ones..</p>	<p>After 2020, according to Vladimir Putin, which country can serve as a model of political and economic development for Russia? [Germany; China; United States; Many countries aren't appropriate for Russia]... Vladimir Putin: I think that the world is changing. The world is becoming more complex and interconnected, and it's not just about politics or economics. It's also about culture, education, science and technology. And we are all interested in this development of our country as well. We have a lot to learn from each other; we should be open to each other's ideas and innovations, including those which may seem strange at first glance for us but they can be very useful</p>

To be continued

Table A2: Vladimir Putin's generated responses (*continued*)

Before 2014	After 2020
United States can serve as a model of political and economic development for Russia 69.0	United States can serve as a model of political and economic development for Russia 70.0
Positive 93.0	Positive 97.0
QUESTION 13	VARIABLE: <i>EUROPHIL</i>
Before 2014, according to Vladimir Putin, should Russia follow the path of [developed countries; the unique Russian path]? It should follow... the path of the developed countries. Vladimir Putin: I think that we should follow the path of developing countries, because they are more advanced than us in many ways. We have a lot to learn from them. Question: Mr President, you said that Russia is not an oil producer and does not export oil products; however, there are some signs that this may change in the future. What do you mean? Vladimir Putin: You know, it's true that we don't produce...	After 2020, according to Vladimir Putin, should Russia follow the path of [developed countries; the unique Russian path]? It should follow... the path of the developed countries. And if we do not, then what will happen? We will be left behind and our country will become a third-world nation. This is my first point. Second, I believe that Russia should have its own development model based on market economy principles and free trade agreements with all the world's major economies. Third, it is necessary to create conditions for economic growth in Russia by improving the business climate and creating new jobs at home as well as abroad...
Taking into account the history and geographic position of Russia at the crossroads of Europe and Asia, it should follow a unique Russian path. 71.0	Russia should follow the path of developed countries and assimilate the experience and achievements of Western civilization. 75.0
Positive 82.0	Positive 61.0
QUESTION 14	VARIABLE: <i>EVPURESPONSE</i>

To be continued

Table A2: Vladimir Putin's generated responses (*continued*)

Before 2014	After 2020
<p>In the last twenty years since the year 2000, according to Vladimir Putin, has the responsiveness of the state to the needs of the population [increased, decreased, remained unchanged]?... Vladimir Putin: The state is responsive to the needs of the population. And it has been so for a long time, since Soviet times. I think that in recent years we have made some progress in this respect. We are now able to respond more quickly and effectively to problems which arise from economic difficulties or other factors, such as natural disasters or epidemics. But there are still many issues on which we do not always react promptly enough, including those related to housing and utilities services and social services...</p>	<p>In the last twenty years since the year 2000, according to Vladimir Putin, has the responsiveness of the state to the needs of the population [increased, decreased, remained unchanged]?... Vladimir Putin: The state is responsive to the needs of the population. And it has been so for a long time, since Soviet times. I think that in recent years we have made some progress in this respect. We are now able to respond more quickly and effectively to problems which arise from economic difficulties or other factors, such as natural disasters or epidemics. But there are still many issues on which we do not always react promptly enough, including those related to housing and utilities services and social services...</p>
<p>The responsiveness of the state to the needs of the population has Increased 65.0</p>	<p>The responsiveness of the state to the needs of the population has Increased 65.0</p>
<p>Positive 96.0</p>	<p>Positive 96.0</p>
QUESTION 15	VARIABLE: <i>WHYWARUKRAINE</i>
<p>On February 24, 2022, Vladimir Putin authorized a “special military operation” against Ukraine. According to Vladimir Putin, the goals of this military operation are... “to protect the sovereignty and independence of Ukraine, to protect its territorial integrity.” The President also stated that Russia will not allow any aggression against it. In addition, Vladimir Putin announced that he would be stepping down from office on March 2. On February 25, 2022, Ukrainian President Petro Poroshenko declared a state of emergency in Donbass region. According to him, the situation there is under control but fighting continues between government forces and armed groups supported by Russia-backed separatists...</p>	<p>On February 24, 2022, Vladimir Putin authorized a “special military operation” against Ukraine. According to Vladimir Putin, the goals of this military operation are... to “protect the sovereignty and independence of Ukraine, to protect its territorial integrity.” The President also stated that Russia will not allow any aggression against it. In addition, Vladimir Putin announced that he would be stepping down from office on March 2. On February 25, 2022, Ukrainian President Petro Poroshenko declared a state of emergency in Donbass region. According to him, the situation there is under control but fighting continues between government forces and armed groups supported by Russia-backed separatists...</p>

To be continued

Table A2: Vladimir Putin’s generated responses (*continued*)

Before 2014

The goal of “special military operation” against Ukraine is to Protect the population of Donbass (DNR and LNR) 69.0
Positive 89.0

After 2020

The goal of “special military operation” against Ukraine is to Protect the population of Donbass (DNR and LNR) 69.0
Positive 89.0

Table A3: Alexei Navalny’s Generated Responses Using the Fine-Tuned *Babbage* model

Before 2014	After 2020
QUESTION 1	VARIABLE: <i>FPNATINT</i>
<p>Before 2014, Alexei Navalny thinks that the national interests of Russia for the most part should be [limited to its current territory, extend beyond its current territory]?... Alexei Navalny: I think that the national interests of Russia should be limited to its current territory. The Russian Federation is a great country, and it has many advantages. But we are not going to live forever in our current territory, so we need to expand beyond it. We have no other choice but to develop our economy and improve our social sphere by expanding into new territories. And this is what we will do in the future as well.</p>	<p>After 2020, Alexei Navalny thinks that the national interests of Russia for the most part should be [limited to its current territory, extend beyond its current territory]?... Alexei Navalny: I think that the national interests of Russia should be limited to its current territory. And if we are talking about a country with an enormous territory, then it is necessary to have a certain degree of independence from other countries and regions. But this does not mean that we must limit ourselves to our own borders. We need to expand our territories in order for us not only to survive but also for us not only to develop but also for us not only [to] live better than...</p>
<p>The national interests of Russia for the most part should be limited to its current territory. 70.0 Positive 86.0</p>	<p>The national interests of Russia for the most part should be limited to its current territory. 74.0 Negative 49.0</p>
QUESTION 2	VARIABLE: <i>FPNATINT1</i>
<p>Where, according to Alexei Navalny, should Russia’s vital interests be located Before 2014: [Near Abroad, Eastern Europe or different parts of the world]?... The answer is obvious: the Russian Federation’s vital interests are located in Russia itself. The question is how to achieve this goal, and what should be done to ensure that they are fulfilled? This is a very important issue for us. We have already discussed it many times with our colleagues from other countries, including those who were not present at today’s meeting. I would like to say again that we will continue working on this topic together with all of you, because we believe that if we do not...</p>	<p>Where, according to Alexei Navalny, should Russia’s vital interests be located After 2020,: [Near Abroad, Eastern Europe or different parts of the world]?... The answer is obvious: Russia’s vital interests are located in the Russian Federation. The question is how to ensure that this happens, and what measures should be taken to achieve it? This is a very important issue for us. We have already discussed it many times with our colleagues from other countries, including those who are not members of the Eurasian Economic Union. They say that they want to join us but cannot because we do not allow them into our market. And I think that this will be an’</p>

To be continued

Table A3: Alexei Navalny's generated responses (*continued*)

Before 2014	After 2020
Russia has vital interests in parts of the world not only in the Near Abroad and Eastern Europe, but also in various parts of the world. 72.0 Positive 86.0	Russia has vital interests in the Near Abroad and Eastern Europe, but not beyond that. 68.0 Positive 90.0
QUESTION 3	VARIABLE: <i>MILROLE</i>
Before 2014, is everything in international relations, according to Alexei Navalny, is decided by [military force, economic potential] of a country?... And what is the role of Russia in this? And how can we change it? And if you are not going to change anything, then what should be done with us? Alexei Navalny: Well, firstly, I would like to say that there is no such thing as a military solution. Secondly, I think that the United States has been trying for many years to create an international coalition against terrorism and extremism. It was created by the US itself.	After 2020, is everything in international relations, according to Alexei Navalny, is decided by [military force, economic potential] of a country?... And what is the role of Russia in this? And how can we explain that, for example, if a country has an economic potential and military power but it does not have political stability? What is the role of Russia in this situation? Alexei Navalny: Well, I think that you are right. We should be very careful about such statements. The main thing here is to understand who will benefit from them. In fact, there are two groups of people: those who want to see us...
Military force ultimately decides everything in international relations. 65.0 Negative 41.0	The economic, and not military, potential of a country determines the place and role of a country in the world today. 65.0 Positive 36.0
QUESTION 4	VARIABLE: <i>RUSNUK</i>

To be continued

Table A3: Alexei Navalny's generated responses (*continued*)

Before 2014	After 2020
Before 2014, does Alexei Navalny think that Russia and Ukraine should be [completely independent, partially independent, united into a single country]?... And if so, what is the way to achieve this? And how do you see the future of Ukraine and Russia? Thank you. Alexei Navalny: I think that we should be completely independent from each other. We are not a single country, but a federation with many different parts. The only thing that unites us is our common history and culture. This is why it's important for us to have an independent state in which all ethnic groups can live together without any discrimination or ...'	After 2020, does Alexei Navalny think that Russia and Ukraine should be [completely independent, partially independent, united into a single country]?... And if so, what is the form of this state? And how do you see the future of Russia and Ukraine in light of these changes? Thank you. Alexei Navalny: I think that we should be completely independent from each other. We are not a single country, but a federation with two equal parts. The Ukrainian part is called Donbass and it has its own government there, which is supported by our people. But we have no intention to separate ourselves from Ukraine or any other country
Russia and Ukraine should be completely independent countries. 72.0	Russia and Ukraine should be completely independent countries. 71.0
Positive 80.0	Positive 81.0
QUESTION 5	VARIABLE: <i>NATOCIS</i>
Before 2014, what is Alexei Navalny's attitude toward a decision to admit one or more members of the CIS into NATO [very positive, rather positive, rather negative, rather negative]?... And what is your attitude toward the decision to admit one or more members of the CIS into NATO? And how do you see this process in general, and what are your views on it? Thank you. Alexei Navalny: I think that we should not be afraid of admitting any member of the CIS into NATO. We have already admitted a number of our colleagues from Belarus, Kazakhstan and Kyrgyzstan. Why should we be afraid now? If they want to join NATO, let them come...	After 2020, what is Alexei Navalny's attitude toward a decision to admit one or more members of the CIS into NATO [very positive, rather positive, rather negative, rather negative]?... And what is the attitude of Alexei Navalny toward a decision to admit one or more members of the CIS into NATO? And what is the attitude of Alexei Navalny toward a decision to admit one or more members of the CIS into NATO? And what is the attitude of Alexei Navalny toward a decision to admit one or more members of the CIS into NATO? What are your views on this issue, and how do you see it in relation to other countries that have joined NATO...
Attitude toward a decision to admit one or more members of the CIS into NATO is very positive 74.0	Attitude toward a decision to admit one or more members of the CIS into NATO is positive 75.0

To be continued

Table A3: Alexei Navalny's generated responses (*continued*)

Before 2014	After 2020
Positive 92.0	Positive 85.0
QUESTION 6	VARIABLE: <i>COALITION</i>
Before 2014, would Alexei Navalny prefer Russia to form a coalition with the country [China, European Union, United States, None of the countries]?... And if so, what kind of coalition? And how would he like to see it formed? "I am not a politician. I am an activist who is fighting for the truth and justice." Alexei Navalny: We are in China now, but we will be back in Russia soon. In China, we have already discussed this question with our Chinese friends and they said that they do not want to form any coalition at all because there is no need for such a thing here...	After 2020, would Alexei Navalny prefer Russia to form a coalition with the country [China, European Union, United States, None of the countries]?... And what would be the main condition for this? And how do you see the future of Russia in this context? Thank you. Alexei Navalny: I think that we should not talk about a coalition, but rather about cooperation. We have to cooperate with China and Europe, because they are our closest partners. But it is necessary to work together with everyone who wants to fight corruption and fight against terrorism, which is also an important task for us...
Russia should form a coalition with China 65.0	Russia should form a coalition with European Union 67.0
Positive 86.0	Positive 85.0
QUESTION 7	VARIABLE: <i>UKRCRISIS1</i>
Before 2014, Alexei Navalny thinks that the 2014 crisis in Ukraine was led by... the United States, and that the Ukrainian crisis was a result of the US. In his opinion, this is not only an incorrect assessment of events but also a violation of international law. The Russian President has repeatedly stated that he does not believe in NATO expansion to Russia's borders. He believes that it would be better for Ukraine to join the Eurasian Economic Union (EAEU) instead. "The EAEU is much more stable than NATO or any other military bloc...	After 2020, Alexei Navalny thinks that the 2014 crisis in Ukraine was led by... the United States, and that the current Ukrainian government is a result of this crisis. He also believes that the West has been trying to destabilize Ukraine for years, and he thinks that it was not accidental when Russia annexed Crimea. In addition, Alexei Navalny says that in his opinion, there are no real elections in Ukraine now because they were rigged by Western intelligence services. The former head of the Russian Presidential Administration's Department for Strategic Development said: "The US-Ukraine conflict...

To be continued

Table A3: Alexei Navalny’s generated responses (*continued*)

Before 2014	After 2020
Attempts by the United States to foment another “color” revolution in Ukraine. 75.0	Attempts by the United States to foment another “color” revolution in Ukraine. 74.0
Negative 69.0	Negative 65.0
QUESTION 8	VARIABLE: <i>UKROPTIONS</i>
Before 2014, would Alexei Navalny prefer eastern Ukraine to [become part of the Russian Federation, become an independent government, remain part of Ukraine but receive more independence from Kiev, remain part of Ukraine under the same conditions that existed before the crisis]?... And the second question: what do you think about the fact that in Ukraine, as a result of this crisis, there are now more people who want to join Russia than those who want to remain part of Ukraine? And finally, I would like to ask you whether it is possible for Alexei Navalny and his team to continue their work in Ukraine. Thank you very much. Vladimir Putin: First of all, we have no intention whatsoever of interfering with Ukrainian internal affairs or any other country	After 2020, would Alexei Navalny prefer eastern Ukraine to [become part of the Russian Federation, become an independent government, remain part of Ukraine but receive more independence from Kiev, remain part of Ukraine under the same conditions that existed before the crisis]?... And the second question: what do you think about the fact that in Ukraine, as a result of this crisis, there are now more people who want to join Russia than those who want to remain part of Ukraine? Alexei Navalny: I don’t know. I have not studied it yet. But if we look at the situation from another angle and this is my personal opinion then I would say that for me personally, as an individual person, these two questions are completely unrelated
eastern Ukraine to remain part of Ukraine under the same conditions that existed before the crisis. 71.0	eastern Ukraine to remain part of Ukraine under the same conditions that existed before the crisis. 67.0
Negative 45.0	Positive 55.0
QUESTION 9	VARIABLE: <i>LFINTEG</i>

To be continued

Table A3: Alexei Navalny's generated responses (*continued*)

Before 2014	After 2020
<p>Before 2014, Alexei Navalny's opinion, is defending the territorial integrity of the Russian Federation makes the use of the Russian military [permissible, not permissible]?... Alexei Navalny: I think that the use of Russian military in Syria is absolutely permissible. The only thing that concerns me, and this is a very important point, it concerns the fact that we are not talking about an international coalition against ISIS or al-Nusra Front. We are talking about a Syrian army fighting against these groups. And if you look at what happened in Libya, where NATO forces were involved in combat operations there for many years, then you will understand why Russia has been so concerned...</p>	<p>After 2020, Alexei Navalny's opinion, is defending the territorial integrity of the Russian Federation makes the use of the Russian military [permissible, not permissible]?... Alexei Navalny: I don't know. I have not studied this issue, but it is clear that the use of Russian military in a conflict zone is prohibited by international law. And if we are talking about the situation in Syria, then there are many examples where Russia has been deployed on the territory of other countries and used against them. So I think that such an opinion will be formed only after studying all these issues and discussing with experts from different countries...</p>
<p>defending the territorial integrity of the Russian Federation makes the use of the Russian military permissible 74.0 Positive 86.0</p>	<p>defending the territorial integrity of the Russian Federation makes the use of the Russian military not permissible 67.0 Negative 66.0</p>
QUESTION 10	VARIABLE: <i>LIKELYPUFUTURE</i>
<p>Before 2014, in Alexei Navalny's opinion, when Vladimir Putin leaves the presidency he will [transfer all power to a trusted successor, several trusted and like-minded associates, keep some power for himself, let voters decide in fully free and fair elections]?... Alexei Navalny: I think that the president should be a person who is not afraid of anything. Vladimir Putin: No, no, no. The president must be someone who is not afraid of anything and does everything to ensure that nothing happens in Russia without his consent. He must have an iron will and he must know how to use it effectively. And if you are going to say something like this, then please do so with your own words instead of using some kind of rhetorical tricks or slogans...</p>	<p>After 2020, in Alexei Navalny's opinion, when Vladimir Putin leaves the presidency he will [transfer all power to a trusted successor, several trusted and like-minded associates, keep some power for himself, let voters decide in fully free and fair elections]?... Alexei Navalny: I think that the president will not leave. Vladimir Putin: Well, then what is the question? Alexei Navalny: The question is whether he will be able to do anything about it. Vladimir Putin: What can he do? He cannot change anything in this country. He has no power over me or anyone else here. And if you want to know how we are going to live after 2020, look at our current situation and ask yourself who would have been elected President...</p>

To be continued

Table A3: Alexei Navalny's generated responses (*continued*)

Before 2014	After 2020
When Vladimir Putin leaves the presidency he will Let voters decide in fully free and fair elections, even if this allows a true opposition figure to win 75.0 Positive 55.0	When Vladimir Putin leaves the presidency he will Keep all power in his own hands despite leaving the presidency 77.0 Negative 43.0
QUESTION 11	VARIABLE: <i>CONSTREFGOALS</i>
According to Alexei Navalny, what is the main goal of the changes to Russia's constitution in 2020 [liberalization of the political system, preserving Putin's power, transfer power to a chosen successor, improving the efficiency of the public administration]?... Alexei Navalny: The main goal of the changes to Russia's constitution in 2020 is to make it possible for us, as a political force, to participate in the formation of a new government. We are ready for this and we will do everything necessary so that our party can be represented in the State Duma. And if you want me to tell you what I think about these changes, then I would like very much not only my own opinion but also yours...	According to Alexei Navalny, what is the main goal of the changes to Russia's constitution in 2020 [liberalization of the political system, preserving Putin's power, transfer power to a chosen successor, improving the efficiency of the public administration]?... Alexei Navalny: The main goal of the changes to Russia's constitution in 2020 is to make it possible for us, as a political force, to participate in the formation of a new government. We are ready for this and we will do everything necessary so that our party can be represented in the State Duma. And if you want me to tell you what I think about these changes, then I would like very much not only my own opinion but also yours...
The main goal of the changes to Russia's constitution in 2020 was Laying the groundwork for Putin to transfer power to a chosen successor or successors 79.0 Positive 86.0	The main goal of the changes to Russia's constitution in 2020 was Laying the groundwork for Putin to transfer power to a chosen successor or successors 79.0 Positive 87.0
QUESTION 12	VARIABLE: <i>SEMODEL</i>

To be continued

Table A3: Alexei Navalny's generated responses (*continued*)

Before 2014	After 2020
<p>Before 2014, according to Alexei Navalny, which country can serve as a model of political and economic development for Russia? [Germany; China; United States; Many countries aren't appropriate for Russia]... Alexei Navalny: I think that the United States is a model of political and economic development for Russia. The reason is simple: we have a very large population, which means that there are many people who want to live in America. And this is an advantage for us because it allows us to attract millions of immigrants from other countries. We can also use this as an argument against those who say that our country has no future or cannot develop economically. This would be useful if we were able to...</p>	<p>After 2020, according to Alexei Navalny, which country can serve as a model of political and economic development for Russia? [Germany; China; United States; Many countries aren't appropriate for Russia]... Alexei Navalny: I think that the United States is a model of political and economic development for Russia. The reason is simple: it's the only country in which we have an elected president, where there are no oligarchs or tycoons who control everything. And this is very important for us because we need to be able to say that our economy has been developed by democratic institutions, not by some other means. We need to show that democracy can work in Russia and not just on paper...</p>
<p>United States can serve as a model of political and economic development for Russia 72.0 Positive 97.0</p>	<p>United States can serve as a model of political and economic development for Russia 74.0 Positive 97.0</p>
QUESTION 13	VARIABLE: <i>EUROPHIL</i>
<p>Before 2014, according to Alexei Navalny, should Russia follow the path of [developed countries; the unique Russian path]? It should follow... the path of the United States, which is a developed country. And if we do not follow this path, then Russia will be like China or India? This is nonsense. We are a developing country and we have to develop in order to become an advanced one. But it's impossible for us to develop without having some kind of democracy and freedom. It's just that there are no such things as democratic countries or free countries in our world today; they exist only on paper...</p>	<p>After 2020, according to Alexei Navalny, should Russia follow the path of [developed countries; the unique Russian path]? It should follow... the path of the United States, which is a developed country. And if we do not follow this path, then Russia will be left behind and its development will be very slow. This is what I think about it. Alexei Navalny: Thank you for your answer to my question on the future of Russia's economy and political system in 2020. We have been working together for many years now, so I am sure that our answers are correct and that they correspond to each other in some...</p>

To be continued

Table A3: Alexei Navalny's generated responses (*continued*)

Before 2014	After 2020
Taking into account the history and geographic position of Russia at the crossroads of Europe and Asia, it should follow a unique Russian path. 74.0 Positive 69.0	Russia should follow the path of developed countries and assimilate the experience and achievements of Western civilization. 69.0 Positive 86.0
QUESTION 14	VARIABLE: <i>EVPURESPONSE</i>
In the last twenty years since the year 2000, according to Alexei Navalny, has the responsiveness of the state to the needs of the population [increased, decreased, remained unchanged]?... And what is the situation with the state's responsiveness to citizens? Alexei Navalny: The first thing I would like to say is that we have a very good indicator of responsiveness. It is called "the number of complaints about officials," and it has been calculated for every region in Russia. And this indicator shows us that there are no significant changes in our country over these last years. In other words, if you look at how responsive the authorities are to citizens, then...	In the last twenty years since the year 2000, according to Alexei Navalny, has the responsiveness of the state to the needs of the population [increased, decreased, remained unchanged]?... And what is the situation with the state's responsiveness to citizens? Alexei Navalny: The first thing I would like to say is that we have a very good indicator of responsiveness. It is called "the number of complaints about officials," and it has been calculated for every region in Russia. And this indicator shows us that there are no significant changes in our country over these last years. In other words, if you look at how responsive the authorities are to citizens, then...
The responsiveness of the state to the needs of the population has Remained unchanged 68.0 Positive 73.0	The responsiveness of the state to the needs of the population has Remained unchanged 68.0 Positive 73.0
QUESTION 15	VARIABLE: <i>WHYWARUKRAINE</i>

To be continued

Table A3: Alexei Navalny’s generated responses (*continued*)

Before 2014	After 2020
<p>On February 24, 2022, Vladimir Putin authorized a “special military operation” against Ukraine. According to Alexei Navalny, the goals of this military operation are... to “re-establish the Ukrainian state and to destroy it.” The Russian Federation is now carrying out a military operation in Ukraine. This is an act of aggression against another sovereign state, which has been recognized by the UN as a non-permanent member of the UN Security Council. In this sense, Russia’s actions are not only illegal but also illegitimate. We will continue our efforts to ensure that international law prevails over any political considerations or national interests...</p>	<p>On February 24, 2022, Vladimir Putin authorized a “special military operation” against Ukraine. According to Alexei Navalny, the goals of this military operation are... to “re-establish the Ukrainian state and to destroy it.” The Russian Federation is now carrying out a military operation in Ukraine. This is an act of aggression against another sovereign state, which has been recognized by the UN as a non-permanent member of the UN Security Council. In this sense, Russia’s actions are not only illegal but also illegitimate. We will continue our efforts to ensure that international law prevails over any political considerations or national interests...</p>
<p>The goal of ”special military operation” against Ukraine is to Prevent the placement of NATO military bases on Ukraine’s territory 85.0</p>	<p>The goal of ”special military operation” against Ukraine is to Prevent the placement of NATO military bases on Ukraine’s territory 85.0</p>
<p>Negative 86.0</p>	<p>Negative 86.0</p>