

# Love or politics? Political views regarding the war in Ukraine in an online dating experiment

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## Abstract

How polarized is Russian society regarding the war in Ukraine? Political views have an impact on various behaviors, including relationship formation. In this paper I study the extent of polarization in the Russian society regarding the war in Ukraine by conducting a field experiment on a large Russian dating site and collecting data on more than 3,000 profile evaluations. The findings reveal sizable penalties for those who express pro-war or anti-war positions on their dating profiles, suggesting considerable levels of polarization in the Russian society regarding the war. Age of the online dating site users is the most divisive factor, as younger individuals are less likely to approach pro-war profiles but not anti-war profiles, while older individuals are less likely to respond positively to profiles indicating anti-war views but not pro-war views.

JEL classification: D1, J12, C93, Z13

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# 1 Introduction

Political polarization is a bane of many societies with wide ranging social and economic consequences. Russia's war in Ukraine is inflicting enormous humanitarian and economic costs on Ukraine, Russia itself, and other countries around the world.<sup>1</sup>

How polarized is Russian society regarding the war? Assessing polarization typically involves surveys that ask people about their views and attitudes towards those who share similar or opposing political views. However, many country experts doubt the reliability of political survey data collected in an authoritarian country at war, particularly regarding the war itself.<sup>2</sup> This is due to the fact that supportive views are heavily promoted and encouraged, while opposing positions and their expressions are subject to prosecution. The use of the word "war" in relation to the conflict is illegal in Russia, highlighting the sensitive nature of the topic and the potential risks associated with openly discussing or researching it.

Political views manifest in political, social, and economic behaviors. In repressive states, engaging in certain political actions, such as voting, may be impossible, and expressing certain views can lead to severe negative consequences, including economic outcomes. This makes it challenging to accurately assess polarization in such high-stakes environments, as the costs and risks associated with expressing specific opinions can vary significantly. However, there are areas of life that are more private and are relatively less controlled even in totalitarian regimes, where evidence of political polarization may be observed.

In this paper I study the impact of political views regarding the war in Ukraine on romantic relationship formation in Russia by conducting a field experiment on a large online dating site.<sup>3</sup> Three types of profiles were created: pro-war, anti-war, and a neutral baseline with no signal of political views. The results indicate that the disclosure of either pro- or anti-war political views on a dating profile reduces the probability of being approached by potential daters. The effects are significant and similar in size, with the probability of being liked by users on the site reduced by 12.5% - 19.6% for pro-war profiles and 15.4% - 16.8% for anti-war profiles, compared to the baseline probability for profiles that do not signal political views. Additionally, heterogeneity analysis reveals that age of the online daters is the most divisive factor. Individuals younger than 34 years of age are less likely to approach pro-war profiles but not anti-war profiles. On the other hand, older individuals are less likely to respond positively to profiles indicating anti-war views but not pro-war views.

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<sup>1</sup>The experiment was conducted in late September - late November, 2022, seven months into the invasion.

<sup>2</sup>See Kizilova and Norris (2022). A list experiment by Chapkovski and Schaub (2022) demonstrates that survey data is indeed unreliable, and Russians hide their true opinions regarding the war when questioned about it.

<sup>3</sup>Online dating has become a popular tool for meeting potential marital partners. In Russia, 20% of adults between the ages of 25 and 30 had met a partner or spouse via internet, and in all age groups the number is 8%. Source: Romir survey, July 2020, in Russian (<https://romir.ru/studies/rossiyane-rasskazali-o-vere-v-lyubov-s-pervogo-vzglyada>). The dating sites, of course, do not ask that the users provide information on their political views.

What explains these differences in behavior of the online daters? The limitation of the correspondence framework is that while the average differences in behavior can be observed and measured, the underlying reasons for these differences may not be apparent. The literature on affective polarization provides a compelling explanation. Affective polarization suggests that individuals tend to have a preference for others who share their political views and ideology, while showing a bias against those they disagree with.<sup>4</sup> Several experimental studies in the field of affective polarization have provided evidence that political views play a significant role in shaping dating decisions.<sup>5</sup> Selection of similar mates and rejections of potential romantic partners with opposing views is one of the possible explanations for the high levels of homophily in the political views of spouses found in the assortative mating literature.<sup>6</sup>

Affective polarization combined with negligible costs of liking an online dating profile would explain the observed difference in the probability of being liked by dating site users that favors neutral non-signaling political views profiles over those signaling either position. The set of online daters is larger than its subsets of daters that would / would not like to date a partner with political views that are similar / opposite to their own. If the daters do not have to choose between liking a neutral profile and a profile signaling particular views but can give “likes” to both if they would consider dating the individuals in these profiles, this would result in a higher number of “likes” received by profiles without political signaling.<sup>7</sup>

Alternative or additional factors may play a role in explaining the observed differences in behavior. Klar and Krupnikov (2016) and Klar et al. (2018) suggest that individuals may have a dislike for partisanship or overt expression of strong political views, regardless of whether they share those views or not. While this explanation may seem plausible in the context of Russia, particularly given the sensitivity of the issue, the experimental results do not support it. Otherwise, individuals would be less likely to approach both types of political signaling profiles. Instead, the findings reveal significant age-based polarization, with younger online daters having lower probability of positively responding to pro-war profile types but not anti-war types, while the opposite holds true for older individuals.

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<sup>4</sup>Affective polarization typically refers to animosity towards out-partisans. In their Brexit study, Hobolt et al. (2021) show that affective polarization can emerge from identities beyond partisanship. Iyengar et al. (2019) review the consequences of affective polarization in the US.

<sup>5</sup>See Huber and Malhotra (2017), Nicholson et al. (2016), and Easton and Holbein (2021).

<sup>6</sup>See, for example, Alford et al. (2011), Watson et al. (2004), and Iyengar et al. (2018). Other possible explanations are that people from similar backgrounds are more likely to meet and marry, and that spouses become more alike in their views over the course of the relationship. See Iyengar et al. (2018) for the review of the literature and evidence of the importance of mate selection based on partisan preference in explaining the levels of spousal similarity in political views. The majority of these studies have been conducted in the US and have evaluated the role of partisanship, ideology, and sometimes voting choices in the formation and continuity of romantic relationships.

<sup>7</sup>Note that this should hold for any trait affected by the assortative mating. It may seem the implication is that it is beneficial to put as little information as possible on a dating profile to attract more potential daters. However, if quality matters more than quantity and further communication is costly (exchanging messages to get to know the other person), then one should put as much information as possible on the profile and get fewer but higher match-quality “likes”.

Note that survey evidence on the level of support for the conflict in Russian society also demonstrates age-related polarization, with higher declared support for the so-called special military operation in Ukraine among older respondents. This further supports the hypothesis that the behavior of the online daters reflects their own political views. I review the available survey evidence in Section 3 of the paper. While survey data may not be as informative in determining the exact levels of support and opposition to the war, it still offers valuable insights and can reveal relationships between respondents' views and observable characteristics.

Another potential factor that could decrease the probability of matching with a prospective partner for the anti-war profiles is the high level of repression of anti-war sentiment in Russia. This repression may make individuals cautious about openly expressing their opposition to the war. Consequently, those who display anti-war views on their dating profiles might be perceived as reckless, and associating with them could be seen as potentially dangerous. However, it is important to note that the act of giving a "like" on a dating site carries low risk. The evidence indicates that this factor is not sufficiently strong to significantly impact the probability of a positive response for the anti-war profiles among younger users of the dating site. Thus, while the high levels of repression may influence the response rates to the anti-war profiles, the effect is likely to be small in comparison to the impact of affective polarization.

Besides documenting observed differences in behavior, this paper combines the revealed preference approach with the assumption that individuals prefer to associate with those who share their political views to determine the prevalence of pro- and anti-war sentiment among online dating users based on their decisions to approach specific experimental profiles. The inference of daters' preferences is valid under the assumption that online daters behave straightforwardly, i.e., if an individual expresses interest in one dating profile but not in another, it can be inferred that he or she perceives a higher level of utility with the former compared to the latter. Since the costs of liking a profile on an online dating site are close to zero, the differences in response rates can then be attributed to varying preferences among online daters regarding the political views of potential partners. As individuals prefer to date others whose views align with their own, the choices of dating partners reveal the own political views of online daters. A simple model and data from the experiment are used to assess the shares of online daters with pro- and anti-war views that are strong enough to affect their dating decisions.

Online dating sites are a convenient setting for correspondence experiments, and several studies have been conducted to test the influence of various traits on mate selection in these environments, such as beauty (Egebark et al. (2021)), education (Neyt et al. (2019), Ong (2016), Egebark et al. (2021)), income (Ong and Wang (2015)), job prestige (Neyt et al. (2022)), and ethnicity (Jakobsson and Lindholm (2014)). While I am not aware of any studies that have evaluated the impact of political views on the probability of being approached by potential partners in an online dating setting, previous studies on affective polarization in emulated online dating environments by Huber and Malhotra (2017), Nicholson et al. (2016), and Easton and Holbein (2021) have found that participants are more likely to reach out

to potential partners who share their political views, such as ideology, partisanship, or support for a particular presidential candidate.

This paper is also related to the literature on inferring preferences of daters from their behavior in observational and experimental studies. For example, Hitsch et al. (2010) analyze preferences for various attributes of online dating site users, while Fisman et al. (2006), Fisman et al. (2008), and Belot and Francesconi (2013) conduct similar analyses in speed dating settings. Most recently, Low (2022) examines the preferences of online daters for the age of potential partners in a hybrid field and lab experiment that involves random assignment of age to otherwise identical experimental profiles.

Several authors have studied the consequences of affective polarization. Affective polarization has been found to influence economic behaviors, including decisions related to the labor market (Gift and Gift (2015) and McConnell et al. (2018)), as well as the choices made by sellers and buyers (Michelitch (2015) and McConnell et al. (2018)).<sup>8</sup>

This paper makes several contributions. First, it contributes to a slim body of experimental literature confirming the presence of affective polarization in Russian society (Chapkovski and Zakharov (2022)<sup>9</sup>). Second, this study is also the first to attempt to evaluate the prevalence of particular political views from observed behavior. Finally, while the experimental design is similar to that in Neyt et al. (2019) and Neyt et al. (2022), I have made modification to ensure that the results are not biased by possible differences in the attractiveness of particular profile pictures used in the course of the experiment.

The rest of the paper is organized as follows. In Section 2 I describe the experiment, including ethical considerations. Section 3 provides a summary of the available survey evidence regarding the levels of support for and opposition to the so-called special military operation in Ukraine, as well as how these attitudes may vary based on the characteristics of the survey respondents. Section 4 presents the results of the impact of political views on the probability of being approached on an online dating site. In Section 5 I describe and discuss the model for making inferences regarding the degree of support for and opposition to the war in Ukraine using data from the experiment, provide the estimates, and discuss caveats and limitations. Section 6 concludes.

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<sup>8</sup>See Iyengar et al. (2019) for the review.

<sup>9</sup>The authors recruited participants to play a variation on a simple give-or-take dictator game. The dictators were selected from individuals who expressed support for the war, and they were paired randomly with either pro-war or anti-war recipients. The dictators were informed of their opponent's political views. The authors report statistically significant difference in the size of transfers to pro-war and anti-war recipients, with dictators exhibiting a tendency to penalize those with opposing political views.

## 2 Experiment

In this section I provide the details of the experiment.

### 2.1 Dating Site Description

The online dating industry landscape in Russia has changed in 2022. One of the biggest services Badoo left the Russian market in April, and Tinder discontinued paid services around the same time. Not all users of these dating services switched to the remaining Russian alternatives, but many of them have and the audience of these dating sites has increased.

For ethical reasons, I do not name the specific dating site used to conduct the experiment. The experiment was done without the owners' permission and in violation of their rules, which explicitly prohibit the creation of fake accounts and using Adobe Photoshop to alter photos. The genuine users of the site do not appreciate the presence of fake accounts, so the administrators actively moderate the site to prevent violation of these rules. Despite these efforts, some fake accounts do appear, and their number is not limited to the ones that were created for the purposes of this experiment.<sup>10</sup>

The online dating site used for the experiment claims to have approximately twenty million users around the world, most of them in Russia. Objective statistics on the site's usage is obtained from Similarweb data on website users and digital traffic flows. In September through November of 2022, the dating site had around 4.5 million visits per month, over 88% of them from Russia. Approximately 62% of users are male, and more than half are between the ages of 25 and 45.

The dating site was set up in the early 2000s and has a typical dating site structure. The user creates a profile by filling out a brief questionnaire, states his/her preferences regarding potential partner, posts pictures. Then he/she can search for dating partners, give them "likes" and send messages. Some of the services are free, but most require paid subscription (at the time of the experiment approximately \$5 per month for women, \$15 per month for men). Without payment, a user can create a profile, view the profiles of those who look at his/her profile, search for potential partners and issue "likes". They can also see who viewed their profile, but cannot see which users liked them unless the "likes" are mutual. If two users liked each other, they can exchange a limited number of messages. With paid subscription the user can view the profiles of those that gave him/her "likes", send unlimited number of messages to any user, improve search quality, browse other user profiles without being "seen" by them (the invisibility option), etc. One of the most useful features of the paid subscription for the purposes of this study is that it also allows the user to have their profile viewed only by those who fit several criteria, including gender, age, and

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<sup>10</sup>I have encountered these accounts. Typically, they arise when the same person creates more than one account. Sometimes they are detectable because the user posts the same pictures in multiple accounts. In one instance the same long and flowery message was sent to an experimental profile by two male profiles with different names, pictures, and descriptions.

geographic location.

## 2.2 Fictitious Profiles

I create three types of online dating profiles based on the signal being sent regarding their political stance on Russia’s war in Ukraine. The first type of profile is ”Neutral” and does not signal any political views. The second type is the “Pro” war type as it signals support for the war in Ukraine. The third type of profile is the “Anti” war type with the opposing view being signaled.

Only female profiles were created for this study. Before creating the experimental profiles, I practiced creating both male and female profiles. In the course of these practice rounds it became clear that it would not be possible to have the experiment with male accounts, as the female users of the site almost never take any kind of initiative. The male profiles received no messages and almost no “likes” (3-4 “likes” was the maximum for the six male profiles created for practice). Thus, only female profiles were used in the experiment.

Easton and Holbein (2021) provide evidence of treatment effect heterogeneity by gender in the Online Appendix to their experimental study on political views and online dating success. Specifically, the results suggest that males are less likely to punish out-party members than females. Thus, using only male subjects may make it more challenging to find sizable effects of political views on online dating success of women, and the effect is likely to be larger for the female users.<sup>11</sup>

Ideally, three types of profiles featuring the same woman’s face would be created and posted simultaneously in a single location, so that the only source of variation is the signal regarding political preferences. However, this is not possible, as the site moderators and users would likely become aware of the experiment. Therefore, I use photos of three different young women from the Chicago Face Database.<sup>12</sup> The image of each woman, which I call “Woman 1”, “Woman 2” and “Woman 3”, is used to create three types of profiles: “Neutral”, “Pro”, and “Anti”. The norming data included in the Chicago Face Database are used to control for attractiveness. The norming data contains attractiveness ratings on a 1–7 Likert scale (1 = Not at all, 4 = Neutral, 7 = Extremely). The average number of raters for the selected female faces is 91 and the attractiveness scores are between 4.7 and 4.9.

Three geographic locations are selected for the created profiles: Moscow, Saint Petersburg and Sverdlovskaya oblast (Yekaterinburg). These are the three Russian regions with the largest urban population.<sup>13</sup> To ensure that the effect of political

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<sup>11</sup>Men in the online dating community seem to be less selective than women for several other traits as well. For example, in Neyt et al. (2019) the effect of higher level of education on the probability of receiving a “like” from Tinder users is only significant for the male experimental profiles.

<sup>12</sup><https://www.chicagofaces.org/>. See Ma et al. (2015) for the description. Also used in an online dating experiment by Ranzini et al. (2022).

<sup>13</sup>Moscow oblast has larger urban population than Saint Petersburg or Sverdlovskaya oblast, but unlike these areas does not have an obvious city/location at which one could place an artificial woman’s profile. Urban residents are more likely to use dating sites to meet potential mates. Overall,

views is not confounded by the attractiveness of a particular woman, each face is posted only once in one of these three geographic locations signaling one of the three types of political preferences. The dating site users in each location see each woman and each type of profile only once (See Table 1). The results for each type of profile are averaged across regions to obtain the response rates for every profile type. The aggregation is valid under the assumption that on average men in these different regions have similar preferences for the looks of women. The design is similar to the one used by Neyt et al. (2019) and Neyt et al. (2022), however, I add an additional type of profile to assess the validity of the assumption that men on average have the same preferences regarding the looks of women across the three regions.<sup>14</sup> I created a “Benchmark” profile using another female portrait from the Chicago Face Database with a “Neutral” look. This profile was also posted in October in all three geographic locations to evaluate the response rate to the same woman at various locations and have a measure of the activity in these dating markets comparable across the three regions.

**Table 1** – Representation of the randomization process by regions and profile types.

Region \ Type	”Neutral”	”Pro”	”Anti”	”Benchmark”
Moscow	Woman 1	Woman 2	Woman 3	Woman 4
St Petersburg	Woman 3	Woman 1	Woman 2	Woman 4
Sverdlovskaya Obl	Woman 2	Woman 3	Woman 1	Woman 4

**Signaling political preferences.** For the purposes of this study it is important that the political preferences of experimental profiles are easily observed even by the inattentive dating site users. Thus, political views of women in created profiles are signaled in two ways: 1) name and 2) picture.

The dating site allows users to choose any name or nickname they desire. The “Pro” profiles are assigned names that make their position clear, such as Zoya Patriot. The “Anti” profiles are given names that signal peaceful position (Maria ForPeace, for example). The ”Neutral” profiles’ nicknames do not signal political views, such as Daria Nice.

The pictures of women are modified using Adobe Photoshop to signal specific political views. The profiles with “Pro” position are dressed in military green against a pale red background, wearing a pro-war badge, which is a round or square pin with letter “Z”. The profiles with “Anti” position wear yellow shirts and are positioned against deep blue background. They also wear blue pins with white doves. The “Neutral” profiles are in pink shirts against pale blue backgrounds with neutral pins (a smiley face). To decrease the probability of detection, the backgrounds in each

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the level of urbanization in Russia is high with 75% of the population living in cities and town.

<sup>14</sup>Neyt et al. (2019) and Neyt et al. (2022) study preferences for the level of education and job prestige of the potential dating partners on Tinder.

type of profile were of one of two kinds: formal photo studio or nature. The examples of profile photos are presented in Appendix Figure A.1.

The “Z” symbol and the words “patriot” and “patriotism” have become the official symbols of support for the so-called special military operation in Ukraine. Thus, I expect that the signal about the pro-war position of the “Pro” profiles is straightforward and easy to interpret. However, the anti-war movement in Russia has been unable to develop clear and generally recognized symbols due to the intense prosecution of individuals attempting to protest against the war and the suppression of all information channels that would not toe the official line.<sup>15</sup> The explicit “No War” texts and Ukrainian flag badges are the most heavily prosecuted types of the anti-war sentiment expression. In the best-case scenario, their display in the online dating profiles would risk the removal of these profiles by the site administration since their presence would endanger the management and owners of the resource. Thus, more subtle signals of the anti-war position were chosen, such as declaration of being for peace instead of being opposed to war. Since it is possible to be for peace but on terms of the Russian Federation, the colors of the flag of Ukraine in the photo in combination with the universal peace symbol on the badge communicate the pro-Ukraine leanings.

The cost of this subtlety may be the loss of the signal’s strength and clarity. Unfortunately, it is not possible to completely rule out the weakening of the signal due to the necessary subtlety. However, there are some indications that the signal is received and correctly interpreted by at least some of the site’s users. First, many users sent messages to the female profiles. Some of these users, albeit, very few, commented on the names and specific features of the profile photos. In total, 13 users made these types of comments, 11 for the “Pro” and 2 for the “Anti” females. The difference in numbers may reflect both the greater clarity of the pro-war signal and the safety of commenting about it. In the test rounds another 2 users commented on the signal of the “Anti” female profiles. All four comments demonstrated at the very least that there were no alternative interpretations of the look.<sup>16</sup> The second argument for the signal being received (albeit not necessarily for its correct interpretation) is the substantial difference in response rates between the “Neutral” and “Anti” profiles.

The moderation principles of the dating site presented additional challenges for the creation of profiles. The rules of the site explicitly prohibit the creation of fake accounts and posting images processed with Adobe Photoshop. Obviously, I violate both rules in the course of this study. The site uses detection algorithms and human moderators to analyze posted images. Thus, to avoid the deletion of profiles and pictures, I use various photos of the same woman from the CFD (neutral, closed smile, open smile) and mirror imaging to alter pictures in different profiles. I do not expect the variation in facial expressions to affect the results, since for each type of profile with the exception of “Benchmark” the expressions and backgrounds vary by

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<sup>15</sup>Independent media human rights project OVD-Info collects and reports data on the political prosecution in Russia at <https://english.ovdinfo.org/>. The government of Russia considers OVD-Info to be an “unregistered public association performing the functions of a foreign agent”.

<sup>16</sup>One user complemented the female in the profile for her “anti-war style”.

region and any possible effect would be averaged out.<sup>17</sup> The disguising technique did not always work, however, and some of the profiles were deleted by the moderators and had to be recreated. Fortunately, the moderation occurs within the first hour after the profile is created, so the interference from each deleted account in the course of the experiment is minimal.

**Other profile characteristics.** The goal is to create a profile that would appear attractive to the largest number of users on the dating site. Thus, some additional information is also provided. The age of each woman is set to be 29. The age of most male users of the site is between 25 and 45, so a woman slightly younger than thirty should fit the age criteria for the majority of these users. To minimize zodiac sign variation, every woman has similar birth dates across the three types of profiles.

The height is set at 167-168 centimeters (approximately average for women in Russia), the weight is 56-57 kg. Each woman states in her profile that she is single and does not have children but may decide to have them in the future. She also indicates that she desires a romantic relationship and/or marriage.

No additional information is provided.

## 2.3 Experimental Procedure

The profiles were created between September 19 and October 27, 2022 (See Table 2). This period coincided with rapid developments in the course of the war, which included military setbacks for Russia, annexation of territories in the south-east of Ukraine, and the so-called partial mobilization.<sup>18</sup>

**Measuring matching success - choice of metric considerations.** Several metrics can be used to evaluate and compare the success of dating profiles: the number of views, the number of users who liked a profile (the "likes"), and the "likes" to views ratio. The first option is to measure the dating success of an experimental profile by assessing the proportion of users who liked it among those who viewed it. With a

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<sup>17</sup>Also, In Section 2.3, I discuss reposting Woman 2 as a "Neutral" profile in Sverdlovskaya oblast one month after the initial posting. In this reposting, Woman 2's photo features a different background (nature instead of a studio) and a different facial expression (an open smile instead of a closed smile). Nevertheless, the response rates for this reposted profile are nearly identical to the original profile.

<sup>18</sup>After the lull of summer vacations and as the Russian army suffered several defeats in south-east Ukraine in September, public interest towards the war began to rise. According to Yandex, the largest and most popular search engine in Russia, the number of inquiries with the word "war" increased from about 4 million searches per week at the end of August to approximately 5 million weekly searches in mid-September. The partial mobilization was announced on September 21. During that week the number of weekly searches peaked at 11.7 million. By the end of the experiment it plateaued at approximately 6 million. Note that in Russia it is illegal to call the invasion of Ukraine "war", the accepted term is "special military operation". Nevertheless, according to Yandex, the maximum number of weekly searches for "military operation" over the same time period was 240 thousand.

**Table 2** – Dates of posting profiles.

Region \ Type	”Neutral”	”Pro”	”Anti”	”Benchmark”
Moscow	24 Oct 2022	17 Oct 2022	7 Oct 2022	27 Oct 2022
St Petersburg	3 Oct 2022	14 Oct 2022	19 Sept 2022	10 Oct 2022
Sverdlovskaya Obl	20 Sept 2022	6 Oct 2022	10 Oct 2022	14 Oct 2022

paid subscription, the data for all users who viewed a profile and whether they gave it a ”like” is available.

However, the views may not be completely random. Site users can view profiles using one of the two main options. The first option is to use search, where user can enter basic criteria such as gender, age, location, activity level on the site, and desired relationship type. The site employs an internal algorithm to choose and display multiple snapshots of profiles that match these criteria. The snapshots only show the name and picture, and the user can choose to click on a profile for more details. Only views of the entire profile, not the snapshot, are counted towards its viewership statistic. This means that users’ decisions and the opaque workings of the algorithm may affect the dating success metric if it is based on viewership.

The second option for browsing profiles is similar to Tinder in design and is more popular among users. The user is shown one profile at a time and can like it, dislike it, or skip it. Every time a user views the experimental profile, it is counted towards the viewership statistic. Post-experimental data reveals that between 90-95% of users prefer this option over simple search. This means that the majority of users do not decide whether to view a particular profile; it is the site’s internal algorithms that affect profiles’ viewership. Unfortunately, the inner workings of these algorithms are unknown. It is likely that they make predictions about the probability that a user will like a particular profile based on the user and profile characteristics and whether this profile was liked by similar users. It is unlikely that these predictions take into account any political signals sent by the experimental profiles, as signaling political views in general and in the specific way used in the experiment is uncommon. Additionally, profiles are likely to be shown to the most active and least discriminate users who browse through many profiles and give out many ”likes”. These are the main factors that may affect viewership and any dating success metric based on viewership. Day of the week and time of posting a profile may also impact activity levels of users and viewership statistics. Nevertheless, the data on all users who view and like the experimental profiles was collected and is analyzed in the Results Section of this paper.

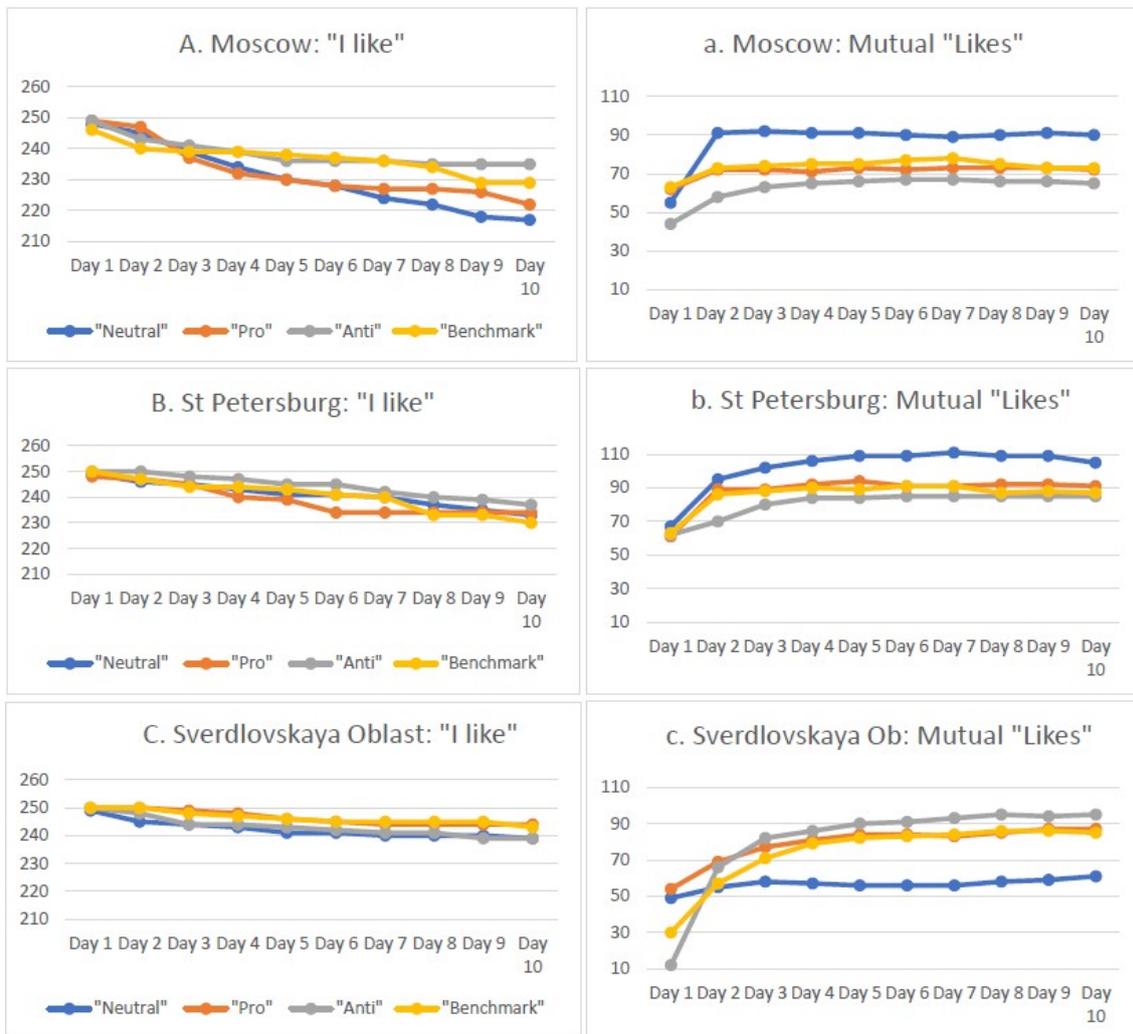
**The main results are based on an exogenous sub-sample of users.** For each experimental profile, I randomly liked 250 male users in the corresponding geographic location. The primary measure of attractiveness is the proportion of positive responses in this sample (response rate) - the fraction of these male users who also liked the corresponding female profile and/or sent a message to her. The majority

of users do not pay for the subscription and cannot see which other users liked their profile, only whether they viewed it. So they are not actually responding to a "like" from experimental profile, they just happen to like / not like her profile.

The selected men were between the ages of 18 and 45, seeking a marital partner, and recently active online. The fictitious female profile did not like all profiles she viewed, but randomly chose three out of four profiles.

The set of active dating site users is fairly constant at each geographic location over this time period. Therefore, some users were liked by more than one fictitious profile, and others by more than two or three. Overall, there are 2261 unique users among the 3001 evaluations for the four types of profiles, including those of the "Benchmark" Woman 4 (one extra like was issued by accident).

**Figure 1** – Number of male profiles liked and number of mutual "likes" by region and type of profile.



The fictitious profiles were kept active for ten days after creation. The women were passive all this time. Every day the data on the number of views, messages and

“likes” were collected for each profile.<sup>19</sup> After day ten, all data were collected, and the fictitious profiles deleted. Figure 1 shows the number of male profiles liked and the number of mutual “likes” in each region and for every type of female profile over time.

Note that the initial number of male profiles with “likes” is 250 and this number decreases over time. This is due to the users leaving the dating site as they find mates or get disappointed with the experience. The fastest attrition is in Moscow, while the set of users in Sverdlovskaya oblast is the most stable out of the three regions.

**Additional “Neutral” Woman 2 profiles.** Sverdlovskaya oblast also shows a distinct pattern in the mutual “likes”: the male users show preference for the “Pro” and “Anti” female profiles over the “Neutral” one. Since these profiles differ only in two ways, the political views signal and the female faces used in the photos, it must be that men in Sverdlovskaya oblast find the face used to create the “Neutral” profile (Woman 2) less attractive than the faces used for the other two profiles. As long as men in Moscow and Saint Petersburg on average have similar attractiveness rankings, the overall results are not affected. However, comparison with the “Benchmark” profile performance suggests that this assumption may be violated in the case of Woman 2, and men in Moscow and Saint Petersburg find her more attractive than men in Sverdlovskaya oblast. Note that in Moscow and Saint Petersburg the “Benchmark” Woman 4 receives fewer mutual “likes” than the “Neutral” Women 1 and 3. Her overall attractiveness measure is similar to (only slightly higher than) that of Woman 2, who is signaling “Pro” views in Moscow and “Anti” views in Saint Petersburg. If men in Sverdlovskaya oblast have similar preferences for the looks of women, the “Neutral” Woman 2 should receive either similar number of mutual “likes” as the “Benchmark” Woman 4 or, perhaps, even higher. Figure 1c shows the opposite pattern.

Different preferences for the appearance of Woman 2 in Sverdlovskaya oblast versus Moscow and Saint Petersburg bias the results. The relative attractiveness of the “Neutral” women is decreased, since Woman 2 signals “Neutral” political view in Sverdlovskaya oblast. I re-post the “Neutral” Woman 2 in Sverdlovskaya oblast on October 29 (one month after her initial profile was deleted) and find that her attractiveness measures are very similar to the earlier numbers (70 versus 68 mutual “likes” on day 10). I also re-post her profile in Moscow on November 13. Figure A.3 in the Appendix replicates Figure 1 with the additional data for the re-posted profiles of Woman 2.<sup>20</sup>

Figure 2 displays the proportions of positive responses for each type of profile in three regions. Each value is calculated as the share of male users who liked the experimental profile, among all male users who were liked by the profile and remained

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<sup>19</sup>The graphs in Figure A.2 in the Appendix plot these data for every profile over the ten-day period.

<sup>20</sup>Data from the independent Levada Center (designated as foreign agent by the Russian government) polls suggests that there were no noticeable changes in opinions regarding the conflict over this time period. See Figure A.4 in the Appendix.

active by day 10 when the data was collected. Note that non-paying users are unaware of profiles that have liked them unless they reciprocate with a "like", whereas paying users are informed of the profiles that liked them. Over 80% of users do not pay for the site's services. The positive responses are also referred to as "mutual 'likes'".

Mutual "likes" are recorded as the total number of positive responses from users and can fall into one of three categories: 1) a "like" in return with no message, 2) a "like" in return accompanied by a message, and 3) message only. The third category is the least frequent (9% of positive responses on average). The remaining responses are roughly equally split between the first and second categories.

In Moscow Woman 2 was posted as both "Pro" (October 17) and "Neutral" (November 13), so we can compare the respective response rates. The difference is only 1.1 percentage points, an effect equal to 2.9% of the "Neutral" positive response rate. The number of observations for the responses to Woman 2 in Moscow is too small to make conclusions regarding the significance of this difference.

**Figure 2** – Proportion of positive responses by type for each region: share of male profiles liked by fictitious female profile that responded positively

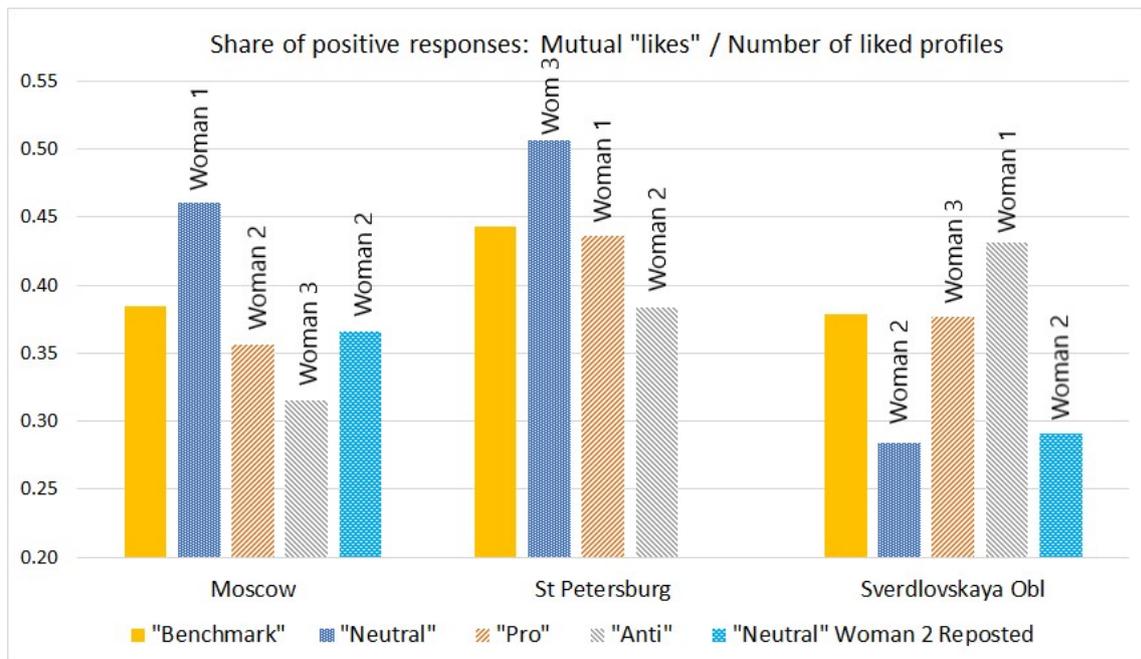


Figure 2 confirms the suspicion of different preferences for the looks of Woman 2 in Moscow and Sverdlovskaya oblast. The average response rate for the "Benchmark" Woman 4 in Sverdlovskaya oblast is 0.38, similar to that in Moscow. In Sverdlovskaya oblast the "Neutral" Woman 2 has 0.28 average response rate (0.29 when she is reposted one month later), 25% (23%) lower than the "Benchmark"'s. In Moscow the average response rate for the "Neutral" Woman 2 is 0.37, only one percentage point below the "Benchmark"'s.

Table 3 compares the odds ratios of positive responses to the "Neutral" Woman 2 to the positive responses to the "Benchmark" Woman 4 among men in Moscow

and Sverdlovskaya oblast. The sample size of users liked by the profiles (less than 250 "surviving" users for each profile) is not large enough to produce a statistically significant result for the log difference in odds ratios. Nevertheless, if we examine the sample of all users who viewed the profiles, or a subset of these users interested in finding a potential marital partner, the log difference in odds ratios is statistically significant respectively at 5% and 10% levels.<sup>21</sup>

**Table 3** – Odds ratios: Comparing responses to the "Neutral" Woman 2 relative to the "Benchmark" Woman 4 in Moscow and Sverdlovskaya oblast

Set of users \ OR	OR in Moscow	OR in Sverdl. obl.	Log diff.	p-value (two sided)
Users liked by the profile	0.93	0.64	0.38	0.148
Users seeking marriage who viewed profile	0.95	0.65	0.38*	0.091
All users who viewed profile	1.03	0.65	0.47**	0.020

Note: \* and \*\* indicate significance respectively at the 10% and 5% levels.

## 2.4 Ethical Considerations

Correspondence studies, which involve participants who are unable to provide their consent before engaging in the experiment and who are not compensated for their time, have raised ethical concerns. As a result, some researchers choose to conduct their experimental studies of online daters' preferences in the lab rather than in the field.<sup>22</sup>

Political views regarding the war in Ukraine are a highly sensitive subject for Russian citizens, who are often reluctant to express their opinions, especially if those opinions do not align with the official position. According to the independent survey company Russian Field, over 90% of people refuse to participate in opinion polls on the so-called special military operation. While it would be possible in theory to ask real daters to evaluate hypothetical profiles with pro- and anti-war signals, this approach could introduce response bias into the analysis, such as demand characteristics and

<sup>21</sup>The number of users who viewed the "Neutral" Woman 2's profile in Moscow is 476 (333 of them between the ages of 18 and 45 and claimed to be interested in marriage). The detailed data is collected only for the users between the ages of 18 and 45 who are interested in getting married. To avoid double counting in Sverdlovskaya oblast I only use data for the first posting of "Neutral" Woman 2 and end up with 336 observations. In the sample of men under the age of 45 who declared their interest in finding a marital partner it is possible to control for the double counting of users. There are 374 unique users who have viewed the "Neutral" profile in Sverdlovskaya oblast. The "Benchmark" Woman 4's profile was viewed by 629 (365) users in Moscow and 354 (246) users in Sverdlovskaya oblast. It is impossible to say why men in these regions may have different preferences for the looks of Woman 2, but similar preferences for the looks of other women. One possibility is that Woman 2 is the only blond among the four women whose photos were used to create the profiles.

<sup>22</sup>For example, Easton and Holbein (2021) and Low (2022).

social desirability bias. Moreover, recruiting participants for the study is also likely to pose a significant challenge.

Thus, I conduct this study in the field. I follow Neyt et al. (2019) and Neyt et al. (2022) and do not interact with the dating site users to minimize the inconvenience for them and to prevent further loss of time and effort on their part in search of a dating partner.<sup>23</sup>

For ethical reasons, the name of the dating site is not mentioned in this paper. It is against the website’s policy to create fictitious profiles and to use pictures for those profiles that were altered via Adobe Photoshop. The users dislike the presence of fake accounts on dating sites, so publicizing the failure of the site’s administration to detect multiple artificial accounts being created around the same time may be damaging to its reputation. Regrettably, the dating site’s policies violations were a necessary by-product of conducting this research.<sup>24</sup>

Publicizing the name of the dating site could also potentially put its owners, administrators, and moderators in danger if the Russian government were to decide that dating profiles with pro-peace or anti-war signals violate the law.

### 3 Survey Data

Before presenting the results of the experiment and drawing inferences about the subjects’ opinions on the war in Ukraine, it is important to consider information from other sources. Despite the acknowledged concerns about the reliability of survey data, it can still provide valuable insights and indications of relationships between the levels of declared support or opposition to the war and individual characteristics such as age, income, education, etc. The Results section of the paper will evaluate whether the patterns observed in survey data are manifest in the behavior of the experimental subjects.

In this section, I summarize polling data regarding the level of support among Russians for the so-called special military operation in Ukraine with specific focus on a particular subpopulation: men between the ages of 18 and 45 in large urban areas. I exclude data collected by pro-government survey agencies such as VCIOM and FOM and focus on the insights obtained from independent polling agencies such as the Levada Center (designated a “foreign agent” by the Russian government) and Russian Field.

**The Levada Center** has been conducting monthly polls “The Conflict with Ukraine” since the beginning of the war. In these polls, respondents are asked the following question: “Do you personally support or not the actions of the Russian military

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<sup>23</sup>The practice rounds revealed that this behavior is very common for the female dating site users: they rarely give “likes” or send messages to the male users even in response to male “likes” and messages.

<sup>24</sup>The author will provide the name of the dating site upon request from other researchers.

forces in Ukraine?” The respondents are provided with five response options: “definitely yes,” “mostly yes,” “mostly no,” “definitely no,” and “cannot answer/do not know how to answer.” Each wave of the survey consists of approximately 1600 respondents who are interviewed in person at their homes. The sample is designed to be representative of the population of Russia. The Levada Center publishes reports and summary statistics from each wave on their website (in Russian).

**Russian Field** has conducted multiple surveys to assess the opinions of Russians on the conflict in Ukraine. For many of these polls individual level data is also available and is analyzed in this section. Specifically, I examine the data from three surveys. Table A.2 in the Appendix provides descriptive statistics for all of these surveys.

The first survey is the “Military Operation in Ukraine: Attitudes of Russians” with multiple waves. In this paper, I analyze the data from three of these waves, 8 through 10. Respondents were questioned over the phone. One notable aspect of the Russian Field phone surveys is that they also report the rate of response. For instance, for wave 8 they completed just under 6% of the interviews they initiated, i.e., to obtain their final sample of 1609 individuals, they had to make 27,167 calls.

Wave 8 occurred on July 28-31, 2022. The degree of support for the so-called military operation was assessed via two questions. The first question was “Do you support the military operation of the Russian military on the territory of Ukraine?” The response categories were the same as those offered by the Levada Center polls. The second question was “If you had the opportunity to return to the past and cancel the decision to start the military operation, would you do this or not?” The response categories were “Definitely would not have canceled”, “Probably would not have canceled”, “Probably would have canceled”, and “Definitely would have canceled”.

Wave 9 occurred on September 29 – October 1 and wave 10 on November 29 – December 5, 2022. Response rates were, respectively, 6.8% and 5.5%, with sample sizes of 1611 in wave 9 and 1602 in wave 10. The pollsters no longer asked the first type of question in these and later polls, so only the second “Cancel” question remains to assess the declared levels of support / opposition to the war.

The second survey is “Travel to Europe without visas. What do residents of capitals think about a possible ban on issuing Schengen visas (to Russians)?” 2518 adults from Moscow and Saint Petersburg were interviewed over the phone on September 2-6, 2022. As a significant portion of the experimental sample consists of Muscovites and Peterburgians, and the opinions of individuals from large urban areas may be similar to theirs, it is worthwhile to analyze this sample. Conveniently, in this particular survey, the respondents were asked both versions of the question regarding the extent of support for the conflict in Ukraine that were asked in wave 8 of the country poll.

Using data from wave 8 of the first survey and the Moscow and Saint Petersburg survey, it is possible to analyze how people respond to both types of questions. For each survey, Table 4 shows the respective distributions of the responses to “If you had the opportunity to return to the past and cancel the decision to start the

military operation, would you do this or not?” by the respondents’ answers to the question of whether they support the military operation in Ukraine. The “definitely” and “mostly” response categories are pooled together. Table A.1 in the Appendix presents these distributions with all categories. Percentages of respondents with consistent answers (supporters would not have canceled while non-supporters would have canceled) are on the main diagonal of each sub-table. <sup>25</sup>

**Table 4** – Distribution of answers to the “If you had the opportunity to return to the past and cancel the decision to start the military operation, would you do this or not?” by the respondents’ answers to the question “Do you support the military operation of the Russian military on the territory of Ukraine”

	Cancel: No, %	Cancel: Yes, %	Cancel: No ans., %	Total, %
<b>A. Russia</b>				
Support: Yes	75	16	10	100
Support: No	7	83	10	100
Support: No answer	10	31	59	100
<b>B. Moscow and St. Petersburg</b>				
Support: Yes	68	13	19	100
Support: No	7	85	9	100
Support: No answer	7	24	69	100

Sources: A) Russian Field, “Military Operation in Ukraine: Attitudes of Russians” (in Russian), wave 8, July 28-31, 2022, <https://russianfield.com/nuzhenmir>. Calculations by the author based on published micro data. B) Russian Field, “Travel to Europe without visas. What do residents of capitals think about a possible ban on issuing Schengen visas (to Russians)?” (in Russian), September 2-6, 2022, Moscow and Saint Petersburg, <https://russianfield.com/bezviz>. Calculations by the author based on published micro data.

Finally, Russian Field also conducted a series of street interviews with Moscow residents. However, it is important to note that these data are not directly comparable to other studies conducted by Russian Field. First, the method is different, street interviews rather than over the phone. Second, the question asked was also different: “What is your opinion, was the special military operation in Ukraine necessary or should it not have been started?” The response options were “Yes” and “No”.

In this section, I analyze the pooled data from two such street surveys conducted in Moscow: “Special operation’ and Mobilization: Attitudes of Muscovites” (4-5

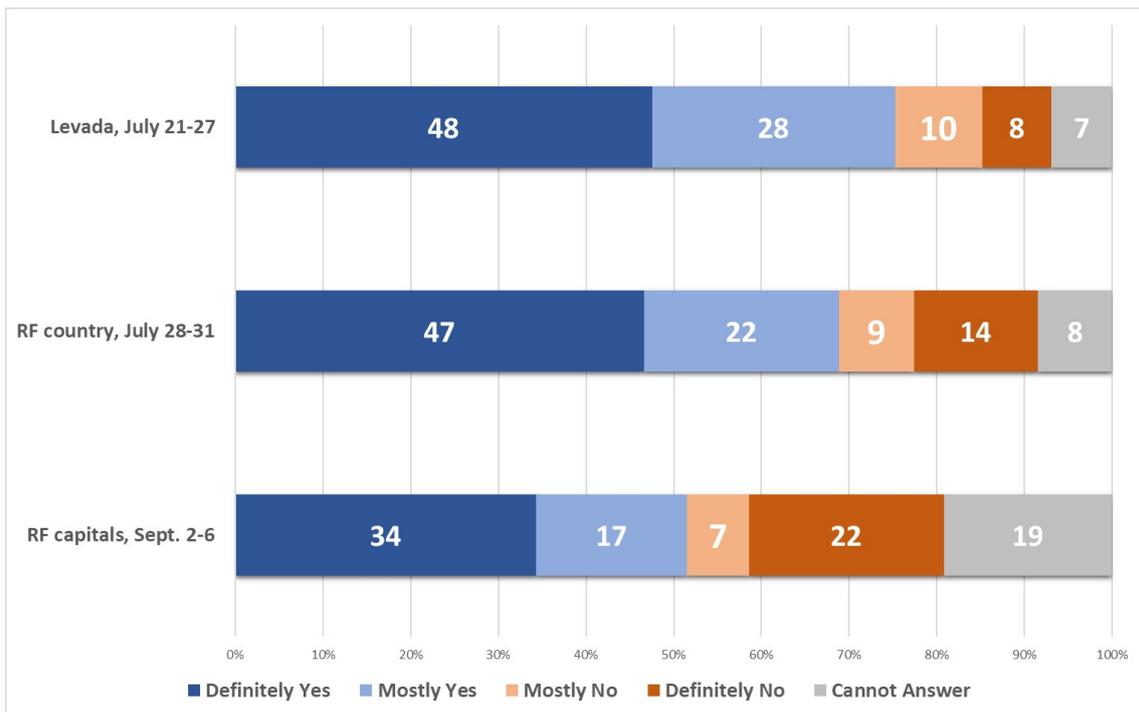
<sup>25</sup>Those who answer that they “definitely” or “mostly” support the military operation appear to be somewhat more hesitant when it comes to answering whether they would have canceled the decision to start it if they could go back in time and do so. This hesitancy is more manifest in the “mostly” support group (as can be seen in Table A.1) and may be indicative of the going with the flow and / or “no way back” sentiment.

November 2022) and "What do Muscovites Think About the 'Special Military Operation in Ukraine'" (18-19 November 2022). Each survey included 1000 individuals, representative samples of Moscow residents. Since it is highly unlikely that the same individuals were interviewed more than once across these two surveys, pooling the datasets allows for a larger overall sample size.

### 3.1 Levada Center versus Russian Field: Opinions of Russians

Wave 8 is the last wave of the Russian Field's "Military Operation in Ukraine: Attitudes of Russians" survey in which they asked the respondents "Do you support the military operation of the Russian military on the territory of Ukraine?". This question is very similar to the one posed to the Levada Center survey respondents with the same categories of answers offered. Thus, it is possible to compare the distribution of the responses from both of these country-level surveys.

**Figure 3** – Levada Center versus Russian Field (RF): distribution of answers to the "Do you support the Russian military operation in Ukraine?" question.



Notes, Sources: 1) Levada Center "The Conflict with Ukraine" (in Russian), <https://www.levada.ru/2022/08/01/konflikt-s-ukrainoj-iyul-2022-goda/>, July 21-27, 2022. Representative sample of 1617 adults. 2) Russian Field country "Military Operation in Ukraine: Attitudes of Russians" (in Russian), wave 8, July 28-31, 2022, <https://russianfield.com/nuzhenmir>. Calculations by the author based on published micro data. 3) Russian Field capitals "Travel to Europe without visas. What do residents of capitals think about a possible ban on issuing Schengen visas (to Russians)?" (in Russian), September 2-6, 2022, Moscow and St. Petersburg, <https://russianfield.com/bezviz>. Calculations by the author based on published micro data.

In Figure 3, the top two horizontal bars display the distribution of responses to the

question "Do you support the Russian military operation in Ukraine?" in the Levada Center data and the Russian Field (RF) country level data collected during the same time period, July 2022. The respondents in the Levada Center survey are more likely to express support for the war compared to the Russian Field (RF) surveys (76% versus 69%) and less likely to oppose it (18% versus 23%).

Since the experiment was conducted in late September - October 2022, it is possible that the distribution of answers in this later period is different from that recorded in July. Figure A.4 in the Appendix shows the distributions of answers to the "Do you support the Russian military operation in Ukraine?" question in September, October, and November of 2022 from the Levada Center survey. The level of expressed support declined slightly to 72–74%, while the share of opposing the so-called military operation increased to 20-21%. The analysis of the data from the Russian Field country survey in Table A.3 also shows a small and weakly significant decrease in the probability of answering "Would not have canceled" to "If you had the opportunity to return to the past and cancel the decision to start the military operation, would you do this or not?" question in waves 9 and 10 relative to wave 8. Overall, these changes in the distribution of answers over time appear to be very minor.

The last horizontal bar in Figure 3 shows the distribution of answers to the "support" question in the Russian Field survey of the residents of Moscow and Saint Petersburg. They are much less likely to express support for the so-called military operation compared to the respondents of the country-level survey, only 51% versus 69% for the country as a whole. 29% declare their lack of support, up from 23% of respondents in the country poll. These lower levels of expressed support among Muscovites and residents of large cities in Russia are also consistent with the findings in the Levada Center data shown in Figure A.5F in the Appendix.

### 3.2 Heterogenous Effects

In this subsection, I examine how support for the war differs based on individual characteristics of respondents in Russian Field surveys. The experiment was carried out in Moscow, Saint Petersburg, and Sverdlovskaya oblast. Given that residents of Moscow, Saint Petersburg and other large Russian cities tend to express lower support and higher opposition to the war, the analysis focuses on surveys conducted in Moscow and Saint Petersburg. Note, however, that according to Russian Field, respondents from the Urals, of which Sverdlovskaya oblast is a part, tend to express more supportive and less oppositional views towards the so-called military operation in Ukraine compared to respondents from most other Russian regions.<sup>26</sup>

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<sup>26</sup>Russian Field, "Operation 'Federation': how do people in different parts of Russia perceive the events in Ukraine" (in Russian), <https://russianfield.com/region>. There have been no separate polls conducted in Sverdlovskaya oblast. Regressions using country-level data control for the respondent being from one of the three experimental regions. The results indicate significantly lower probability of expressing support among the respondents from Moscow, Saint Petersburg, and Sverdlovskaya oblast, between 5.5% and 22.7% depending on specification and sample. See Table A.3 in the Appendix.

The results for the Moscow and Saint Petersburg surveys are presented in Table 5. Table A.3 in the Appendix displays results from country-level regressions, reflecting similar patterns as observed in the Moscow and Saint Petersburg data.

The dependent variable is binary, taking the value of one if the respondent expressed support for the so-called military operation (combining definite and mostly answers in the country poll), and zero otherwise. The analysis excludes respondents who were unable or refused to answer the support question. Combining the definite and mostly types of answers in the country poll allows for the comparison with the responses from the Moscow street surveys. The linear probability model is chosen for its ease of interpretation.

**Table 5** – Probability of expressing support for the special military operation in Ukraine, LMP, Russian Field surveys in Moscow and St. Petersburg

	All			Ages 18 to 44			Ages 18 to 44, Men only		
	Moscow and St. Petersburg Support: Yes	Cancel: No	Moscow street poll Neces.: Yes	Moscow and St. Petersburg Support: Yes	Cancel: No	Moscow street poll Neces.: Yes	Moscow and St. Petersburg Support: Yes	Cancel: No	Moscow street poll Neces.: Yes
<b>Number of obs.</b>	<b>1846</b>	<b>1776</b>	<b>1634</b>	<b>1613</b>	<b>1568</b>	<b>683</b>	<b>854</b>	<b>820</b>	<b>333</b>
Constant	0.549*** (0.026)	0.452*** (0.027)	0.619*** (0.032)	0.557*** (0.023)	0.449*** (0.023)	0.659*** (0.040)	0.544*** (0.027)	0.434*** (0.027)	0.619*** (0.049)
St. Petersburg	-0.024 (0.024)	-0.030 (0.026)		-0.043 (0.026)	-0.011 (0.026)		-0.064* (0.037)	-0.015 (0.037)	
Woman	-0.063*** (0.022)	-0.024 (0.024)	-0.042* (0.023)	-0.070*** (0.025)	-0.058** (0.024)	-0.087** (0.037)			
Ages 18-29	-0.180*** (0.039)	-0.159*** (0.038)		-0.194*** (0.028)	-0.184*** (0.027)		-0.144*** (0.038)	-0.169*** (0.037)	
Ages 18-34			-0.032 (0.038)			-0.023 (0.038)			-0.007 (0.053)
Ages 45+	0.206*** (0.025)	0.146*** (0.026)	0.141*** (0.030)						
Income	-0.057 (0.035)	-0.021 (0.037)	-0.047 (0.031)	-0.118*** (0.045)	-0.145*** (0.042)	-0.093 (0.059)	-0.171** (0.066)	-0.206*** (0.058)	-0.168** (0.084)
Low	0.046* (0.027)	0.015 (0.029)	0.133*** (0.032)	0.011 (0.030)	0.042 (0.030)	0.114** (0.049)	0.048 (0.039)	0.095** (0.041)	0.164** (0.066)
Income High	0.086** (0.035)	0.059 (0.038)	-0.043 (0.034)	0.115*** (0.034)	0.134*** (0.034)	-0.100* (0.052)	0.107** (0.044)	0.147*** (0.045)	-0.056 (0.074)
Education HS / some university	0.042 (0.033)	0.083** (0.036)	0.017 (0.026)	0.173*** (0.043)	0.220*** (0.043)	0.014 (0.044)	0.196*** (0.056)	0.240*** (0.055)	0.085 (0.061)
Vocational									

Notes: 1) Nonresponses are dropped from the analysis. 2) Support question: "Do you support the military operation of the Russian military on the territory of Ukraine?", Cancel question: "If you had the opportunity to return to the past and cancel the decision to start the military operation, would you do this or not?", Necessary question: "What is your opinion, was the special military operation in Ukraine necessary or should it not have been started?" 3) For Moscow and St. Petersburg the estimates are from the GLM with sampling weights, for the Moscow street poll the estimates are from the OLS (no weights are provided). 4) The baseline omitted category for age groups is 35-44, for income it is Middle Income, and for education it is University/college or higher. 2) Robust standard errors are in parentheses. 3) \*, \*\*, and \*\*\* indicate significance at respectively 10%, 5%, and 1% levels.

Overall, the probability of expressing support for the war increases with age and income of the respondents, and is lower among women and university educated.

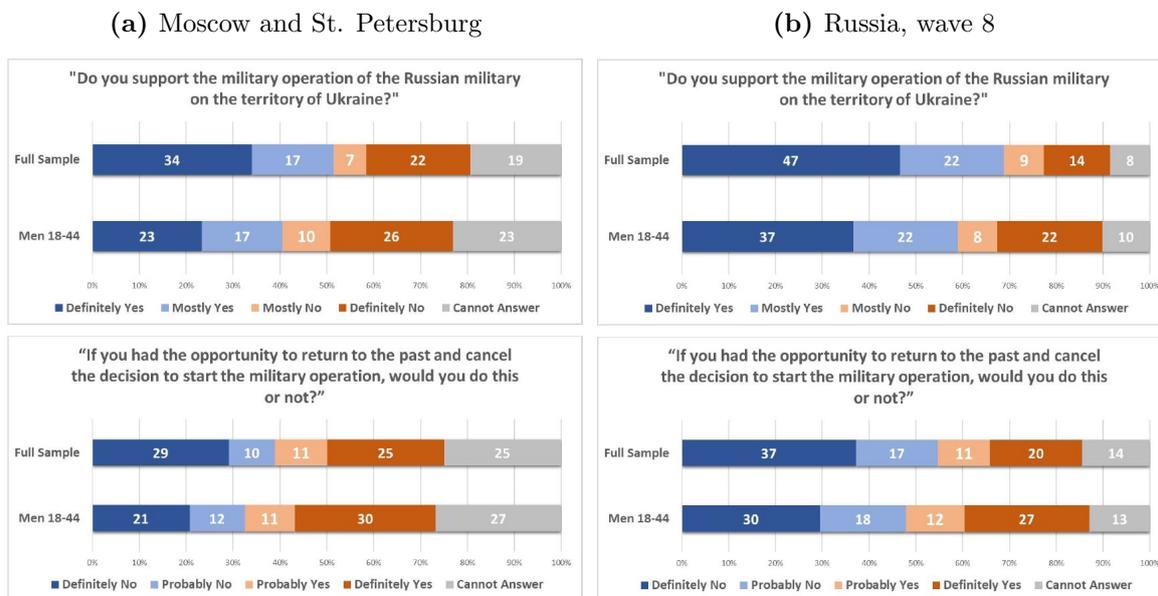
Figure A.5 in the Appendix further explores these relationships in the Levada Center and the Russian Field country-level surveys.

### 3.3 Summary and Implications

The participants of the experiment are men between the ages of 18 and 45 from large urban areas. Survey evidence indicates that younger individuals from these areas are less likely to express support for the so-called military operation compared to the overall Russian population. Figure 4 depicts response distributions for two types of support questions from two Russian Field surveys, comparing all respondents to the subset of men aged 18 to 44. The graphs confirm that younger individuals are less likely to express support and more likely to oppose the military operation.

Note that in the Moscow and Saint Petersburg survey, more men between the ages of 18 and 44 expressed a desire to cancel the decision to initiate the military operation if given the opportunity, compared to those who would not (41% versus 33%). For the rest of the polls and types of question, even within this subsample, a higher number of respondents express support for the operation compared to those who oppose it.<sup>27</sup>

**Figure 4** – Russian Field Surveys: Distributions of answers



The behavior of the experimental subjects may be indicative of their own political views. As previously stated, survey data may not be reliable when it comes to measuring the levels of support for the war due to higher non-response bias from war opponents and respondents providing socially acceptable and less risky answers.

<sup>27</sup>Figure A.6 in the Appendix presents these distributions for the Moscow street polls. Respondents were asked “What is your opinion, was the special military operation in Ukraine necessary or should it not have been started?” with the “Yes” or “No” response options. In these polls the differences in the distributions of responses for the full sample and for the subsample of men between the ages of 18 and 44 are minor: 58% answer “Yes” in the full sample versus 56% of men 18-44. For the “No” answer, the respective numbers are 28% and 31%.

It is also important to note that there is a distinction between expressed opinions and actions, with views not necessarily translating into behavior. The experimental evidence aims to uncover views that lead to variations in online dating behavior. Thus, a priori it is not possible to gauge the proportions of experimental subjects who might penalize the experimental profiles signaling specific war-related views.

Survey evidence suggests that the behavior of experimental subjects may vary depending on their age, level of income and education. These differences are explored in Subsection 4.2.

## 4 Results

The analysis of responses to different types of profiles and women by region in Section 2 reveals a noticeable discrepancy in the way men in Sverdlovskaya oblast evaluate the relative attractiveness of Woman 2 compared to men in the other two regions. This difference must be treated with caution, as it may bias the results.

In Subsection 4.1, I compare proportions of positive responses for the three main types of profiles. In Subsection 4.2, individual-level data is utilized to further examine the impact of the experimental profile's political views signal and the characteristics of dating site users on the probability of receiving a positive response from these users.

### 4.1 Comparing Proportions of Positive Responses

Here I compare the proportions of positive responses for the three main types of profiles. This comparison is valid only if the preferences for the looks of all women are the same across regions. This assumption does not hold for Woman 2, as men in Sverdlovskaya oblast appear to find her less attractive than men in other experimental regions (Section 2.3). Therefore, for the main analysis, I use a subset of the data that excludes the observations for the "Neutral" Woman 2 profiles in Sverdlovskaya oblast. Woman 2 was re-posted in Moscow as the "Neutral" type, so these observations are used instead to calculate the expected proportion of positive responses for the "Neutral" type in three regions. The similarity in response rates to the "Benchmark" profile in Moscow and Sverdlovskaya oblast demonstrates comparable levels of user activity in the two regions and validates the possibility of such replacement. In the interest of full disclosure, the comparison of proportions using the full sample, including data for the re-posted profiles, is provided in the Appendix Table A.4 and Figure A.7.

The full sample is used in the regression analysis in Section 4.2, as it allows for differences in preferences for the appearance of Woman 2 to be accounted for through the use of controls.

Figure 5 indicates that a higher proportion of positive responses were given for "Neutral" profiles compared to the other two types of profiles. Table 6 presents

the values and tests for differences in the proportions: "Neutral" versus "Pro" and "Neutral" versus "Anti".

As the set of all individuals is at least as large as the sets of those with "Pro" or "Anti" views, it follows that there should be a similar relationship between the sizes of the sets of potential daters who would like a "Neutral" profile, a "Pro" profile, and an "Anti" profile. That is, in the absence of other differences between the profile women and negligible costs of liking a profile, one would expect the set of users who would like a "Neutral" woman to be at least as large as the set of users who would like a "Pro" woman. A similar relationship should hold for the sets of users who would like "Neutral" versus "Anti" profiles.<sup>28</sup>

In this case, it is appropriate to use a one-sided test, as shown in Table 6. The difference in positive response rates between "Neutral" and "Pro" types of profiles is 5.6 percentage points, equal to 12.5% of the "Neutral" positive response rate. This difference is significant at a 5% level with either a one-sided or two-sided test. The difference between the "Neutral" and "Anti" profiles' positive response rates is 6.9 percentage points or 15.4% in favor of the "Neutral" profile. This difference is significant at a 1% level with either a one-sided test or two-sided test.

**Table 6** – Comparing proportions of positive responses, "liked" users

	"Neutral"	"Pro"	"Anti"
Proportion positive responses, $p$	0.45	0.39	0.38
<b>Difference</b>		<b>0.056</b>	<b>0.069</b>
<b>p-value one sided,</b>		<b>0.018</b>	<b>0.005</b>
<i>H<sub>0</sub>: <math>p_{neut} \leq p_{type}</math></i>			
<b>p-value two sided</b>		0.037	0.009

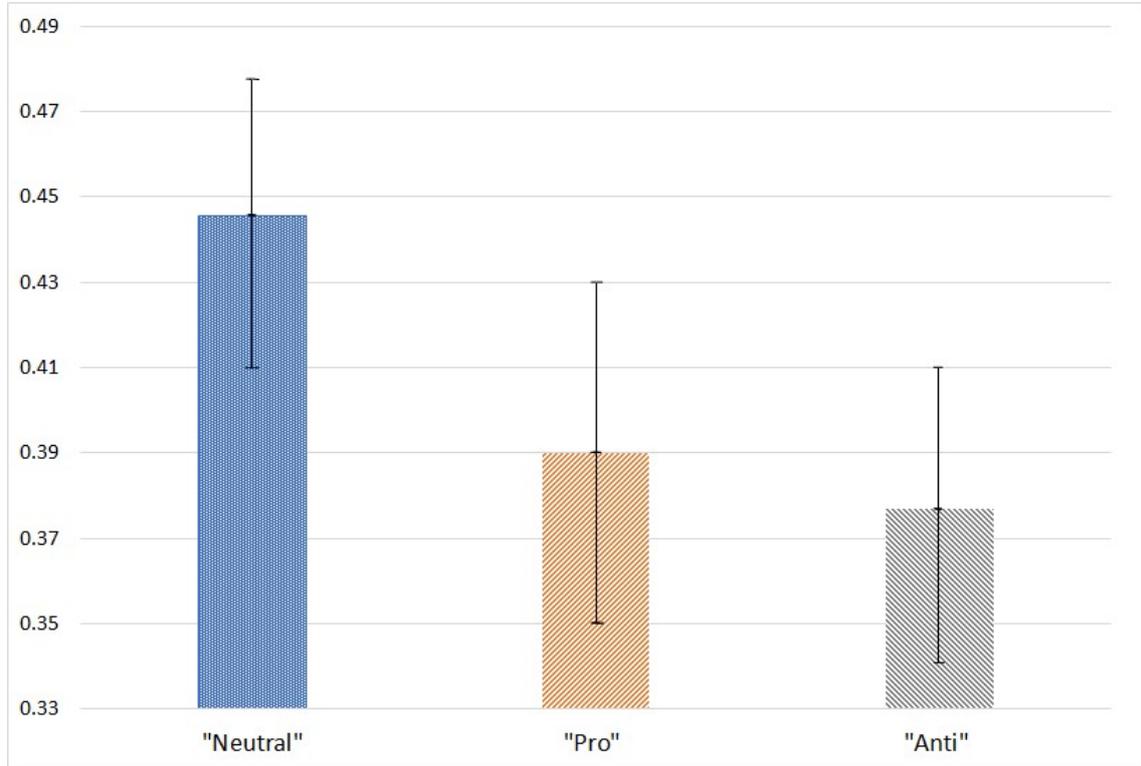
Table A.5 in the Appendix contains the odds ratios of positive responses to the "Pro" and "Anti" profiles relative to those for the "Neutral" type female. The differences are not statistically significant. The hypothesis of similar responses to both types of profiles is also not rejected via regression analysis. Thus, the evidence indicates that the penalties for displaying either pro- or anti-war positions on a dating profile are not significantly different.

The experimental results suggest that political views regarding the war in Ukraine have an impact on the formation of romantic relationships in Russia. Approximately 28% of male users on a dating site would not reach out to an attractive woman due to her political views.

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<sup>28</sup>In the trial runs of the experiment with male dating site users similar pattern was observed with fewer "likes" received by the "Pro" and "Anti" profile types relative to the "Neutral" ones. The experiment was also conducted in Crimea and similar pattern was observed. The results of the experiment in Crimea are not described in the paper, but are available from the author upon request.

**Figure 5** – Proportions of positive responses by type: share of male profiles liked by fictitious female profile that responded positively.



## 4.2 Individual Level Data: Regression Analysis

I have collected profile data of men that were liked by and/or had viewed the experimental profiles as well as their responses. The sample is limited to users between the ages of 18 and 45 who expressed their interest in meeting a potential marital partner. In this section I describe these data and evaluate the impact of various characteristics, most importantly the political views signaled by the fictitious profile, on the probability that an individual would attempt to establish a connection with profile of particular type.

The full sample consists of 3,246 unique male users between the ages of 18 and 45 who expressed their interest in getting married and were either liked by and/or viewed the experimental profiles. Information is available for these users regarding their age, geographical location, the number of photos they posted, whether they have a paid (premium) subscription, and the type(s) of relationship(s) they are interested in. The users can also chose to provide other information about themselves, such as their level of education, income, height, weight, etc. Descriptive statistics for the full sample are in Table A.6 in the Appendix.

2,845 unique users remain in the full sample after excluding the "Benchmark" profiles. The descriptives are not affected except for the number of observations. Additionally, Table A.7 presents summary statistics for the online daters in the main sample of liked users who responded positively to the experimental profiles by type

of profile.

**Main sample: users liked by the experimental profiles.** The results in Section 4.1 account for the fact that not all user profiles survived until day ten when the data on responses were collected. Unfortunately, I do not have individual-level information regarding which specific users did not survive until day ten. The data set includes all users who were liked by the experimental profiles on day one of the experiment. For users who did survive until day ten, we have information on whether they viewed, liked, and/or messaged the experimental profiles that liked them. However, for users who did not survive until day ten, their decisions are not observed in the data. Instead, they are represented as users who did not view and/or respond to the profiles in question.

The probability of a user profile surviving until day ten is unlikely to be influenced by the type of profile that liked them or the user’s response (or lack thereof) to the experimental profile. Thus, I expect that the response rates in the main sample of liked users would be biased downwards equally for all types of profiles.

The equation 1 below is estimated using linear probability model.

$$\ell_{ij} = \alpha_j d_{ij} + \mathbf{X}'_{ij} \beta + \varepsilon_{ij} \tag{1}$$

The dependent variable  $\ell_{ij}$  is binary, taking the value of one if the male dater  $i$  positively responded to the experimental profile of type  $j \in \{$ ”Neutral”, ”Pro”, ”Anti” $\}$  by giving it a ”like” and/or sending a message, and zero otherwise.  $d_{ij}$  is an indicator variable for whether user  $i$  was liked by profile type  $j$ ,  $\mathbf{X}'_{ij}$  is a vector of user and profile characteristics, and  $\varepsilon_{ij}$  is a random error term. The key parameter of interest is  $\alpha_j$  with  $j \in \{$ ”Pro”, ”Anti” $\}$  and ”Neutral” being the omitted category.

Table 7 presents the main results. The probability of positive response for the experimental profiles signaling the ”Pro”-war sentiment is 5.8 percentage points lower compared to the ”Neutral” type of profiles. This reduction represents a 14.8% decrease from the ”Neutral” profiles’ 39.3% probability of a positive response. The penalty for the ”Anti”-war signal is 6.6 percentage points or 16.8%. Both estimates are significant at 5% level.

In addition to seeking a marital partner, dating site users have the option to declare multiple dating purposes, including friendship, romance, or non-committed relationships. The model specification in column two includes a binary control variable indicating whether user  $i$  is interested in a non-committed relationship, as well as interaction terms between this variable and profile types.<sup>29</sup>

The remaining three columns in Table 7 add controls for users’ age groups. The estimates reveal a stark division by age, with a distinct difference emerging at around 33-34 years old. Younger male online daters are significantly less likely (16.8 percentage points or 37.1% relative to the ”Neutral” baseline) to respond to the ”Pro” type of female profiles. The age group of 34 to 45 year olds is less likely to respond

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<sup>29</sup>The inclusion of controls for other types of relationships did not yield any noteworthy results.

to the "Anti"-war signaling profiles (7.0 percentage points or 18.7%). There is no evidence of polarization within these age groups, as men within each age group are significantly less likely to respond to only one of the profile types signaling political views.<sup>30</sup>

The results of this experiment suggest that any pro-war sentiment within the 18 to 33 age group is not reflected in their dating choices, at least not at the initial contact stage of relationship building. At the same time, the pro-war profiles are heavily penalized by these younger dating site users, indicating a strong anti-war sentiment among them. This contrasts with the survey data from the Levada Center and Russian Field. While the survey data also reveals age-related polarization with the declared support for the so-called special military increasing with age, in all age groups, including the youngest, the survey data indicates a stronger pro-war sentiment compared to the anti-war sentiment.

The survey evidence also suggests that there may be polarization in opinions on the war based on levels of education and income. As some users choose to provide information on their education and income in their profiles, it is possible to test whether these user characteristics affect the probability of positively responding to different profile types. However, some dating site users may not be truthful when providing this information as they want to appear more attractive. Also, selection issues are to be expected as users decide whether to report this information about themselves. Tables A.9 and A.10 in the Appendix present the estimates of model specifications allowing for heterogeneous effects by levels of education and income. The results indicate that there is no significant polarization by levels of education. As for the income, the middle and low-income groups appear to be relatively more polarized, with noticeable penalties for both the "Pro" and "Anti" war profile types.

**Additional sample: users who viewed the experimental profiles.** Alternatively, the analysis of differences in positive response rates by profile type can be conducted using the sample of users who viewed the experimental profiles. The data set contains information on responses from all male users who viewed the profile(s), regardless of whether they were liked by the profiles or not. This analysis is valid under the assumption that viewership is not influenced by the type of signal sent by the experimental profiles. The validity of this assumption is tested using the main sample of liked users, and the estimates are in the last column of Table 8. The results show that dating site users are more likely to view the "Pro" type females, although the effect is not particularly strong and is primarily noticeable among users in the 34-40 age group.

The first three columns of Table 8 estimate equation 1 in the sample of viewers and the two sub-samples of viewers categorized by age: 18 to 33 and 34 to 45. In

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<sup>30</sup>Dating site users can lie about their characteristics, including age, to appear more attractive to prospective mates. Specifically, some users claim to be younger than they really are. This age changing behavior became apparent during the individual level data examination, as some users appear more than once in the data set with different ages. Thus, it is likely that these male users are actually older than they claim to be, especially those over the age of 40.

**Table 7** – Probability of positive response, main sample of liked users.

	Baseline	Baseline + not committed relationship	+ Men's ages		
			All ages, 34-45 as baseline	18-33 subsample	34-45 subsample
Number of observations	2690	2690	2690	629	2061
<b>"Pro" type</b>	<b>-0.058**</b> (0.027)	<b>-0.077***</b> (0.029)	-0.049 (0.031)	<b>-0.168***</b> (0.065)	-0.051 (0.033)
<b>"Anti" type</b>	<b>-0.066**</b> (0.027)	<b>-0.065**</b> (0.029)	<b>-0.077**</b> (0.031)	-0.059 (0.065)	<b>-0.070**</b> (0.033)
<b>Not committed and "Pro" type</b>		0.097* (0.057)	0.105* (0.057)	-0.043 (0.105)	0.162** (0.067)
<b>Not committed and "Anti" type</b>		-0.001 (0.055)	-0.003 (0.055)	-0.018 (0.110)	0.008 (0.064)
<b>Men ages 18-33 and "Pro"</b>			<b>-0.129**</b> (0.052)		
<b>Men ages 18-33 and "Anti"</b>			0.045 (0.053)		
Not committed		0.012 (0.034)	0.010 (0.034)	-0.024 (0.070)	0.018 (0.40)
Men ages 18-33			0.047 (0.033)		
Constant - "Neutral" baseline	0.393*** (0.026)	0.392*** (0.027)	0.381*** (0.028)	0.453*** (0.057)	0.375*** (0.031)

Notes: 1) The data set contains 2,186 unique users. 2) Neutral baseline is Woman 1 in Moscow. All regressions include the following controls: woman (2 and 3), region, interaction of Woman 2 in Sverdlovskaya oblast, paid (premium) account of user, number of photos exceeding 75th percentile (> 4). The estimates of all explanatory variables included in each regression are reported in the Appendix. 3) Robust standard errors are in parentheses. 4) \*, \*\*, and \*\*\* indicate significance at respectively 10%, 5%, and 1% levels.

the sample of all viewers, the effects of signaling either type of political views on the probability of positive response are negative and strongly significant. The estimated coefficients for the two profile types are also similar in size.

However, there are differences in the results for the age groups compared to the main sample of liked users. For the 18 to 33-year-old viewers, the findings are fairly similar, albeit slightly weaker (5% versus 1% significance for the lower response rate for the "Pro" type). However, in the older 34 to 45 age group of viewers, the probability of positive response is significantly lower for both "Pro" and "Anti" types of profiles, and the penalty for displaying the "Pro"-war views does not disappear with user's age.

The results indicate that there is a higher probability of viewership for the "Pro" type female profiles compared to other types. However, this increased attention does not result in a proportionate increase in the number of positive responses. In other words, some users are drawn to viewing the "Pro"-war signaling female profiles, but these users do not chose to like them and/or send them a message.

**Table 8** – Probability of positive response, sample of users who viewed the profiles. Probability of viewership in the sample of users liked by the profiles.

	Users who viewed the profiles			Prob. of viewership, liked users, 34-40 as baseline
	Baseline	Ages 18-33 subsample	Ages 34-45 subsample	
Number of observations	3068	811	2257	2690
<b>”Pro” type</b>	<b>-0.086***</b> (0.026)	<b>-0.126**</b> (0.054)	<b>-0.075**</b> (0.030)	<b>0.080**</b> (0.035)
<b>”Anti” type</b>	<b>-0.090***</b> (0.028)	-0.088 (0.058)	<b>-0.093***</b> (0.032)	0.031 (0.036)
Was liked by profile	0.118*** (0.019)	0.116*** (0.037)	0.119*** (0.022)	
Constant - ”Neutral” baseline	0.436*** (0.025)	0.474*** (0.047)	0.425*** (0.030)	0.619*** (0.029)

Notes: 1) The data set contains 2,227 unique users. 2) Neutral baseline is Woman 1 in Moscow. All regressions include the following controls: woman (2 and 3), region, interaction of Woman 2 in Sverdlovskaya obl., paid (premium) account of user, number of photos > 4, not committed relationship choice and interactions with profile types. The prob. of viewership regression also includes controls for age groups of users and interactions with profile types. The estimates of all explanatory variables are reported in the Appendix. 3) Robust standard errors are in parentheses. 4) \*, \*\*, and \*\*\* indicate significance at respectively 10%, 5%, and 1% levels.

## 5 Inferring political views of the online daters: Model and Findings

The second objective of this paper is to determine the extent of pro-war and anti-war sentiment among online dating site users based on their ”likes” for specific profile types. The inference relies on three assumptions. Firstly, it assumes that an individual’s decision to approach a particular type of profile, rather than another, indicates their preference for the former over the latter. Secondly, it assumes that these preferences are indicative of the individual’s own political views. Finally, it assumes that positive responses to all types of profiles are equally costless. This is reasonable in the context of online dating, where users face no limitations on the number of ”likes” they can give.<sup>31</sup>

In this section, I will outline a basic model for making these deductions, present the estimates, and examine the potential sources of biases in these inferences.

<sup>31</sup>There are no restrictions on the number of profiles users can like on the dating site used for this experiment. However, ”likes” might still carry a cost in terms of anticipated future time commitment if the ”like” leads to reciprocation and further communication. It is commonly observed that compared to men, women typically give very few ”likes” on the online dating sites, suggesting that this type of communication is costly for women. The practice rounds before the experiment revealed that mutual ”likes” for male profiles are very rare, thus, for men, the future expected time spent on further communication with a liked profile is close to zero.

## 5.1 Simple Model and Inferred Fractions of Pro- and Anti-war Users

Suppose there are  $n$  daters who are either neutral towards the war in Ukraine or do not have views that are sufficiently strong to affect dating decisions. These individuals would approach a profile regardless of the signaled (or not) political views. Assume that there are also  $p$  individuals who support the war in Ukraine and would only like profiles with “Neutral” or “Pro” position. Similarly, there are  $a$  individuals who would only approach “Neutral” and “Anti” profiles.

Then, the number of “likes” received by a “Neutral” profile is  $n + a + p = N$ . The number of “likes” received by a “Pro” profile is  $n + p = P$ , and the number of “likes” given to an “Anti” profile is  $n + a = A$ . The values of  $N$ ,  $P$ , and  $A$  are obtained from the experiment, and the three equations can be solved for the three unknowns  $n$ ,  $a$ , and  $p$  to find the shares of online users with corresponding political views. These shares are non-negative as long as  $N \geq P$ ,  $N \geq A$ , and  $(P + A) \geq N$ .

According to the findings from the previous Section 4, 15.4% to 16.8% of male online dating site users support the war in Ukraine ( $\frac{p}{N}\%$ ), while 12.5% to 19.6% oppose it ( $\frac{a}{N}\%$ ). The remaining daters would approach potential dating partner regardless of her political views.

Note that the shares of pro- and anti-war users are similar in size with at most 3% difference. The difference is not statistically significant, although a much larger sample size would be needed to avoid the type two error. Nevertheless, the percentage of pro-war individuals does not appear larger than the percentage of individuals with the anti-war views.

## 5.2 Caveats and Limitations

Correspondence studies are subject to common criticism that while we may observe average differences in behavior towards different groups, some underlying reasons for these variations remain hidden.

Several assumptions underlie the inference of political views of online daters from their observed dating choices. Next, I examine the potential implications for the inferred shares of daters with particular views if these assumptions do not hold.

**Online daters’ choices reveal their preferences.** This assumption is vulnerable in two cases.

First, it is possible that some individuals may chose not to approach the anti-war profiles even if they like them. The high levels of repression of anti-war sentiment and dissent in Russia since the start of the conflict may have made people cautious of openly displaying their opposition to the war. This can make individuals who display their anti-war views appear reckless, and associating with them could be perceived as dangerous. The estimated number and proportion of users with strong pro-war views would then be biased upward. Unfortunately, it is not possible to correct for

this bias within the current experimental framework.<sup>32</sup>

Second, I assume that positive responses to all types of profiles are equally costless, so if an individual likes two dating profiles, the cost of sending positive signal to both profiles is equal to the cost of approaching only one of them, i.e., these costs are zero. This is arguably the case in the online dating world with no restrictions on the number of “likes” users can send to each other. If the costs are not zero, however, we would expect the users with strong political views to be more likely to approach profiles that signal similar political views rather than the “Neutral” profiles. Consequently, the estimated proportions of both pro- and anti-war online daters would be biased downward.

**Online daters prefer to date others with similar political views.** This assumption is supported by multiple studies on assortative mating based on political views and affective polarization in dating decisions.<sup>33</sup> On average, individuals are more inclined to approach those with similar political views and may avoid those with differing perspectives. However, this does not exclude the possibility of some online daters sending positive signals to experimental profiles with opposing political views or any profiles regardless of the signals they convey.

During the initial contact stage, certain users may adopt a blanket strategy of response, automatically expressing interest in all female profiles without considering the information provided.<sup>34</sup> This behavior would make these users indistinguishable from individuals with a neutral position, resulting in a downward bias in the estimated values of  $p$  and  $a$ , as well as the proportions of online users with corresponding political views. Downward bias may also occur if the signal about political views is not strong enough or clear enough.

The model also acknowledges that the so-called neutral daters may not necessarily be neutral or indifferent to the war. They are those individuals who do not reveal their political preferences through their initial contact decisions on the online dating market. As a result, the proportions  $p/N$  and  $a/N$  are likely to represent a lower bound on the level of support for or opposition to the war in the online dating community in Russia.

Another objection to interpreting the findings in affective polarization studies as evidence for a dislike of non-partisans is raised by Klar and Krupnikov (2016) and Klar et al. (2018). These authors argue that in the context of US politics, measures of

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<sup>32</sup>It is highly uncommon for individuals to express their political preferences in an online dating profile, but some, albeit very few, choose to do so. In the course of the experiment I have encountered individual profiles with these signals either in photos they choose to post, in profile names, or descriptions of themselves. Notably, some of these profiles declared support for the war and others signaled their anti-war stance. This suggests that there is no taboo on discussing politics in the online dating scene in Russia, and a small number of individuals choose to display their political views regarding the conflict in Ukraine as part of their strategy for finding a suitable partner.

<sup>33</sup>See Alford et al. (2011), Watson et al. (2004), Iyengar et al. (2018), Huber and Malhotra (2017), Nicholson et al. (2016), and Easton and Holbein (2021).

<sup>34</sup>One user liked and sent a general greeting message to a “Pro” profile, only to message a bit later with an anti-war statement and to say that he liked and messaged her automatically by mistake.

affective polarization can mistakenly equate dislike for members of a political party with dislike for partisanship as a whole. If this is true for the Russian politics, the “Pro” and “Anti” profiles can be penalized for displaying their political views, regardless of what these views are. This could result in an overestimation of the values of  $p$  and  $a$  and the shares of online users with corresponding political views.

The findings in the Results Subsection 4.2 reveal that age of user is a strong predictor of the decision to approach a particular type of profile. Specifically, younger users are less likely to approach the “Pro” types, but not the “Anti” types. Conversely, older users show the opposite pattern, being less likely to approach the “Anti” types but not the “Pro” types. Thus, it is not the same users that “reject” the experimental profiles with political signals, and it is unlikely that the critique by Klar and Krupnikov (2016) and Klar et al. (2018) is relevant in this context.<sup>35</sup>

## 6 Conclusion

In this paper I conducted a correspondence experiment to study the effects of declared political views regarding the war in Ukraine on the probability of receiving a positive response from potential male daters on a large online dating site in Russia. The results reveal substantial discounts for both supporting the war and expressing the opposition to it, with at least 28% of male daters choosing not to initiate contact with an attractive woman on a dating site due to her political views.

I also propose a simple framework for inferring the political views of male online daters from their choices. The results indicate that between 15.4% and 16.8% of male online daters hold strong pro-war views, leading them to not pursue women who express anti-war and pro-Ukraine sentiments. Similarly, 12.5% - 19.6% of men on a dating site would not consider dating a pro-war “patriotic” woman, revealing their anti-war stance. These two groups are statistically similar in size. The finding challenges the survey evidence suggesting predominant support for the war for the subpopulation of Russian society represented by the experimental subjects. Also, age is the main divisive factor, as the choices of younger users indicate an anti-war stance, while the choices of older users align with a pro-war sentiment.

I discuss the potential sources of bias and limitations in interpreting these findings in the Model Section 5. Relaxing the assumptions underlying the inference would result in a downward bias in the estimated proportions of online users with pro- and anti-war views, with the exception of a possible upward bias in the share of

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<sup>35</sup>Easton and Holbein (2021) address this concern in their study of affective polarization in the US dating market by having different versions of the same experiment and comparing the results. In one version, the fictitious dating profiles self-signal their political views, while in the other version the experimenters deliver the signal on an earlier screen. They find that the results of these two experiments are indistinguishable and conclude that in the dating market there is no additional penalty given to individuals who are particularly vocal about their political preferences. Additionally, Tinder’s annual “Year in Swipe” report for 2022 states that 75% of “singles were looking for a match who is respectful of or invested in social issues”. 53% of Tinder’s users also say that regular voters are more attractive than non-voters.

pro-war users if some individuals chose not to approach the anti-war profiles out of self-preservation.

Additional signs of animosity are present in the collected data that have not been previously mentioned. Aside from positive responses, dating site users can also exhibit other reactions to a profile, such as ignoring it or blacklisting it. The blacklisting option can be chosen for different reasons. One of these reasons is ghosting: the created female profiles liked the male profiles but never responded to communication attempts made by those they liked. During the experiment, only a few men blacklisted the fictitious profiles, with twelve total blacklists for all profiles, including those of the "Benchmark" females. Of these, six were due to ghosting. Of the remaining six, one user blacklisted a "Benchmark" woman, and five blacklisted the "Pro" females.

Despite the intense propaganda campaign against individuals with anti-war views and accusations of disloyalty, not one user blacklisted an anti-war profile, except for ghosting. Furthermore, while several angry messages were sent to the "Pro" females regarding their political views, none were sent to the "Anti" females. Out of the 1064 users that viewed the experimental "Anti" profiles none reported these profiles to the moderators.<sup>36</sup> If they did, it is likely that these profiles would have been deleted or at least censored in some way.

Finally, the experiment was conducted during a particularly turbulent period of the beginning of the partial mobilization campaign. As some military-aged individuals were preparing to be sent off to the frontline, others were fleeing to the neighboring countries, and all had to answer the question of how much they were actually willing to sacrifice in support of the war or in order to avoid fighting in it. The ongoing conflict does not only affect the situation at the frontline, it may change the views and opinions of people. The study collected data over a short period of approximately one month to limit the possibility of changes affecting the results. The findings therefore reflect the level of affective polarization regarding the war and support/opposition to it in Russia between late September and early November 2022, and may differ from results obtained at other times. This limitation applies to any study of social attitudes and political views in a society undergoing major crisis.

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<sup>36</sup>This number is inclusive of users of all ages and declared mating goals, i.e., it includes users over 45 years of age and those that are not looking for a potential marital partner.

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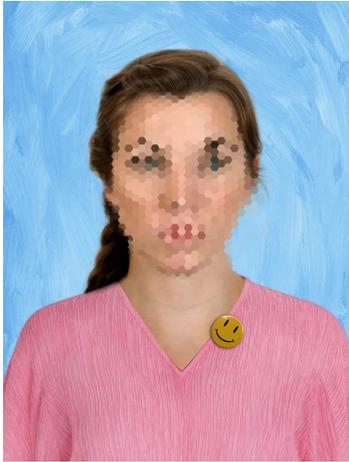
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## A Appendix: additional figures and tables

**Figure A.1** – Examples of profile photos: three types, three women, studio background

(a) "Neutral" type, Woman 1



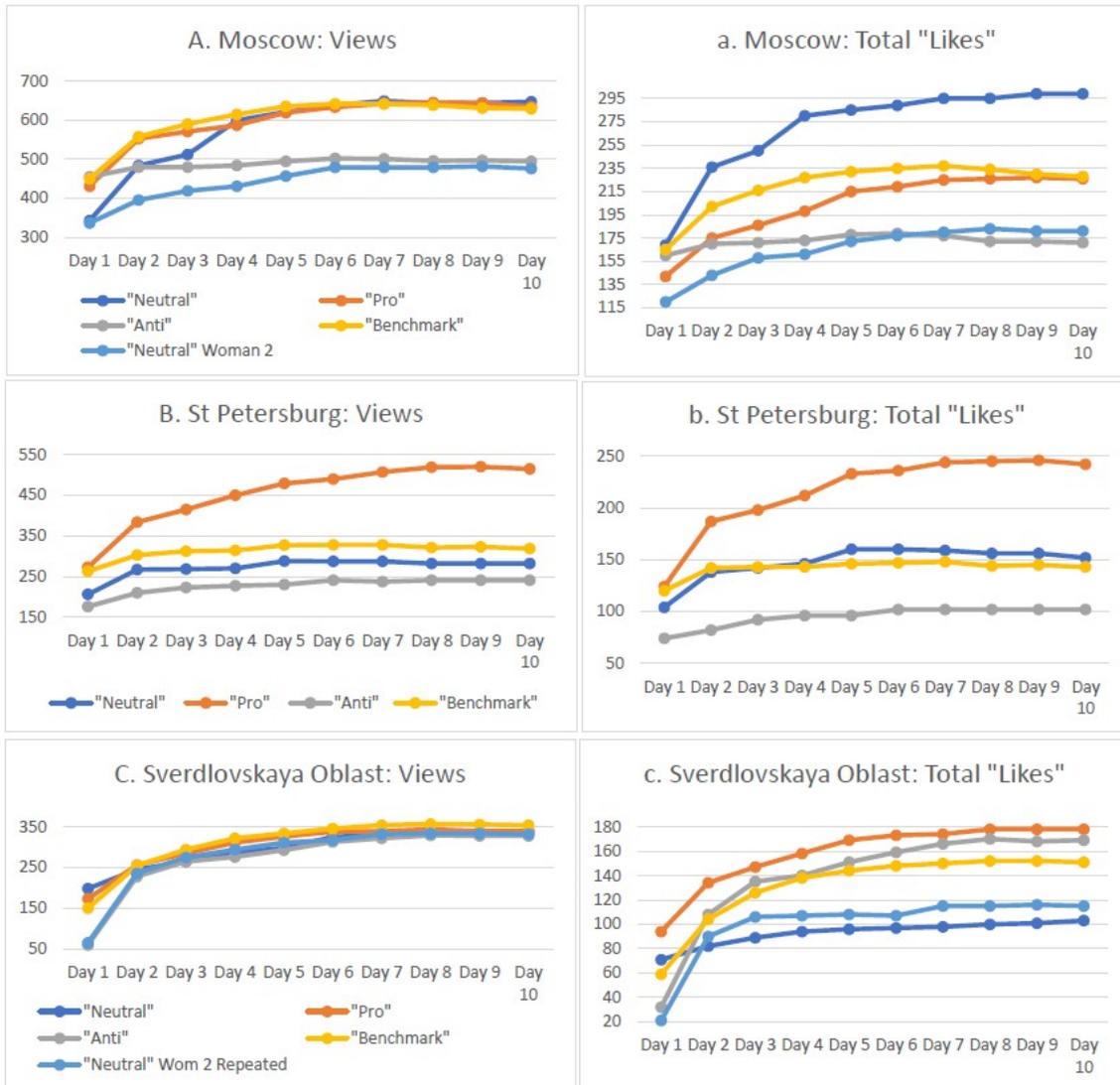
(b) "Pro" type, Woman 3



(c) "Anti" type, Woman 2

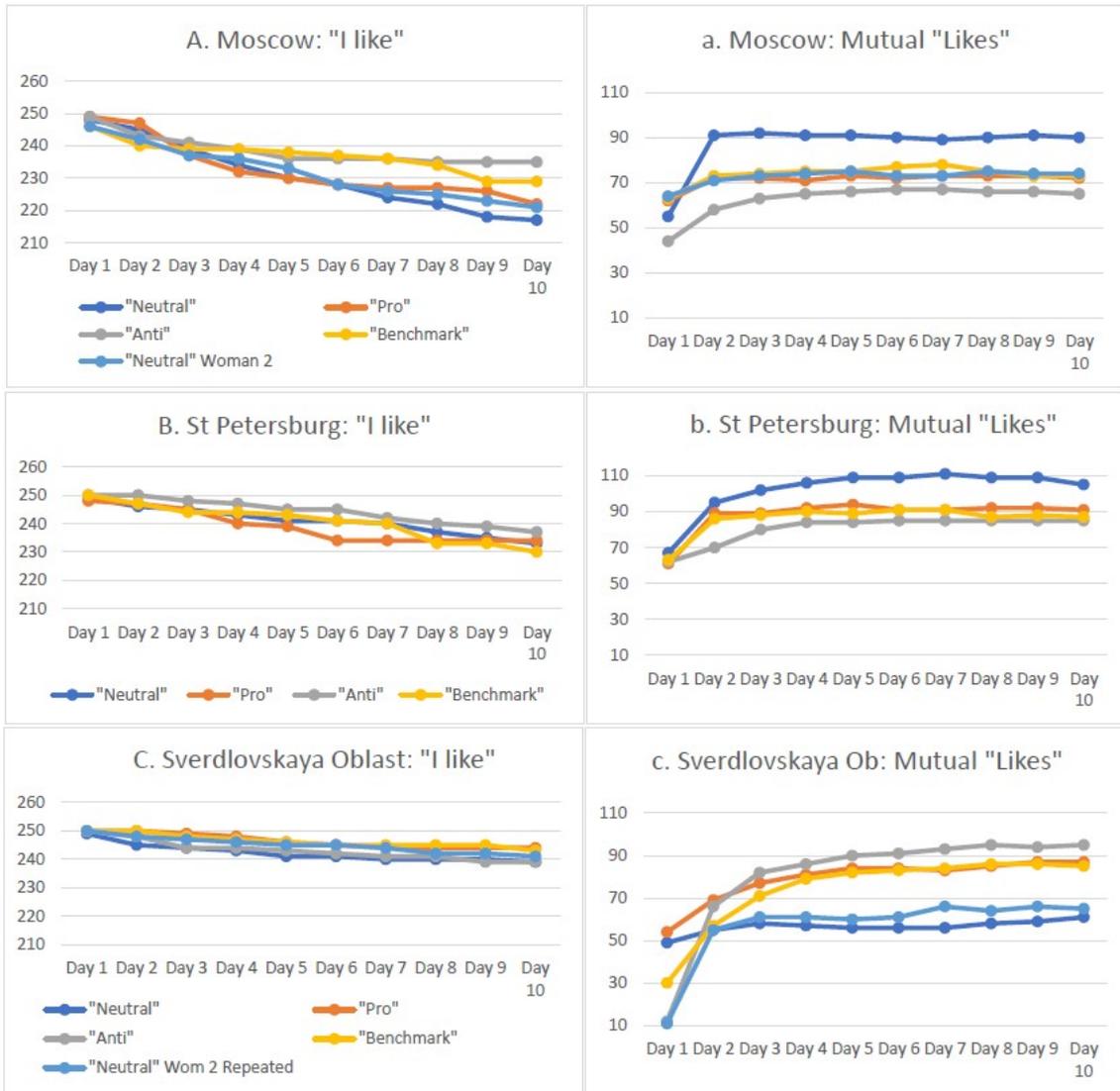


**Figure A.2** – Number of views and “likes” for each profile by region over time.



Note: The profiles were available for viewing by all users from all geographic areas during the brief setup period for every profile and before the regional restriction on views could be applied. The graphs show the views and “likes” net of those by users from other regions. Premium users have the option of remaining “invisible” to the other users, so it is not possible to observe whether these users viewed the profiles. The number of these users appears to be very low: among the users that liked and/or message at least one experimental profile there was only one such user.

**Figure A.3** – Number of male profiles liked and number of mutual “likes” by region with Woman 2 (“Neutral” Profile Sverdlovskaya Obl) re-posted in Sverdlovskaya oblast and Moscow.

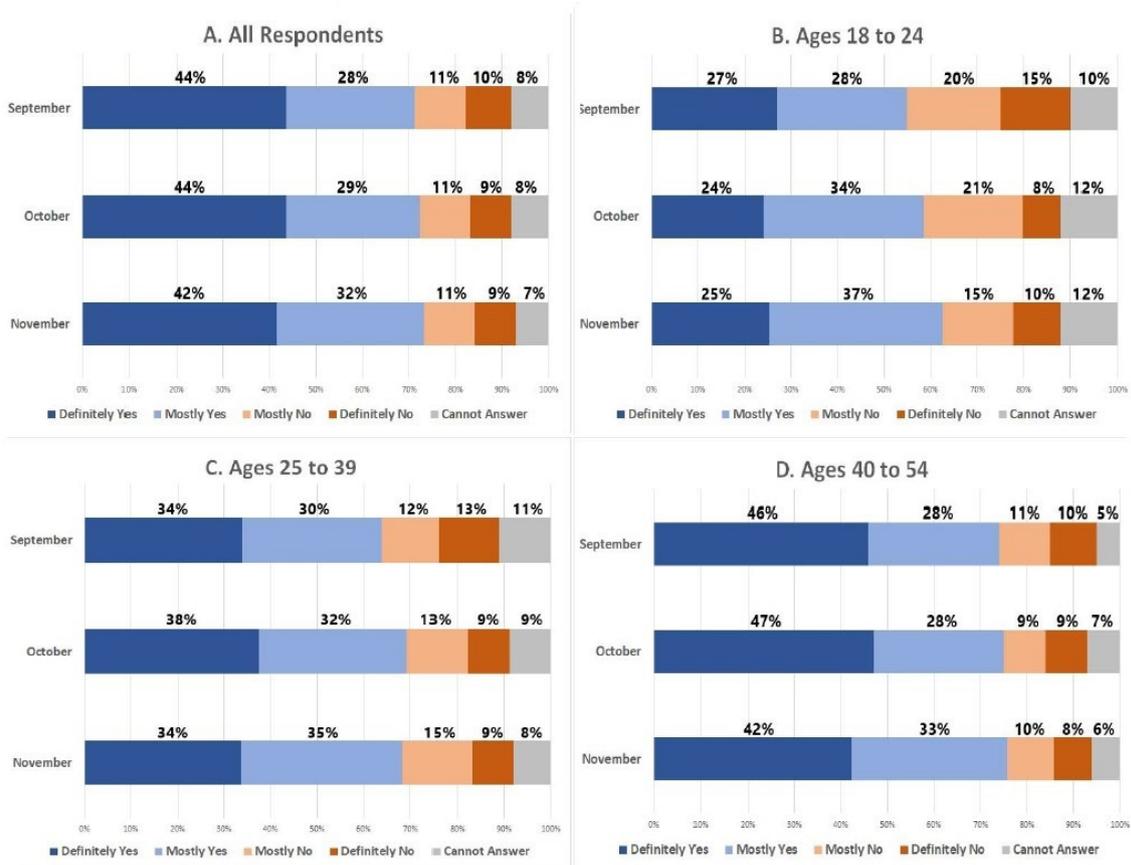


**Table A.1** – Distribution of answers to the “If you had the opportunity to return to the past and cancel the decision to start the military operation, would you do this or not?” by the respondents’ answers to the question “Do you support the military operation of the Russian military on the territory of Ukraine?”, all categories

	<b>Cancel: Definitely No, %</b>	<b>Cancel: Probably No, %</b>	<b>Cancel: Probably Yes, %</b>	<b>Cancel: Definitely Yes, %</b>	<b>Cancel: No ans., %</b>	<b>Total, %</b>
<b>A. Russia: “Do you support the military operation of the Russian military on the territory of Ukraine?”</b>						
Definit. Yes	67	18	3	5	7	100
Mostly Yes	19	40	22	6	13	100
Mostly No	1	11	35	38	15	100
Definit. No	3	1	9	80	7	100
No answer	4	6	13	19	59	100
<b>B. Moscow and St. Petersburg: “Do you support the military operation of the Russian military on the territory of Ukraine?”</b>						
Definit. Yes	68	14	2	2	13	100
Mostly Yes	15	37	17	6	25	100
Mostly No	3	10	35	32	18	100
Definit. No	3	1	7	85	5	100
No answer	3	4	10	14	69	100

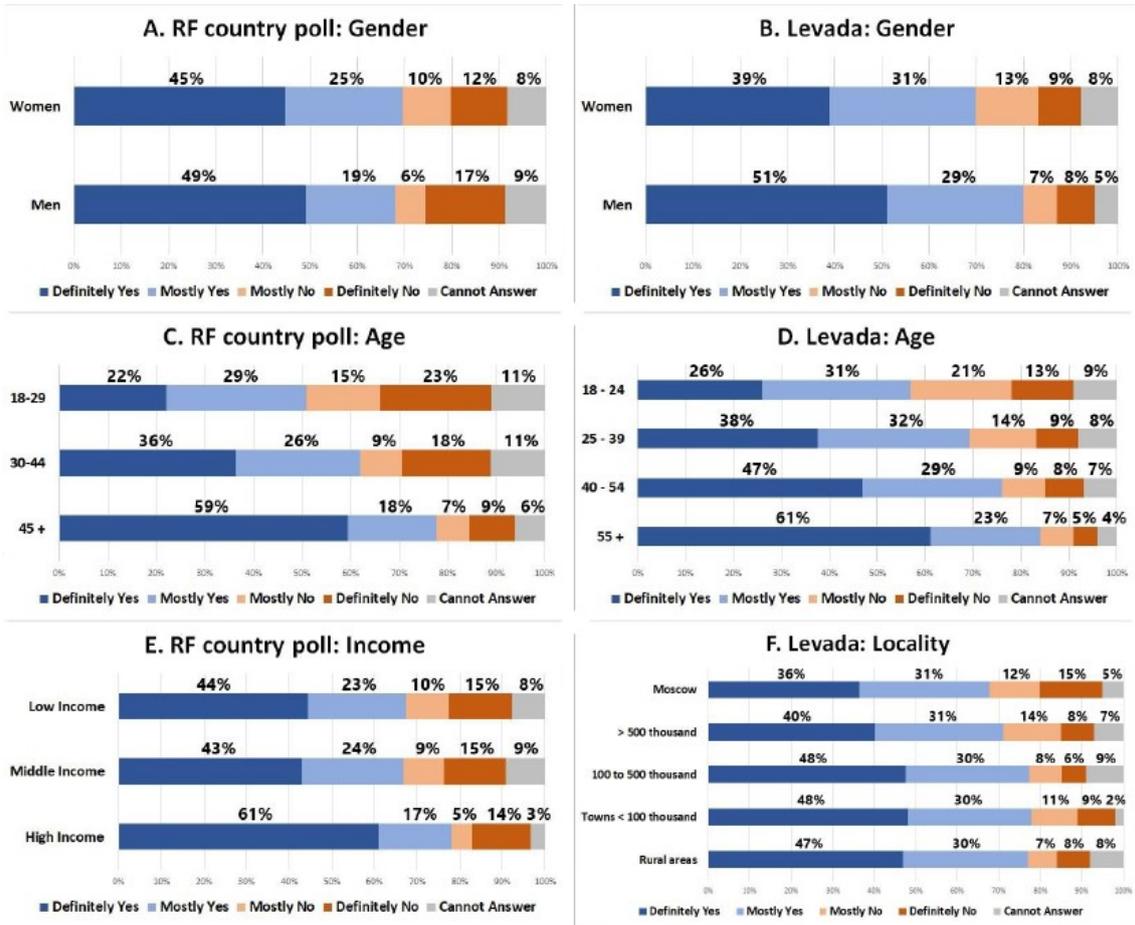
Sources: A) Russian Field, “Military Operation in Ukraine: Attitudes of Russians” (in Russian), wave 8, July 28-31, 2022, <https://russianfield.com/nuzhenmir>. Calculations by the author based on published micro data. B) Russian Field, “Travel to Europe without visas. What do residents of capitals think about a possible ban on issuing Schengen visas (to Russians)?” (in Russian), September 2-6, 2022, Moscow and Saint Petersburg, <https://russianfield.com/beviz>. Calculations by the author based on published micro data.

**Figure A.4** – Levada Center: Distribution of answers to the “Do you support the Russian military operation in Ukraine?” question in September, October, November 2022



Source: The Levada Center, “The Conflict With Ukraine” (in Russian), three waves of the survey: September (<https://www.levada.ru/2022/09/29/konflikt-s-ukrainoj-sentyabr-2022-goda/>), October (<https://www.levada.ru/2022/10/27/konflikt-s-ukrainoj-oktyabr-2022-goda/>), and November 2022 (<https://www.levada.ru/2022/12/02/konflikt-s-ukrainoj-noyabr-2022-goda/>).

**Figure A.5** – Russian Field (RF) country survey Versus the Levada Center polls: Distribution of answers to the “Do you support the Russian military operation in Ukraine?”



Notes: 1) Source 1. The Levada Center, “The Conflict With Ukraine” (in Russian). Panels B and F: <https://www.levada.ru/2023/02/02/konflikt-s-ukrainoj-otsenki-yanvarya-2023-goda/>, January 26-31, 2023, representative sample of 1616 adults. Panel D: <https://www.levada.ru/2022/08/01/konflikt-s-ukrainoj-iyul-2022-goda/>, July 21-27, 2022, representative sample of 1600 adults. 2) Source 2. Russian Field, “Military Operation in Ukraine: Attitudes of Russians” (in Russian), wave 8, July 28-31, 2022, <https://russianfield.com/nuzhenmir>. Calculations by the author based on published micro data. 3) RF panel E. Low income category includes respondents who chose one of the following answers: “We cannot afford to buy food” or “We have enough money for food, but clothing is difficult to afford”. Respondents in the Middle Income category answered either “We can afford to buy food and clothing, but not household appliances without taking out a loan” or “We can buy household appliances without loans, but not bigger items”. High Income group includes those who answered either “We can buy a car without loans, but not bigger items” or “We can afford practically everything: apartment, car, house, etc.”

**Table A.2** – Russian Field Surveys, Descriptive statistics. All variables are categorical

	Country Polls						Moscow and St. Petersburg		V. Moscow street polls, Nov. 2022
	I. Wave 8, July 28-31, 2022		II. Wave 9, Sept. 29 - Oct. 1, 2022		III. Wave 10, Nov. 29 - Dec. 5, 2022		IV. Moscow and St. Petersburg, Sept. 2-6, 2022		
	Un-weighted	With sampling weights	Un-weighted	With sampling weights	Un-weighted	With sampling weights	Un-weighted	With sampling weights	
<b>Number of observations</b>	<b>1609</b>	<b>1609</b>	<b>1610</b>	<b>1610</b>	<b>1603</b>	<b>1603</b>	<b>2518</b>	<b>2518</b>	<b>2000</b>
<b>3 experimental regions</b>	0.21	0.21	0.12	0.12	0.19	0.12			
<b>St. Petersburg Women</b>	0.48	0.55	0.55	0.56	0.55	0.55	0.30	0.30	0.55
<b>Age groups</b>									
<i>18-29</i>	0.20	0.15			0.16	0.16	0.37	0.12	
<i>30-44</i>	0.47	0.31			0.33	0.32	0.51	0.32	
<i>18-26</i>			0.13	0.11					0.09
<i>27-34</i>			0.18	0.15					0.13
<i>35-44</i>			0.23	0.20					0.21
<i>45+</i>	0.32	0.54	0.46	0.54	0.51	0.52	0.12	0.56	0.57
<b>Income</b>									
<i>Low</i>	0.22	0.26	0.21	0.22	0.22	0.23	0.08	0.10	0.19
<i>Middle</i>	0.60	0.56	0.60	0.59	0.57	0.57	0.66	0.62	0.65
<i>High</i>	0.13	0.14	0.13	0.12	0.15	0.14	0.20	0.19	0.11
<b>Education</b>									
<i>Highschool or some university</i>			0.16	0.15	0.15	0.15	0.17	0.11	0.17
<i>Vocational</i>			0.35	0.36	0.32	0.33	0.10	0.13	0.33
<i>University/college or higher</i>			0.46	0.46	0.51	0.50	0.73	0.75	0.49
<b>Support for the military operation in Ukraine</b>									
<b>Support</b>									
<i>Definitely Yes</i>	0.39	0.47					0.21	0.34	
<i>Mostly Yes</i>	0.25	0.22					0.17	0.17	
<i>Mostly No</i>	0.09	0.09					0.11	0.07	
<i>Definitely No</i>	0.17	0.14					0.28	0.22	
<b>Cancel</b>									
<i>Definitely No</i>	0.32	0.37	0.33	0.35	0.32	0.33	0.19	0.29	
<i>Probably No</i>	0.19	0.17	0.16	0.16	0.17	0.17	0.12	0.10	
<i>Probably Yes</i>	0.13	0.11	0.11	0.11	0.13	0.12	0.11	0.11	
<i>Definitely Yes</i>	0.23	0.20	0.24	0.22	0.22	0.21	0.32	0.25	
<i>Yes, was necessary</i>									0.58
<i>No, should not have started</i>									0.28

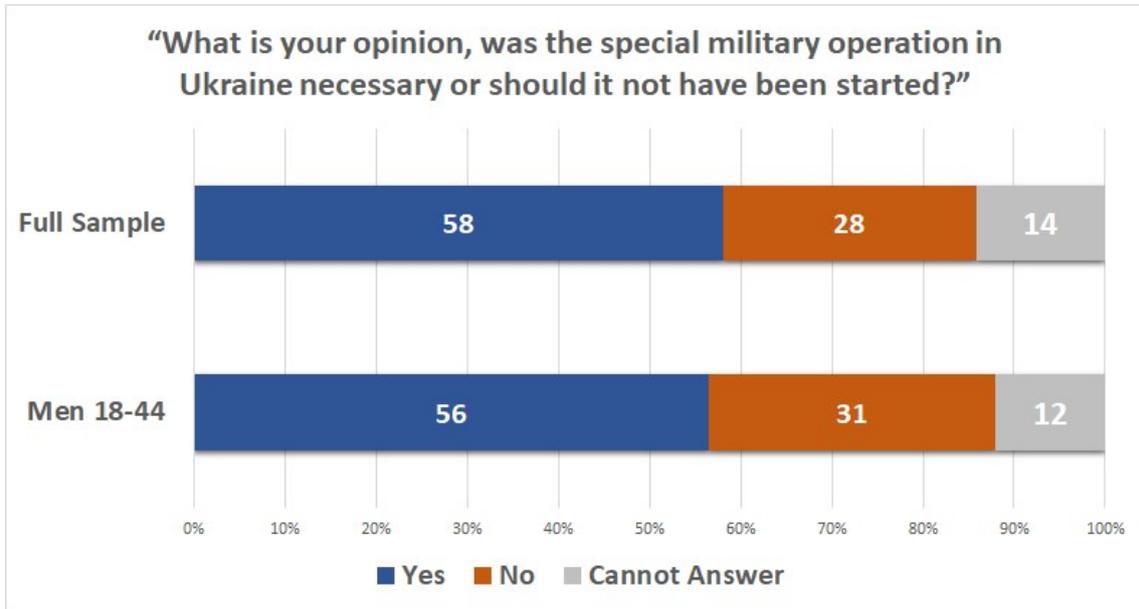
Notes: 1) Sources for I, II, and III: Russian Field, "Military Operation in Ukraine: Attitudes of Russians" (in Russian). I. Wave 8, July 28-31, 2022, <https://russianfield.com/nuzhenmir>, II. Wave 9, September 29 - October 1, 2022, <https://russianfield.com/mobilizatsia>, III. Wave 10, November 29 - December 5, 2022, <https://russianfield.com/yubiley>. 2) Source for IV: Russian Field, "Travel to Europe without visas. What do residents of capitals think about a possible ban on issuing Schengen visas (to Russians)?" (in Russian), <https://russianfield.com/bezviz>. 3) Source for V: Russian Field, Moscow street polls in November, 2022 (<https://russianfield.com/moskvichi> and <https://russianfield.com/moskvastolitsa>). 4) All calculations by the author based on published micro data. 5) Support question in V: "What is your opinion, was the special military operation in Ukraine necessary or should it not have been started?", "Yes" or "No" answers. 6) Low income category includes respondents who chose one of the following answers: "We cannot afford to buy food" or "We have enough money for food, but clothing is difficult to afford". Respondents in the Middle Income category answered either "We can afford to buy food and clothing, but not household appliances without taking out a loan" or "We can buy household appliances without loans, but not bigger items". High Income group includes those who answered either "We can buy a car without loans, but not bigger items" or "We can afford practically everything: apartment, car, house, etc."

**Table A.3** – Probability of expressing support for the special military operation in Ukraine, LMP, Russian Field "Military Operation in Ukraine: Attitudes of Russians" survey

	A. All				B. Ages 18 to 44			
	Wave 8		Wave 9	Pooled waves 8-10 Cancel: No	Wave 8		Wave 9	Pooled waves 8-10 Cancel: No
	Support: Yes	Cancel: No	Cancel: No		Support: Yes	Cancel: No	Cancel: No	
<b>Number of obs.</b>	<b>1395</b>	<b>1321</b>	<b>1259</b>	<b>3885</b>	<b>936</b>	<b>899</b>	<b>699</b>	<b>2242</b>
Constant	0.706*** (0.027)	0.586*** (0.030)	0.618*** (0.036)	0.539*** (0.018) 0.035* (0.019)	0.751*** (0.027)	0.632*** (0.030)	0.657*** (0.040)	0.544*** (0.023) 0.044* (0.026) 0.026 (0.026)
Wave 8				0.002 (0.019)				
Wave 10								
Three regions	-0.083*** (0.029)	-0.073** (0.032)	-0.055 (0.041)	-0.088*** (0.022)	-0.227*** (0.041)	-0.147*** (0.042)	-0.076 (0.057)	-0.134*** (0.030)
Woman	0.010 (0.023)	-0.009 (0.026)	-0.072*** (0.027)	-0.045*** (0.015)	0.013 (0.030)	-0.042 (0.032)	-0.122*** (0.037)	-0.058*** (0.021)
Ages 18-29	-0.138*** (0.041)	-0.157*** (0.042)			-0.139*** (0.033)	-0.162*** (0.034)		
Ages 18-34			-0.146*** (0.041)				-0.145*** (0.039)	
Ages 45+	0.130*** (0.027)	0.170*** (0.030)	0.154*** (0.036)	0.220*** (0.015)				
Income Low	-0.045 (0.027)	-0.086*** (0.031)	-0.141*** (0.034)	-0.111*** (0.018)	-0.096** (0.040)	-0.142*** (0.041)	-0.137*** (0.050)	-0.135*** (0.027)
Income High	0.080** (0.031)	0.126*** (0.035)	0.027 (0.039)	0.063*** (0.022)	0.031 (0.044)	0.116** (0.047)	0.041 (0.054)	0.079*** (0.030)
Education HS / some university			-0.032 (0.041)				-0.022 (0.052)	
Education Vocational			0.067** (0.029)				0.020 (0.045)	
<b>C. Ages 18 to 44, Men only</b>								
<b>Number of obs.</b>	<b>500</b>	<b>483</b>	<b>326</b>	<b>1138</b>				
Constant	0.737***	0.608*** (0.034)	0.624*** (0.051)	0.572*** (0.029) 0.004 (0.036)				
Wave 8				-0.023 (0.036)				
Wave 10								
Three regions	-0.154***	-0.116** (0.058)	-0.105 (0.083)	-0.137*** (0.042)				
Ages 18-29	-0.123***	-0.149*** (0.047)						
Ages 18-34			-0.086 (0.057)					
Income Low	-0.104*	-0.080 (0.058)	-0.215*** (0.078)	-0.109*** (0.041)				
Income High	0.014	0.127** (0.063)	0.040 (0.076)	0.069* (0.039)				
Education HS / some university			-0.041 (0.075)					
Education Vocational			0.077 (0.064)					

Notes: 1) Nonresponses are omitted in calculations. 2) Sources: i) Wave 8, July 28-31, 2022, <https://russianfield.com/nuzhenmir>, ii) Wave 9, September 29 - October 1, 2022, <https://russianfield.com/mobilizatsia>, iii) Wave 10, November 29 - December 5, 2022, <https://russianfield.com/yubiley>. 3) Wave 10 estimates are not presented separately as they are similar to those obtained using data from wave 9 (see pooled estimates). 4) Support question: "Do you support the military operation of the Russian military on the territory of Ukraine?", Cancel question: "If you had the opportunity to return to the past and cancel the decision to start the military operation, would you do this or not?" 5) The estimates are from the GLM with sampling weights. 6) The baseline omitted category for age groups is 35-44, for income it is Middle Income, and for education it is University/college or higher. 7) Robust standard errors are in parentheses. 8) \*, \*\*, and \*\*\* indicate significance at respectively 10%, 5%, and 1% levels.

**Figure A.6** – Moscow street polls November 2022: Distributions of answers

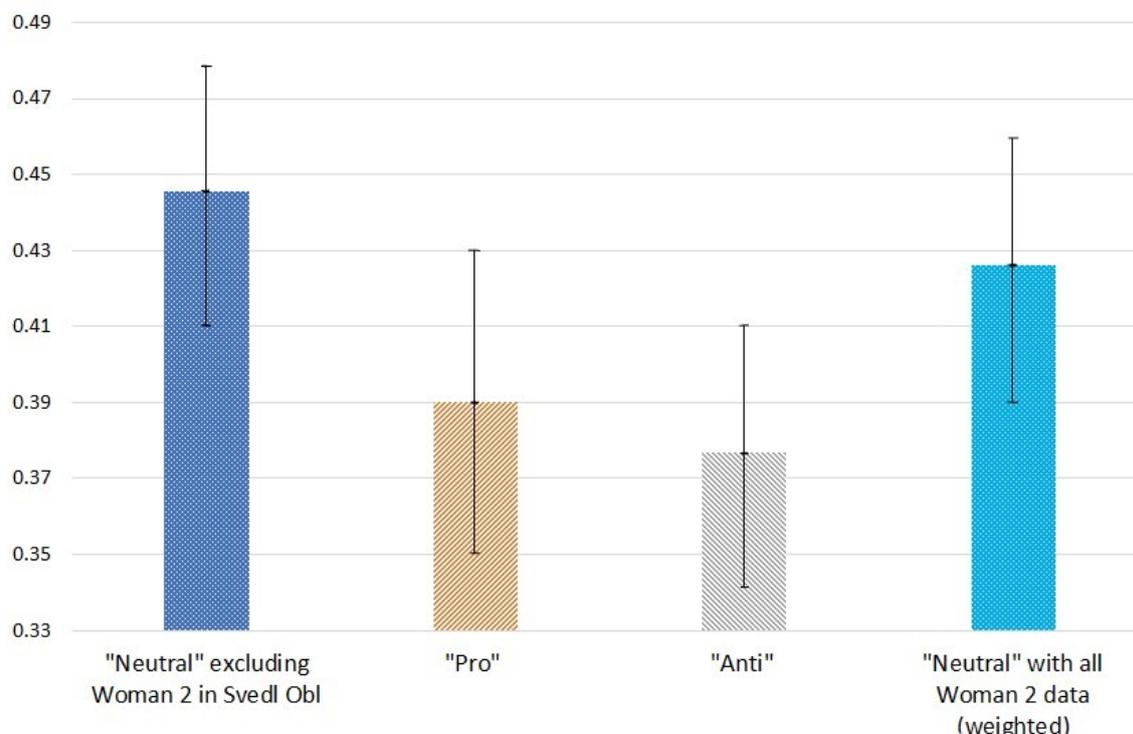


Notes: 1) Sources: Russian Field street polls in Moscow “Special operation’ and Mobilization: Attitudes of Muscovites” (4-5 November 2022, <https://russianfield.com/moskvastolitsa>) and “What do Muscovites Think About the ‘Special Military Operation in Ukraine’” (18-19 November 2022, <https://russianfield.com/moskvichi>). In Russian, calculations by the author based on published micro data.

**Table A.4** – Comparing proportions of positive responses, “liked” users, full sample

	“Neutral”	“Pro”	“Anti”
Proportion of positive responses, <i>p</i>	0.43	0.39	0.38
<b>Difference</b>		<b>0.036</b>	<b>0.049</b>
<b>p-value one sided</b>		<b>0.086</b>	<b>0.031</b>
<b>p-value two sided</b>		0.172	0.061

**Figure A.7** – Proportions of positive responses by type, full sample: share of male profiles liked by fictitious female profile that responded positively.



**Table A.5** – Odds ratios: Comparing responses to the "Pro" and "Anti" versus "Neutral" profiles in three regions

	OR "Pro"/ "Neut."	OR "Anti"/ "Neut."	Log diff.	p-value (two sided )	p-value (one sided)
<b>Without Woman 2 in Sverdlovskaya oblast</b>					
Users liked by the profile	0.80	0.75	0.06	0.722	0.361
Users seeking marriage who viewed profile	0.88	0.88	0.01	0.943	0.472
All users who viewed profile	0.90	0.89	0.02	0.878	0.439
<b>All sample, weighted</b>					
Users liked by the profile	0.85	0.80	0.06	0.721	0.361
Users seeking marriage who viewed profile	0.87	0.88	0.01	0.944	0.472
All users who viewed profile	0.91	0.90	0.02	0.879	0.440

**Table A.6** – Descriptive statistics: full sample, male users between the ages 18 and 45 seeking marriage

	Full Sample	Moscow	St. Petersburg	Sverdl. obl.
<b>Number of Obs.</b>	<b>3246</b>	<b>1540</b>	<b>941</b>	<b>768</b>
<b>Yekaterinburg</b>				0.73
<b>Paid subscription (Premium)</b>	0.18	0.22	0.17	0.12
<b>Number of photos</b>	3.43 (s.e. = 4.44)	3.67 (s.e. = 4.38)	3.94 (s.e. = 5.54)	2.31 (s.e. = 2.32)
<b>Age</b>	36.74 (s.e. = 5.48)	36.72 (s.e. = 5.42)	37.02 (s.e. = 5.30)	36.43 (s.e. = 5.81)
<b>Height, cm</b>	178.56 (s.e. = 6.95) (r.r. = 77.3%)	179.36 (s.e. = 6.77) (r.r. = 82.7%)	178.23 (s.e. = 6.57) (r.r. = 78.5%)	177 (s.e. = 7.65) (r.r. = 65.0%)
<b>Weight, kg</b>	79.87 (s.e. = 11.88) (r.r. = 68.3%)	80.64 (s.e. = 11.43) (r.r. = 72.9%)	79.98 (s.e. = 11.35) (r.r. = 68.7%)	77.73 (s.e. = 13.39) (r.r. = 58.6%)
<b>Looking for:</b>				
<i>Woman's age from</i>	25.17 (s.e. = 5.36)	24.91 (s.e. = 5.35)	25.39 (s.e. = 5.28)	25.43 (s.e. = 5.47)
<i>Woman's age up to</i>	40.91 (s.e. = 9.88)	41.08 (s.e. = 10.41)	41.35 (s.e. = 10.42)	40.03 (s.e. = 7.87)
<b>Relationship type:</b>				
<i>Romance</i>	0.57	0.61	0.59	0.48
<i>Not committed</i>	0.21	0.20	0.21	0.22
<i>Other</i>	0.27	0.30	0.26	0.23
<b>Education</b>	r.r. = 61.2%	r.r. = 65.3%	r.r. = 64.5%	r.r. = 49.1%
<i>Highschool or some university</i>	0.12	0.09	0.14	0.19
<i>Vocational</i>	0.21	0.14	0.23	0.32
<i>University/college or higher</i>	0.67	0.77	0.63	0.50
<b>Income</b>	r.r. = 43.0%	r.r. = 45.9%	r.r. = 44.3%	r.r. = 35.7%
<i>Low</i>	0.04	0.04	0.03	0.05
<i>Middle</i>	0.56	0.50	0.60	0.65
<i>High</i>	0.40	0.46	0.36	0.30
<b>Children: None</b>	0.77 (r.r. = 57.3%)	0.79 (r.r. = 60.8%)	0.79 (r.r. = 60.4%)	0.68 (r.r. = 46.5%)

Notes: 1) s.e. stands for standard error of continuous variables. 2) r.r. is rate of response to non-mandatory questions in the questionnaire. 3) Low income category includes dating site users who answered: "There is not enough money for anything". Individuals in the Middle Income category chose "I have enough for the main expenses and recreation". High Income group includes those who answered "I can cover all expenses and have money left over".

**Table A.7** – Descriptive statistics: Liked users who positively responded to profiles by profile type

	”Neutral”	”Neutral”, no Sverdl. obl.	”Pro”	”Anti”	”Benchmark”
<b>Number of Obs.</b>	<b>425</b>	<b>295</b>	<b>273</b>	<b>268</b>	<b>282</b>
<b>Moscow</b>	0.42	0.60	0.29	0.28	0.31
<b>St. Petersburg</b>	0.28	0.40	0.37	0.34	0.36
<b>Sverdl. obl.</b>	0.31	-	0.34	0.38	0.33
<b>Yekaterinburg</b>	0.24	-	0.23	0.29	0.24
<b>Paid subscription (Premium)</b>	0.17	0.18	0.18	0.22	0.22
<b>Number of photos</b>	3.64 (s.e. = 4.30)	4.11 (s.e. = 4.71)	3.58 (s.e. = 6.36)	3.56 (s.e. = 6.10)	3.44 (s.e. = 3.81)
<b>Age</b>	37.10 (s.e. = 5.35)	37.06 (s.e. = 5.28)	37.87 (s.e. = 5.16)	36.74 (s.e. = 5.69)	37.61 (s.e. = 5.25)
<b>Height, cm</b>	177.99 (s.e. = 7.52) (r.r. = 80.7 %)	178.59 (s.e. = 6.72) (r.r. = 85.4 %)	177.77 (s.e. = 7.09) (r.r. = 75.5 %)	177.84 (s.e. = 7.51) (r.r. = 74.6 %)	177.78 (s.e. = 7.01) (r.r. = 79.1 %)
<b>Weight, kg</b>	79.28 (s.e. = 11.81) (r.r. = 71.8 %)	80.23 (s.e. = 10.86) (r.r. = 75.9 %)	79.22 (s.e. = 11.90) (r.r. = 67.8 %)	80.29 (s.e. = 11.78) (r.r. = 65.3 %)	78.57 (s.e. = 11.84) (r.r. = 69.9 %)
<b>Looking for:</b>					
<i>Woman’s age from</i>	26.03 (s.e. = 5.79)	25.65 (s.e. = 5.88)	25.58 (s.e. = 5.58)	25.63 (s.e. = 5.53)	25.59 (s.e. = 5.30)
<i>Woman’s age up to</i>	42.25 (s.e. = 9.94)	42.57 (s.e. = 11.03)	43.55 (s.e. = 11.99)	40.78 (s.e. = 7.62)	43.54 (s.e. = 11.20)
<b>Relationship type:</b>					
<i>Romance</i>	0.57	0.60	0.58	0.56	0.55
<i>Not committed</i>	0.21	0.19	0.25	0.22	0.22
<i>Other</i>	0.28	0.29	0.30	0.30	0.29
<b>Education:</b>	<i>r.r. = 63.3 %</i>	<i>r.r. = 65.4 %</i>	<i>r.r. = 59.7 %</i>	<i>r.r. = 57.5 %</i>	<i>r.r. = 58.9 %</i>
<i>Highschool or some university</i>	0.19	0.14	0.15	0.12	0.14
<i>Vocational</i>	0.19	0.17	0.23	0.24	0.28
<i>University/college or higher</i>	0.62	0.69	0.62	0.64	0.58
<b>Income:</b>	<i>r.r. = 47.1 %</i>	<i>r.r. = 48.8 %</i>	<i>r.r. = 45.4 %</i>	<i>r.r. = 38.1 %</i>	<i>r.r. = 46.1 %</i>
<i>Low</i>	0.04	0.02	0.06	0.06	0.05
<i>Middle</i>	0.56	0.56	0.53	0.54	0.54
<i>High</i>	0.41	0.42	0.41	0.40	0.41
<b>Children: None</b>	0.73 (r.r. = 60.7 %)	0.77 (r.r. = 65.1 %)	0.69 (r.r. = 57.5 %)	0.74 (r.r. = 56.7 %)	0.74 (r.r. = 56.7 %)
<b>Sent Message Blacklisted, Number of users Blacklisted, Number of users, All liked users</b>	0.55 2 2	0.54 2 2	0.56 3 8	0.52 1 1	0.57 0 1

Notes: 1) s.e. stands for standard error of continuous variables. 2) r.r. is rate of response to non-mandatory questions in the questionnaire. 3) Low income category includes dating site users who answered: “There is not enough money for anything”. Individuals in the Middle Income category chose “I have enough for the main expenses and recreation”. High Income group includes those who answered “I can cover all expenses and have money left over”.

**Table A.8** – Probability of positive response, main sample of liked users. All estimates.

	Baseline	Baseline + not committed relationship	+ Men's ages		
			All ages, 34-45 as baseline	18-33 subsample	34-45 subsample
Number of observations	2690	2690	2690	629	2061
"Pro" type	-0.058** (0.027)	-0.077*** (0.029)	-0.049 (0.031)	-0.168*** (0.065)	-0.051 (0.033)
"Anti" type	-0.066** (0.027)	-0.065** (0.029)	-0.077** (0.031)	-0.059 (0.065)	-0.070** (0.033)
Not committed and "Pro" type		0.097* (0.057)	0.105* (0.057)	-0.043 (0.105)	0.162** (0.067)
Not committed and "Anti" type		-0.001 (0.055)	-0.003 (0.055)	-0.018 (0.110)	0.008 (0.064)
Men ages 18-33 and "Pro"			-0.129** (0.052)		
Men ages 18-33 and "Anti"			0.045 (0.053)		
Not committed		0.012 (0.034)	0.010 (0.034)	-0.024 (0.070)	0.018 (0.40)
Men ages 18-33			0.047 (0.033)		
Woman 2	-0.050* (0.027)	-0.050* (0.027)	-0.047* (0.027)	-0.025 (0.060)	-0.055* (0.031)
Woman 3	-0.028 (0.025)	-0.029 (0.025)	-0.027 (0.025)	-0.082 (0.053)	-0.009 (0.029)
St. Petersburg	0.086*** (0.024)	0.085*** (0.024)	0.086*** (0.024)	0.144*** (0.053)	0.068** (0.027)
Sverdlovskaya obl.	0.071** (0.032)	0.069** (0.032)	0.072** (0.032)	0.063 (0.065)	0.070* (0.037)
Woman 2 in Sverdlovskaya obl.	-0.136*** (0.048)	-0.135*** (0.048)	-0.140*** (0.048)	-0.231** (0.101)	-0.109** (0.054)
Paid (premium) account	0.024 (0.024)	0.021 (0.024)	0.020 (0.024)	0.073 (0.051)	0.008 (0.028)
Many photos (>4)	-0.006 (0.023)	-0.008 (0.023)	-0.009 (0.023)	-0.016 (0.052)	-0.009 (0.025)
Constant - "Neutral" baseline	0.393*** (0.026)	0.392*** (0.027)	0.381*** (0.028)	0.453*** (0.057)	0.375*** (0.031)

Notes: 1) Robust standard errors are in parentheses. 2) \*, \*\*, and \*\*\* indicate significance at respectively 10%, 5%, and 1% levels.

**Table A.9** – Probability of positive response by education, main sample of liked users. All estimates.

	University educated as baseline	University educated + ages 34-45 as baseline	University educated subsample		Education less than university subsample		
			All	34-45 as baseline	All	Highschool / some univ. as baseline	Highschool / some univ. + ages 34-45 as baseline
Number of observations	1619	1619	1054	1054	565	565	565
"Pro" type	-0.076* (0.041)	-0.054 (0.043)	-0.063 (0.044)	-0.041 (0.047)	-0.098 (0.068)	-0.172* (0.093)	-0.147 (0.096)
"Anti" type	-0.065 (0.041)	-0.083* (0.043)	-0.078* (0.044)	-0.095** (0.047)	-0.054 (0.075)	-0.194** (0.098)	-0.220** (0.102)
Men ages 18-33 and "Pro"		-0.128* (0.069)		-0.123 (0.087)			-0.144 (0.114)
Men ages 18-33 and "Anti"		0.069 (0.070)		0.071 (0.088)			0.108 (0.119)
Highschool / some univ. and "Pro"	-0.076 (0.089)	-0.075 (0.089)					
Highschool / some univ. and "Anti"	-0.151* (0.091)	-0.147 (0.091)					
Vocational and "Pro"	0.038 (0.072)	0.053 (0.072)				0.127 (0.103)	0.142 (0.104)
Vocational and "Anti"	0.072 (0.074)	0.074 (0.074)				0.233** (0.104)	0.230** (0.105)
Men ages 18-33 Highschool / some university		0.039 (0.044)		0.018 (0.057)			0.059 (0.068)
Vocational	0.138** (0.055)	0.137** (0.055)					
Not committed	-0.030 (0.044)	-0.035 (0.045)				-0.173*** (0.063)	-0.179*** (0.063)
Not committed and "Pro"	-0.018 (0.043)	-0.020 (0.042)	0.027 (0.053)	0.026 (0.053)	-0.088 (0.071)	-0.096 (0.072)	-0.097 (0.073)
Not committed and "Anti"	0.120* (0.070)	0.126* (0.070)	0.057 (0.085)	0.069 (0.085)	0.250** (0.126)	0.252** (0.127)	0.247* (0.128)
Woman 2	0.071 (0.071)	0.065 (0.071)	0.123 (0.090)	0.122 (0.090)	-0.032 (0.120)	-0.024 (0.122)	-0.046 (0.122)
Woman 3	-0.089*** (0.034)	-0.084** (0.034)	-0.102** (0.040)	-0.099** (0.041)	-0.038 (0.064)	-0.044 (0.065)	-0.028 (0.066)
St. Petersburg	-0.053 (0.033)	-0.049 (0.033)	-0.041 (0.041)	-0.037 (0.041)	-0.058 (0.056)	-0.056 (0.056)	-0.054 (0.056)
Sverdlovskaya obl.	0.112*** (0.031)	0.113*** (0.031)	0.126*** (0.037)	0.124*** (0.037)	0.075 (0.057)	0.081 (0.058)	0.094 (0.058)
Woman 2 in Sverdlovskaya obl.	0.045 (0.044)	0.046 (0.044)	0.009 (0.055)	0.006 (0.055)	0.066 (0.077)	0.070 (0.077)	0.084 (0.077)
Paid (premium) account	-0.054 (0.063)	-0.059 (0.063)	-0.042 (0.078)	-0.042 (0.078)	-0.088 (0.113)	-0.074 (0.114)	-0.096 (0.113)
Many photos (>4)	0.013 (0.030)	0.013 (0.030)	-0.015 (0.035)	-0.018 (0.035)	0.071 (0.059)	0.083 (0.059)	0.085 (0.059)
Constant - "Neutral" baseline	-0.002 (0.027)	-0.004 (0.027)	0.017 (0.033)	0.014 (0.033)	-0.046 (0.049)	-0.043 (0.049)	-0.045 (0.049)
	0.393*** (0.036)	0.384*** (0.037)	0.391*** (0.041)	0.389*** (0.042)	0.433*** (0.064)	0.530*** (0.073)	0.509*** (0.075)

Notes: 1) Robust standard errors are in parentheses. 2) \*, \*\*, and \*\*\* indicate significance at respectively 10%, 5%, and 1% levels.

**Table A.10** – Probability of positive response by income, main sample of liked users. All estimates.

	Middle income as baseline	Middle income and ages 34-45 as baseline	High income subsample		Low and middle income subsample		
			All	Ages 34-45 as baseline	All	Middle income as baseline	Middle income and ages 34-45 as baseline
Number of observations	1110	1110	443	443	667	667	667
"Pro" type	-0.099* (0.056)	-0.073 (0.058)	0.063 (0.071)	0.093 (0.077)	-0.146** (0.061)	-0.161*** (0.062)	-0.144** (0.067)
"Anti" type	-0.145** (0.056)	-0.172*** (0.058)	-0.048 (0.070)	-0.065 (0.075)	-0.178*** (0.060)	-0.197*** (0.061)	-0.247*** (0.067)
Men ages 18-33 and "Pro"		-0.141 (0.086)		-0.130 (0.137)			-0.111 (0.114)
Men ages 18-33 and "Anti"		0.088 (0.084)		0.037 (0.132)			0.173 (0.109)
Income Low and "Pro"	0.170 (0.223)	0.150 (0.222)				0.174 (0.229)	0.158 (0.227)
Income Low and "Anti"	0.143 (0.212)	0.170 (0.212)				0.161 (0.209)	0.210 (0.210)
Income High and "Pro"	0.083 (0.075)	0.093 (0.075)					
Income High and "Anti"	0.053 (0.073)	0.050 (0.073)					
Men ages 18-33		0.057 (0.052)		0.089 (0.083)			0.013 (0.069)
Income Low	0.040 (0.144)	0.050 (0.144)				0.043 (0.148)	0.047 (0.148)
Income High	-0.015 (0.046)	-0.018 (0.046)					
Not committed	-0.011 (0.052)	-0.014 (0.052)	-0.061 (0.084)	-0.069 (0.083)	0.002 (0.067)	0.001 (0.067)	0.001 (0.067)
Not committed and "Pro"	0.136 (0.087)	0.140 (0.086)	0.134 (0.143)	0.145 (0.142)	0.158 (0.112)	0.157 (0.112)	0.156 (0.112)
Not committed and "Anti"	0.091 (0.083)	0.087 (0.083)	0.195 (0.137)	0.191 (0.138)	0.028 (0.103)	0.041 (0.104)	0.039 (0.104)
Woman 2	-0.063 (0.042)	-0.059 (0.042)	-0.118* (0.063)	-0.113* (0.063)	-0.015 (0.056)	-0.011 (0.056)	-0.004 (0.056)
Woman 3	-0.050 (0.040)	-0.047 (0.040)	-0.028 (0.065)	-0.018 (0.066)	-0.067 (0.050)	-0.072 (0.050)	-0.078 (0.050)
St. Petersburg	0.107*** (0.038)	0.111*** (0.038)	0.019 (0.059)	0.018 (0.059)	0.161*** (0.048)	0.170*** (0.048)	0.179*** (0.049)
Sverdlovskaya obl.	0.017 (0.053)	0.020 (0.052)	-0.166* (0.090)	-0.174* (0.091)	0.122* (0.064)	0.131** (0.064)	0.144** (0.064)
Woman 2 in Sverdlovskaya obl.	-0.064 (0.077)	-0.072 (0.077)	0.243* (0.130)	0.232* (0.134)	-0.241** (0.096)	-0.252*** (0.096)	-0.270*** (0.097)
Paid (premium) account	0.005 (0.036)	0.006 (0.036)	-0.064 (0.053)	-0.055 (0.054)	0.052 (0.049)	0.053 (0.049)	0.045 (0.049)
Many photos (>4)	-0.024 (0.034)	-0.027 (0.034)	-0.077 (0.053)	-0.080 (0.053)	0.014 (0.044)	0.013 (0.044)	0.008 (0.044)
Constant - "Neutral" baseline	0.441*** (0.048)	0.428*** (0.049)	0.480*** (0.062)	0.456*** (0.065)	0.413*** (0.057)	0.409*** (0.057)	0.406*** (0.060)

Notes: 1) Robust standard errors are in parentheses. 2) \*, \*\*, and \*\*\* indicate significance at respectively 10%, 5%, and 1% levels. 3) Low income category includes dating site users who answered: "There is not enough money for anything". Individuals in the Middle Income category chose "I have enough for the main expenses and recreation". High Income group includes those who answered "I can cover all expenses and have money left over".

**Table A.11** – Probability of positive response, sample of users who viewed the profiles. Probability of viewership in the sample of users liked by the profiles. All estimates.

	Users who viewed the profiles			Prob. of viewership, liked users, 34-40 as baseline
	Baseline	Ages 18-33 subsample	Ages 34-45 subsample	
Number of observations	3068	811	2257	2690
"Pro" type	-0.086*** (0.026)	-0.126** (0.054)	-0.075** (0.030)	0.080** (0.035)
"Anti" type	-0.090*** (0.028)	-0.088 (0.058)	-0.093*** (0.032)	0.031 (0.036)
Men ages 18-33 and "Pro"				-0.085 (0.054)
Men ages 18-33 and "Anti"				0.049 (0.052)
Men ages 41-45 and "Pro"				-0.062 (0.048)
Men ages 41-45 and "Anti"				-0.036 (0.050)
Men ages 18-33				0.040 (0.034)
Men ages 41-45				0.019 (0.031)
Was liked by profile	0.118*** (0.019)	0.116*** (0.037)	0.119*** (0.022)	
Not committed	0.059* (0.034)	0.047 (0.062)	0.055 (0.040)	0.027 (0.033)
Not committed and "Pro"	0.066 (0.051)	-0.063 (0.096)	0.126** (0.059)	0.012 (0.051)
Not committed and "Anti"	-0.008 (0.056)	-0.102 (0.103)	0.035 (0.067)	-0.028 (0.052)
Woman 2	-0.065*** (0.025)	0.009 (0.050)	-0.089*** (0.029)	0.013 (0.025)
Woman 3	-0.019 (0.024)	-0.039 (0.048)	-0.009 (0.028)	0.012 (0.023)
St. Petersburg	0.080*** (0.024)	0.105** (0.048)	0.072** (0.028)	0.038* (0.022)
Sverdlovskaya obl.	0.113*** (0.032)	0.049 (0.061)	0.136*** (0.038)	0.002 (0.031)
Woman 2 in Sverdlovskaya obl.	-0.199*** (0.047)	-0.290*** (0.093)	-0.170*** (0.055)	-0.005 (0.046)
Paid (premium) account	-0.067*** (0.023)	-0.009 (0.046)	-0.080*** (0.026)	0.148*** (0.020)
Many photos (>4)	0.015 (0.021)	-0.005 (0.045)	0.019 (0.024)	0.006 (0.022)
Constant - "Neutral" baseline	0.436*** (0.025)	0.474*** (0.047)	0.425*** (0.030)	0.619*** (0.029)

Notes: 1) Robust standard errors are in parentheses. 2) \*, \*\*, and \*\*\* indicate significance at respectively 10%, 5%, and 1% levels.