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Sexual-Orientation Discrimination and Biological Attributions: Experimental Evidence from Russia*

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Abstract

Understanding what drives discriminatory behavior is important in order to identify the best strategy to combat it. In this study, I exogenously manipulate participants' beliefs about the origins of sexual orientation by providing evidence that supports biological causes of homosexuality. I employ money allocation tasks to measure discrimination. This allows me to causally identify the impact of information on discriminatory behavior. I first document the prevalence of discrimination against individuals with same-sex partners in Russia. On average, roughly 54% of participants exhibit discriminatory behavior against profiles with same-sex partners by allocating 16 percentage points less money to them. Further, the results suggest that exposure to evidence on the biological causes of homosexuality negatively affects discriminatory behavior. Participants in the treatment group allocate less money to profiles with same-sex partners, relative to participants in the baseline group. Potential rationales for this behavior could include the following: (i) the provision of information that contradicts existing beliefs might cause cognitive dissonance, triggering irritation and intensifying discriminatory tendencies; (ii) the information might foster beliefs that individuals in same-sex partnerships are fundamentally 'other' - even at a biological level - thereby widening the perceived social gap between participants and these sexual minority groups and fostering discrimination further.

JEL Classification: C99, D83, D91, J15, J71

Keywords: discrimination, information, sexual minorities, online experiment

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1 Introduction

Discrimination has detrimental effects on individuals' economic well-being and lifetime outcomes. While numerous studies document that discrimination against minority groups remains prevalent (e.g. Badgett, 2006; Drydakis, 2014; Bertrand & Duflo, 2017; Neumark, 2018), more research is needed to study discriminatory behavior against sexual minority groups. The evidence so far suggests that differential treatment towards sexual minorities manifests itself in various settings such as labor and housing markets (Gouveia et al., 2020; Badgett et al., 2021).

In this paper, I use an online experiment to study taste-based discrimination against individuals with same-sex partners. In particular, I focus on one potential mechanism that may influence sexual-orientation discrimination: beliefs about the origins of homosexuality. I exogenously manipulate people's beliefs about the biological causes of homosexuality by integrating research evidence supporting biological explanations for homosexuality (further, *Information*), and then I measure discriminatory behavior towards individuals with same-sex partners using money allocation tasks. I pursue two research questions: (1) Does taste discrimination based on sexual orientation exist? (2) Can taste-based discrimination against individuals with same-sex partners be attenuated by information provision about biological causes of homosexuality?

Information may induce behavioral changes through people's belief system. Recent experimental research uses information provision to study various economic issues concerning people's beliefs, attitudes and preferences[1]. Specifically, information treatments have been intensively used to investigate how correcting people's beliefs regarding certain minority-related facts changes discrimination towards them (e.g. Haaland & Roth, 2021; Korlyakova, 2021; Aksoy et al., 2023b). The impact of information about biological causes of homosexuality is ambiguous and calls for further empirical investigation. Gneezy et al. (2012) suggest that if the object of discrimination (a group characteristic) is uncontrollable, people are more tolerant towards minority groups. This idea is likewise proposed by the attribution theory, which has been useful for understanding stigma and discriminatory behavior (Corrigan, 2000). According to this theory, introduced by Weiner (1984), the degree of discriminatory attitude is affected by the perceived causes of minority group attributes. This theory takes perceived causes of an event as inputs and produces future expectancies as outputs. When the causes of a certain behavior are attributed to uncontrollable factors (e.g. genetics, inborn characteristics), the behavior is considered more favorable than the one with controllable factors, i.e. viewing a person as in control of a situation. The latter may cause blame and avoidance (Corrigan et al., 2000). Projecting this concept into the sexual-orientation discrimination domain, I hypothesize that when sexual orientation is

[1] Haaland et al. (2023) provide an overview of the important applications of information provision in the experimental literature.

considered an innate trait, and thus uncontrollable, homosexuality is perceived less negatively[2]. While Gneezy et al. (2012) provide correlational support for the connection between biologically predetermined traits and discriminatory behavior, in this paper I provide a causal analysis of this hypothesis. In contrast to the hypothesis, the information about biological causes of sexual orientation might also induce beliefs in subjects that individuals with same-sex partners are dissimilar from them. Moreover, the information may act as a prime that triggers negative perceptions about homosexuality, and cause cognitive discomfort and irritation in an intolerant environment, thus provoking discrimination. Therefore, the overall effect of beliefs about the origins of sexual orientation on discriminatory behavior is unclear.

To estimate the impact of information about biological causes of sexual orientation on people's preferences and attitudes, I conducted an online information provision experiment in Russia. My sample is representative of the Russian population by age and gender, N=2110. To measure discrimination, I use allocation tasks. Participants are asked to split 500 Russian rubles (RUB) between 2 profiles: one profile has a same-sex partner (further, *same-sex profile*), the other one has a different-sex partner (further, *different-sex profile*). Based on subjects' allocation decisions, I infer the prevalence and magnitude of sexual-orientation discrimination. I also elicit subjects' beliefs about the extent to which they think sexual orientation is predetermined by biological factors. Finally, I ask subjects about their support for LGB-related policies[3].

I have two experimental groups - the Information group and the Baseline group. Before the allocation tasks, the Information group was provided with evidence suggesting that homosexuality has biological causes. The Baseline group did not receive any information. The design enables me to explore two main research questions of this paper: (i) whether sexual-orientation discrimination remains prevalent; and (ii) whether discriminatory attitudes can be attenuated by information provision supporting biological origins of homosexuality.

With regard to the results, I document strong evidence of discrimination. Around 54% of participants discriminate against profiles with same-sex partners. On average, they send 82 RUB, or 16 percentage points, less to same-sex profiles compared to different-sex profiles. Interestingly, male same-sex profiles are discriminated against more than female same-sex profiles: on average, male same-sex profiles are allocated 201 RUB whereas female same-sex profiles are allocated 217 RUB. Several sociodemographic characteristics are predictive of discrimination. Male, older, religious and conservative individuals are more likely to discriminate: they send less money to same-sex profiles than to different-sex ones.

The Information treatment affects subjects' allocation decisions in the following way: on average,

[2]More precisely, the pre-registered hypothesis suggests that participants in the treatment group will be less discriminatory (i.e. will send more money to same-sex profiles), compared to the baseline group. The pre-registration is available at AEA RCT Registry, trial 8856.

[3]LGB stands for Lesbian, Gay, and Bisexual.

treated respondents send 9 RUB, or 1.8 percentage points, less to same-sex profiles relative to the Baseline group. This contradicts the pre-registered hypothesis of this paper. Subgroup analysis (not pre-registered) shows that male and female same-sex profiles receive 196 and 213 RUB from treated respondents relative to 206 and 221 RUB from the Baseline group, respectively. Heterogeneity analysis reveals that the results are mostly driven by religious participants and by participants who, prior to the treatment, believed that sexual orientation is largely determined by other factors than biological. As for the pro-LGB policy support, I find no effects of information treatment on it.

One possible explanation for these results might be that the Information treatment induces beliefs in subjects that sexual minority groups are dissimilar from them. This, in turn, might create less sympathy for individuals with same-sex partners, and increase social distance between those exposed to the information and sexual minorities, thus fostering discrimination. An alternative interpretation could be that the Information treatment inadvertently primes participants with adverse notions about sexual minorities, thereby awakening negative sentiments towards these groups. Essentially, this could represent an instance of information backfire. The setting of my experiment is Russia, a country characterized by a high degree of intolerance towards sexual minorities (see Section 2). Therefore, exposure to information about homosexuality might paradoxically stimulate discrimination within such a low-tolerance environment. In fact, heterogeneity analysis is supportive of the "priming" explanation: it is possible that the information text triggered irritation, anger and cognitive dissonance leading to skewed information processing, persistence of original beliefs, and an intensification of discriminatory behavior.

In economics, some scholars have shifted their attention towards the issue of sexual-orientation discrimination, often using available survey data or employing correspondence tests as a key research method (e.g. Badgett & Lee, 1995; Berg & Lien, 2002; Black et al., 2003; Blandford, 2003; Weichselbaumer, 2003; Carpenter, 2008; Drydakis, 2009, 2011; Tilcsik, 2011; Drydakis, 2014). Some researchers focus on the drivers of sexual-orientation discrimination. Table 1 summarizes the key attributes of closely related literature and illustrates the comparative analysis with this study. Using the fact that the World Health Organization does not regard homosexuality as mental illness (myth debunking), Aksoy et al. (2023b) examine its influence, along with the impact of information about the economic costs of sexual-orientation discrimination, on anti-gay attitudes in Serbia, Ukraine and Turkey. They find that while information about the economic costs of discrimination improves people's support for equal employment opportunities for sexual minorities, the myth debunking does not have any effect on policy support. The closest research to mine is Suhay & Garretson (2018), who study whether exposure to scientific information on the origins of sexual orientation influences attitudes towards gay men and lesbian women and support for gay rights in the US. They find that subjects change their beliefs regarding the causes of

Table 1: Comparison with Closely Related Papers

Paper	Information provided	Outcomes	Country	Sample type	N
Boysen & Vogel (2007)	information about biological origins of homosexuality	self-reported attitudes towards homosexuality	US	students	210
Suhay & Garretson (2018)	information about biological origins of homosexuality	self-reported support for gay rights	US	representative	644
Aksoy et al. (2023b)	1. information about economic costs of sexual-orientation discrimination on society, 2. myth debunking about the fact that WHO does not classify homosexuality as mental illness	self-reported support for equal opportunity in employment	Serbia, Ukraine, Turkey	representative on age and gender	2,200 per country
This study	information about biological origins of homosexuality	allocation tasks and self-reported policy support	Russia	representative on age groups and gender	2,110

homosexuality, but there is no treatment effect on subjects' attitudes. However, while my study also investigates the effect of information about the origins of sexual orientation on discrimination, I use behavioral measures (allocation tasks) rather than self-reported outcomes. Importantly, I study sexual-orientation discrimination in a less tolerant environment (Russia), where the nuances of combating this discrimination may present unique challenges and require different approaches.

Psychologists have also investigated the interplay of beliefs and attitudes towards same-sex relationships. These studies show that while information about biological causes can change people's attitude in opposing directions (Piskur & Degelman, 1992; Oldham & Kasser, 1999), it may also have no effect (Pratarelli & Donaldson, 1997). Studies on confirmation bias, described by Lord et al. (1979), suggest that people generally assimilate information that is skewed in the direction of their preexisting beliefs. Indeed, Boysen & Vogel (2007) present suggestive evidence that biological explanations appear persuasive to individuals who hold initially positive attitudes towards sexual minorities and less persuasive to those with initially negative attitudes[4]. These studies, however, have small sample sizes and use only self-reported attitudinal measures.

This paper contributes in several ways. First, I add to the broader literature that studies discrimination against sexual minority groups (e.g Weichselbaumer, 2003; Drydakis, 2009, 2011;

[4]The procedure in Boysen & Vogel (2007) includes only one experimental group consisting of N = 210 US undergraduates, who volunteered in exchange for credit in psychology courses.

Tilcsik, 2011; Drydakis, 2014; Carpenter, 2008). Second, by addressing taste-based discrimination, this paper is in line with another strand of literature that discusses prejudice towards same-sex relationships or attempts to measure taste-based discrimination, apart from statistical discrimination (e.g. Neumark, 1999; Rich, 2014; Neumark, 2018). This paper tackles people's belief system with the aim to address their prejudice towards individuals with same-sex partners. The closest related literature to this paper includes papers that use information provision to study sexual-orientation discrimination (see Table 1). I contribute here by exploring the effect of research evidence provision among a representative sample in a strongly intolerant environment. Third, there is evidence in the experimental literature that information treatments successfully correct people's beliefs; however, they do not influence people's attitudes against racial minority groups (e.g. Hopkins et al., 2019; Haaland & Roth, 2021). In the LGB-related context, some studies find information-provision effects on beliefs but document muted effects on attitudinal measures regarding policy support (Suhay & Garretson, 2018; Aksoy et al., 2023b). The design in my study allows me to add to this literature by measuring discrimination using allocation tasks, along with estimating effects on self-reported policy views. Using these two types of measures distinguishes this paper from similar studies. Next, this paper relates to the broader experimental literature that studies how information treatments affect people's beliefs and behavior, especially towards minority groups (e.g. Gneezy et al., 2012; Haaland et al., 2023; Haaland & Roth, 2021). Finally, I study sexual-orientation discrimination in an environment with strong and widespread anti-gay attitudes, which may help to explore the nuances of discrimination in less tolerant environments. The results of this study can be important for the implementation of information dissemination policies. As I show, information regarding biological causes of sexual orientation negatively affects people's attitudes towards individuals with same-sex partners in societies with strong anti-LGB sentiments. Thus, this study suggests that a short information intervention similar to this one is not effective at combating sexual-orientation discrimination in conservative societies.

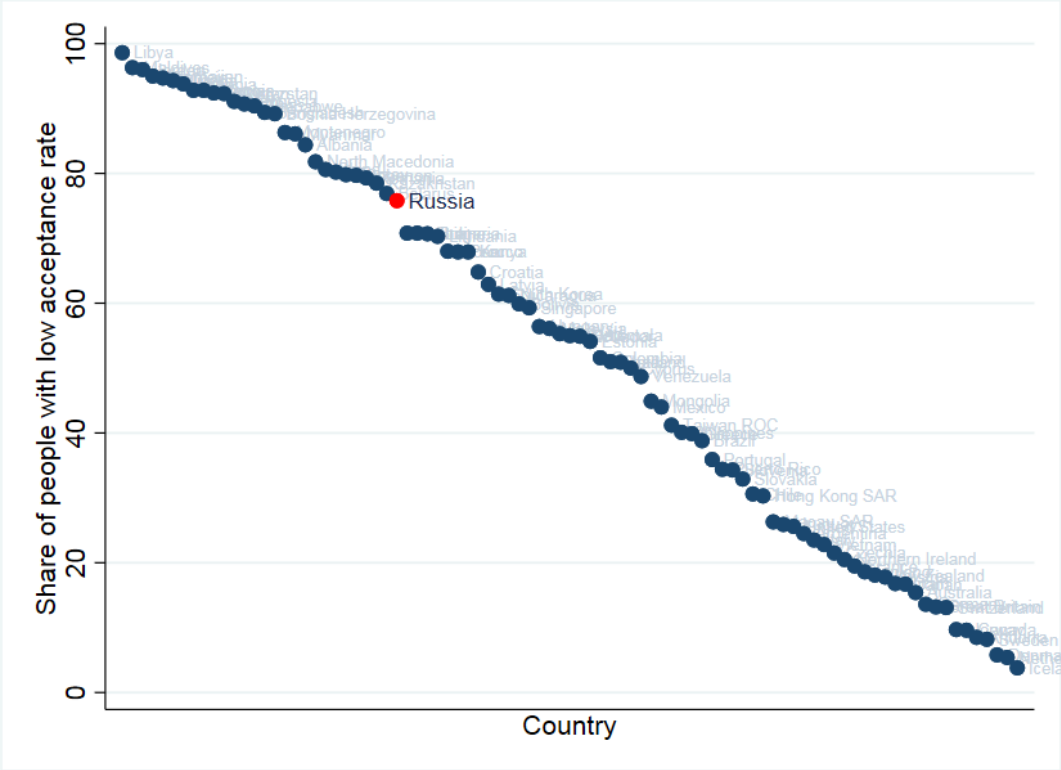
The rest of this paper is organized as follows. Section 2 provides a brief background for the experimental setting, Section 3 describes the experimental design and the main measures I use to capture discrimination, Section 4 presents the main results, and Section 5 discusses possible explanations for the results and concludes.

2 Background: Russia

According to World Value Survey Wave 7, 58% of Russians think that homosexuality is never justifiable (Haerpfer et al., 2020). Russia does not have anti-discrimination laws in the country that would protect the rights of LGB individuals in the labor market. Moreover, in 2013 the

Russian State Duma adopted a law to ”protect children from information that promotes denial of traditional family values”, referred to in English-language media as "the gay propaganda law" (Luhn, 2015). The absence of protective laws and the existence of restricting laws, combined with already prevalent anti-gay sentiments, may further exacerbate discriminatory behavior towards sexual minorities in Russia (Barron & Hebl, 2013; Pachankis & Bränström, 2018). Strong anti-gay sentiments are also supported by the Russian Orthodox Church (Herszenhorn, 2013), which is followed by 66% of Russians (Russian Public Opinion Research Center (VCIOM), 2021). I study sexual-orientation discrimination in a country with strong and widespread anti-gay attitudes because it might help to explore the nuances of discrimination in less tolerant environments. Figure 1 compares Russia with other countries in terms of its homosexuality acceptance rate. These are the 64 countries/territories that participated in the most recent wave of the World Value Survey (Haerpfer et al., 2020). The graph indicates a substantial level of intolerance towards homosexuality in Russia, with 70% of the population demonstrating a lack of acceptance. Given this prevalent issue in Russia, it is pertinent to delve deeper into this subject within this specific country.

Figure 1: Percentage of Respondents with "Low" Acceptance of Homosexuality by Country: World Values Survey Wave 7 (2017-2022)



Note: The figure depicts the proportion of individuals from each country who reported a "low" acceptance of homosexuality during the seventh wave (2017-2022) of the World Values Survey. The survey allowed responses of "low", "medium", or "high".

3 Experimental Design

3.1 Sample

I implemented a pre-registered survey (AEA RCT Registry trial 8856) of $N = 2,110$ Russians through TGM Research, a market research internet panel. The survey was conducted in February 2022. Table B.1. in the Appendix presents the demographic composition of the sample. It is nationally representative in terms of age and gender[5]. As the topic is sensitive, I restricted the sample age from 18 to 64. Details about the sample size and composition were pre-specified. In addition to the two pre-specified characteristics, Appendix Table B.1. also suggests that the sample approximates the population based on other basic characteristics, e.g. marriage status and religion. From all subjects, 54% are female, 53% are married, 73% are religious and 80% identify themselves as heterosexual[6].

3.2 Measuring Discrimination

To measure differential treatment towards profiles with same-sex partners, I employ a bystander or spectator design, which is used in economics along with other economic games (Lane, 2016; Cappelen et al., 2016; Enke et al., 2021). The bystander design is a type of allocation task structure, wherein a participant is instructed to divide a suggested amount of money between two recipients. The total amount in the tasks was 500 RUB (approximately, 8.4 EUR), and participants were instructed to use a slider to share this amount. In total, subjects completed 5 money allocation tasks between the following recipients: (1) male same-sex profile vs male different-sex profile, (2) female same-sex profile vs female different-sex profile, (3) male different-sex profile vs male different-sex profile, (4) female different-sex profile vs female different-sex profile, and (5) male different-sex profile vs female different-sex profile. In this paper, I mainly analyze the first two allocation decisions. Figure 2 illustrates the first allocation task. The other tasks are constructed in a similar manner.

The main variables of interest are the amounts sent to male and female same-sex profiles. To assess the overall discrimination, I compare amounts sent to same-sex profiles and different-sex profiles. To assess the treatment effects on discrimination, I compare amounts sent to same-sex profiles by treatment and baseline groups. There are three main variables: 1) the amount sent to male same-sex profiles, 2) the amount sent to female same-sex profiles, and 3) the average of these two amounts.

[5]Age and gender quotas were set on Qualtrics and appeared in the beginning of the survey. Whenever a sample quota was full, participants with corresponding sociodemographic characteristic were routed out of the survey.

[6]Only 2% of the sample identifies herself as homosexual and 8% as bisexual. The remaining 10% comprises respondents who selected "Hard to answer" or "Other" as their response.

I use a partner's name to signal sexual orientation[7]. For illustration, one recipient in a bystander task is Ivan, whose partner's name is Alina, and another recipient is Maksim, whose partner's name is Alexsandr, thus signaling certain sexual orientation for each profile. Both names - the recipient's name and the partner's name - are randomly assigned to a profile. The rest of the information in the profile is fixed. To create these profiles, I recruited 10 people. It is noteworthy that I employed real individuals' profiles in this study mainly to incentivize participants to make their allocation decisions[8]. Recruited people provided me with information including their name, partner's name, gender, age, education and job position. Then, I modified the information provided by them and created 20 profiles in total. I change their name and their partner's name and keep the rest of the information fixed. This manipulation allows me (i) to signal sexual orientation of the profile, and (ii) to ensure the anonymity of recipients. While some details within the profiles were kept constant, I crafted matches such that the paired profiles exhibited sufficient similarities without being identical. For instance, in a pair of profiles, one individual was 23 years old and the other was 24. Both of them were educated and employed; thus, sufficiently similar but not identical.

I use a simple task wherein subjects are asked to allocate a given amount of money between two individuals. In experiments studying discrimination, these individuals are generally perceived to be similar but differ in a specific characteristic (e.g. gender, race, sexual orientation, etc). This procedure - manipulating a single feature (the one expected to lead to discrimination) keeping all others fixed - is a standard practice in experimental research aiming to causally measure discrimination. The main reason I chose this allocation task is that it is free from self-related concerns compared to, for example, a dictator game, where participants are asked to allocate a given amount of money between another individual and themselves. Making such a decision might be influenced by selfish motivations. Thus, my approach allows me to capture differential treatment towards same-sex profiles without those concerns.

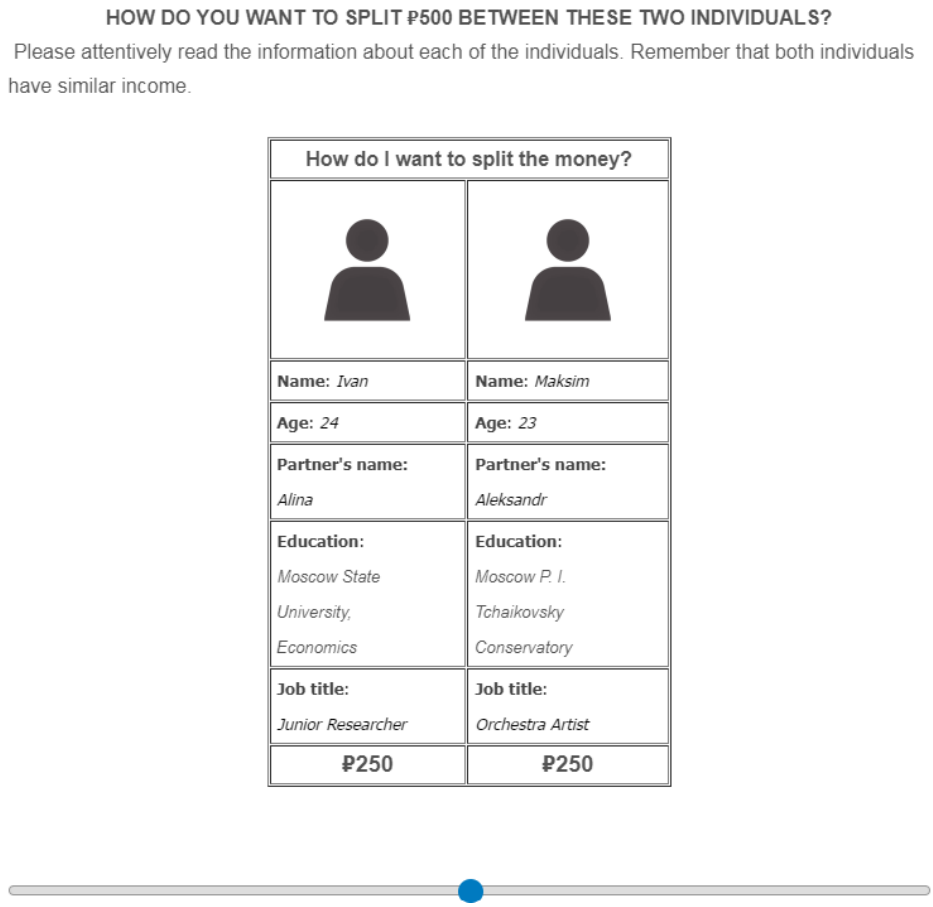
Researchers widely use correspondence testing methodology to study different types of discrimination (e.g. gender, race): they send fictitious resumes to employers and, based on a callback, determine the prevalence of discrimination. For a review of field experiments in Economics that use correspondence testing, see Bertrand & Duflo (2017). For a specific field of sexual orientation discrimination, see Weichselbaumer (2003) and Drydakis (2009, 2011, 2014). In comparison with this approach, I have real profiles in my experiment, in which information

[7]Some studies in the literature use volunteering experience in an LGBT-related NGO, an LGBT flag or spouse's name in fictitious CV-s to signal sexual orientation (Weichselbaumer, 2003; Drydakis, 2009, 2011, 2014; Baert, 2018; Aksoy et al., 2023a). However, the first two approaches might have a common disadvantage - the signal is rather noisy and its influence is not clear. My approach is similar to the third one: I signal sexual orientation by manipulating a recipient's partner's name using the controllability of an online experiment.

[8]Following the completion of the experiment, I randomly selected 20 participants and then one of their allocation decisions for implementation. That is, the real individuals associated with the profiles were compensated based on these selected allocation decisions.

about the recipients is truthfully provided with two exceptions - the recipient's name and his/her partner's name.

Figure 2: Example of an Allocation Task Between Same-sex and Different-sex Profiles



Note: This is a screenshot from the experiment, translated from Russian. Note that original tasks do not have default amounts.

3.3 Treatment

Participants were randomly allocated into Information condition and Baseline condition.
Participants in the Information condition were provided with a half-page summary of the main findings of Blanchard (2001), which is a birth-order study suggesting that male sexual orientation has biological roots. By using this treatment, I aimed to create exogenous variation in subjects' beliefs about the causes of homosexuality. The summary is as follows:

"Researchers have been asking whether different traits are predetermined by some factor or not. For example, many scientists investigate whether genetics, hormones, brain structure or birth

order affect the probability of having a homosexual sexual orientation. Professor Ray Blanchard (University of Toronto) found that the more older brothers a man has, the greater the probability is that he will have a homosexual sexual orientation. This is known as the "older brother effect". According to these studies, the odds of being gay increase from 2 percent for the 1st son to 6 percent for the 5th son. Thus, there is a threefold increase. These findings have later been replicated by other researchers and they suggest that sexual orientation has biological roots."

To increase the credibility of the summary, I inserted its source on the same page with the treatment text[9]. I also used a 7-point Likert scale to elicit participants' opinion on whether the information is reliable and trustworthy. The median score is 6 (mean = 5.2). After reading the text, the treated group proceeded to the next stage to complete allocation tasks. The Baseline group did not receive any information.

Table 2 illustrates that randomization was mostly successful: experimental groups are balanced in terms of observables except for two variables - prior beliefs about the biological causes of sexual orientation and by having an acquaintance/friend with homosexual sexual orientation. It is noteworthy that the question about having an acquaintance with homosexual sexual orientation was asked in the end of the survey, while the prior beliefs were elicited in the beginning of the experiment, before the treatment.

3.4 Beliefs

I elicited participants' beliefs regarding the extent to which they think sexual orientation is a biologically predetermined trait. Participants were instructed to indicate their beliefs about the causes of homosexuality by adjusting a slider, ranging from 0 to 100, to the percentage that best represented their views (Appendix Figure C.1.). The belief elicitation method allows me to have a continuous measure of subjects' beliefs on a scale that is comparable across respondents. As the sensitivity of the topic might induce experimenter demand effects, I obfuscated this question by asking three other similar questions. In particular, I asked their opinion on the extent cognitive abilities, musical abilities and creativity are biologically predetermined traits in a similar manner to the belief elicitation method shown in Appendix Figure C.1. The order of all questions was randomized to avoid order effects.

I elicited the (posterior) beliefs of the participants in the Information group again closer to the end of the experiment. This assessment allows me to determine whether exposure to information

[9] I chose to use birth-order studies instead of other studies showing the innate nature of homosexuality (e.g. related to genes, brain structure etc) because these studies, initiated by Ray Blanchard, have been replicated by other researchers. In contrast, studies that analyze the role of genes, brain structure or twin studies produce different results. My aim was to induce subjects with quality scientific information.

Table 2: Randomization Check

	Baseline	Information	p-val	Obs.
Female	0.512	0.527	(0.515)	2,110
Age	41.777	42.134	(0.507)	2,110
Unemployed	0.191	0.214	(0.183)	2,110
Employed	0.757	0.741	(0.408)	2,110
Student	0.052	0.045	(0.411)	2,110
Low income	0.354	0.353	(0.974)	2,110
Middle income	0.294	0.267	(0.167)	2,110
High income	0.352	0.380	(0.186)	2,110
Low education	0.427	0.395	(0.135)	2,110
High education	0.573	0.605	(0.135)	2,110
Central	0.306	0.300	(0.755)	2,110
Northwestern	0.129	0.129	(0.987)	2,110
Southern	0.100	0.103	(0.784)	2,110
North Caucasian	0.015	0.023	(0.204)	2,110
Volga	0.170	0.171	(0.924)	2,110
Ural	0.110	0.117	(0.594)	2,110
Far Eastern	0.034	0.027	(0.374)	2,110
Siberian	0.136	0.129	(0.641)	2,110
Liberal	0.206	0.222	(0.368)	2,063
Conservative	0.317	0.293	(0.226)	2,063
Apolitical	0.477	0.485	(0.708)	2,063
Religious	0.694	0.694	(0.988)	2,065
Not religious	0.306	0.306	(0.988)	2,065
Heterosexual sexual orientation	0.806	0.786	(0.266)	2,110
Homosexual sexual orientation	0.017	0.022	(0.434)	2,110
Bisexual sexual orientation	0.070	0.084	(0.226)	2,110
Having a friend with homosexual sexual orientation	0.247	0.283	(0.070)*	2,061
Prior beliefs about the bio. causes of sexual orientation	67.745	64.806	(0.029)**	2,110
Observations	1,054	1,056		

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: Means across treatment groups and the p-values of the difference in means. High education is a dummy for having at least a Bachelor's degree. Apolitical is a pooled variable for participants who chose "Apolitical", "Other" or "Hard to answer" in the survey question about their political views. Religious is a dummy indicating any religious belonging; Not religious is a pooled variable for participants who chose "No religion", "Other" or "Hard to answer". The p-value of an F-test for the joint significance is 0.4279.

caused any exogenous changes in participants' perceptions about the origins of sexual orientation. However, for the posterior belief elicitation stage, I employed a slightly varied approach (compared to the initial elicitation of beliefs) to avoid the risk of anchoring (Tversky & Kahneman, 1974). An illustration of the posterior belief elicitation stage can be seen in Appendix Figure C.2.. I asked participants to share their views on how much they believed biological factors influence sexual

orientation, cognitive abilities, creativity, and musical abilities. All these elements were presented on a single page, as opposed to the separated pages I used during the prior belief elicitation. Thus, it is important to acknowledge that this alteration in the elicitation method could add complexity to interpreting how beliefs about the causes of sexual orientation have been updated. Moreover, since these beliefs have not been elicited in the baseline group, any observed changes in these beliefs should be interpreted with a degree of caution. In fact, given these confounds, I do not present changes in beliefs regarding the origins of sexual orientation.

3.5 Other Outcomes

In the beginning of the experiment, participants were directed to the survey on the Qualtrics online platform. They gave their consent and answered demographic questions about gender, age, region, employment and marriage status, having children, education and income level, job field, sexual orientation and whether they know a person with homosexual orientation. After filling in the demographics, participants proceeded with the survey. Figure A.1. in the Appendix provides an overview of the survey[10].

3.5.1 Policy Support

To further explore people's attitudes towards sexual minority groups, I also collected data on respondent's self-reported policy views. In particular, I focused on two policy-related questions. First, I asked respondents about their support for recognizing same-sex marriages, with the same rights as traditional marriages. Second, I asked whether they think child adoption by same-sex couples should be legal. I measured both policy views using a 5-point Likert scale with options from "Disagree" to "Agree".

Since self-reported outcomes may be subject to social desirability bias and experimenter demand effects, to reduce these effects, I obfuscated the exact aim of the experiment by asking respondents about their stance on other policies - domestic violence, tax aversion, abortion. All questions regarding policy views were displayed to subjects in random order.

3.5.2 Personality Traits of Same-sex Profiles

Immediately following the allocation tasks, I asked all participants their opinion on the extent to which they think a given personality trait can be attributed to a given same-sex profile[11]. They we asked to complete this trait attribution task for four profiles - two male same-sex profiles and two

[10]Full instructions for the experiment are provided in the Online Appendix.

[11]This outcome variable has not been preregistered; however, I find the results interesting to share and useful for further discussion.

female same-sex profiles[12]. The traits to be attributed were the following: creative, reliable, hard-working, family-oriented, career-oriented, persistent, open to a new experience, emotionally stable, risk-lover. Sexual minorities may be perceived as possessing some of these traits, either positively or negatively (e.g. Taylor, 1983; Geiger et al., 2006; Blashill & Powlishta, 2009). Attributing lower scores to same-sex profiles on generally positive attributes might reveal another dimension of discrimination. Indeed, that is what I observe in this study (see Section 4.2.3 for treatment effects on trait attributions). I used a 5-point Likert scale to elicit subjects' opinion about the traits and also created an index using Anderson (2008) for further analysis[13]: a higher index translates into higher points regarding the traits.

Economists, psychologists and sociologists actively discuss the predictive power of personality traits on real life outcomes (Roberts et al., 2007; Borghans et al., 2008; Soto, 2019; Almlund et al., 2011; Heckman, 2011; Kajonius & Carlander, 2017). This discourse has led to the formulation of the Big Five personality traits - Conscientiousness, Openness to Experience, Extraversion, Agreeableness, and Emotional Stability. The existing literature suggests that particular personality traits, including Conscientiousness, Agreeableness, and Emotional Stability, significantly influence a variety of economically-pertinent outcomes, such as educational achievements, labor market success, and longevity (Almlund et al., 2011; Heckman, 2011).

I explore certain personality traits that can be perceived as subcategories or components of these comprehensive Big Five traits (Almlund et al., 2011). For instance, traits such as reliability, a hard-working nature, persistence, and career-orientation may be associated with Conscientiousness; Creativity, openness to new experiences, and risk-seeking behavior can be related to Openness to Experience, while Emotional Stability stands as an independent trait in the Big Five. Consequently, traits such as creativity, reliability, persistence, family-orientation, openness, and emotional stability can be viewed as desirable traits. In the context of my study, therefore, if same-sex profiles are given lower scores on these traits, it may imply an animus against sexual minority groups, and thus speak to taste-based discrimination against them.

4 Results

This section presents the results. First, I provide descriptive evidence of the prevalence of sexual-orientation discrimination and discuss its predictors. Second, I show how the Information treatment affects participants' attitudes towards same-sex profiles. I also present the effects on pro-LGB policy views. Finally, I discuss the heterogeneity of treatment effects. All outcomes and heterogeneity

[12]Note that I do not have different-sex profiles in this stage and, therefore, the comparison is between Information and Baseline groups rather than between same-sex and different-sex profiles.

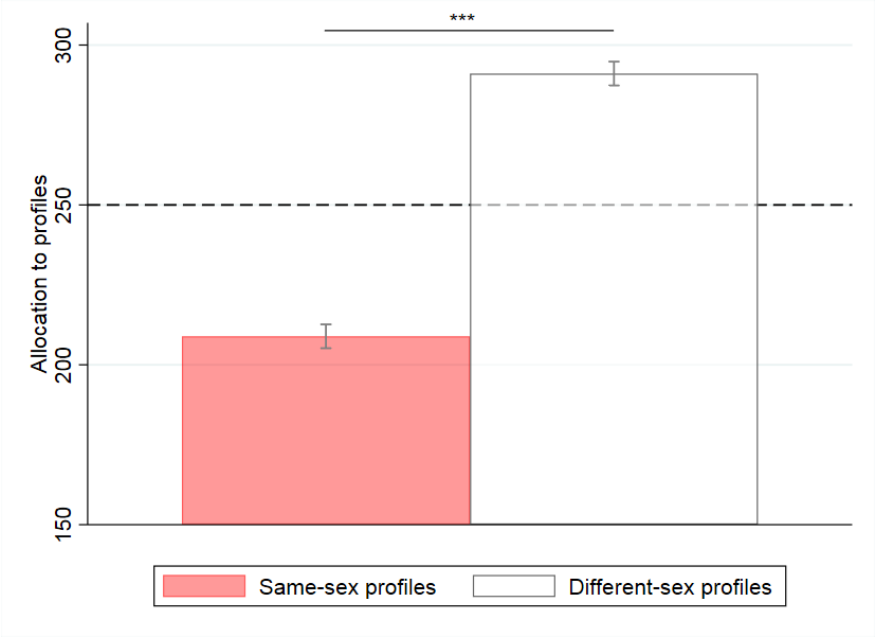
[13]Anderson (2008) uses the inverse covariance matrix to calculate the index.

analysis, except for the predictors of discrimination, have been pre-registered at AEA RCT Registry, trial 8856.

4.1 Descriptive Analysis and Predictors of Discrimination

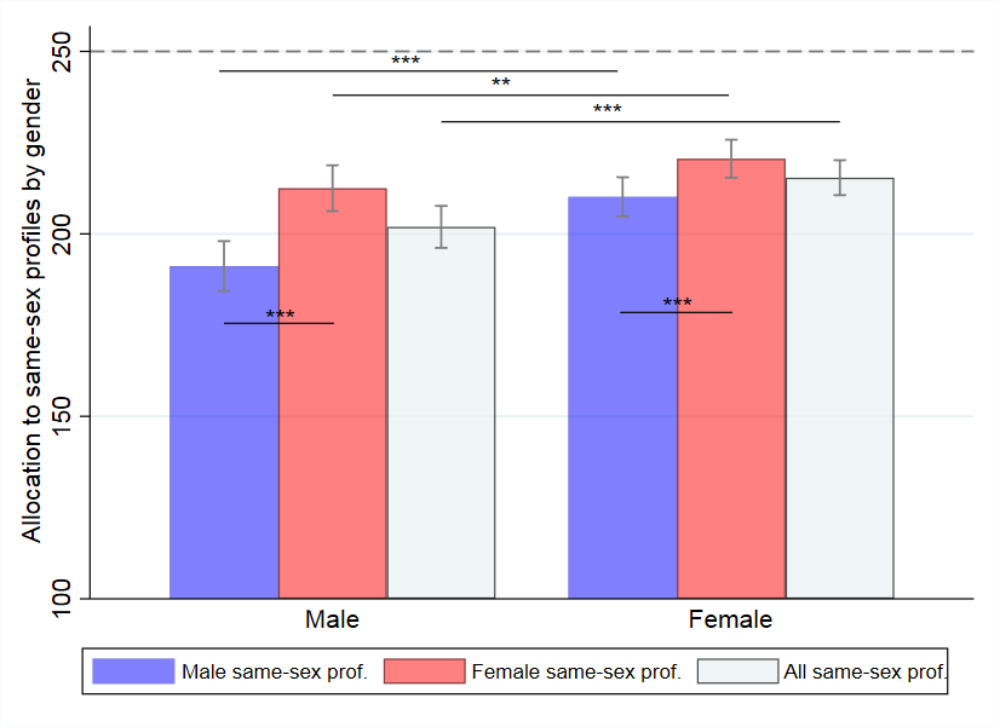
I start by illustrating the prevalence of discrimination towards same-sex profiles. Around 54% of the participants discriminate against male and female same-sex profiles (Appendix Figure A.2.). On average, participants send 82 RUB, or 16 percentage points, less to same-sex profiles compared to different-sex ones ($p<0.001$, see Figure 3). Note that a non-discriminatory allocation choice would be an equal split of the 500 RUB. However, overall and subgroup analyses of allocation choices to same-sex profiles show that, on average, male same-sex profiles receive 201 RUB and female same-sex profiles receive 217 RUB (difference $p<0.001$, Figure 4). I also observe higher discrimination towards male same-sex profiles, compared to female same-sex profiles, by both genders (difference $p<0.001$). Figure 4 demonstrates that male respondents are more discriminatory relative to female respondents. Interestingly, gender differences are more salient in the case of allocation decisions to male same-sex profiles ($p<0.001$), compared to allocation decisions to female same-sex profiles ($p<0.05$). However, gender differences in allocations to female same-sex profiles diminish after including controls.

Figure 3: Mean Allocations to Same-sex Profiles



Note: Stars indicate significant differences between corresponding means.

Figure 4: Mean Allocations to Male and Female Same-sex Profiles by Gender



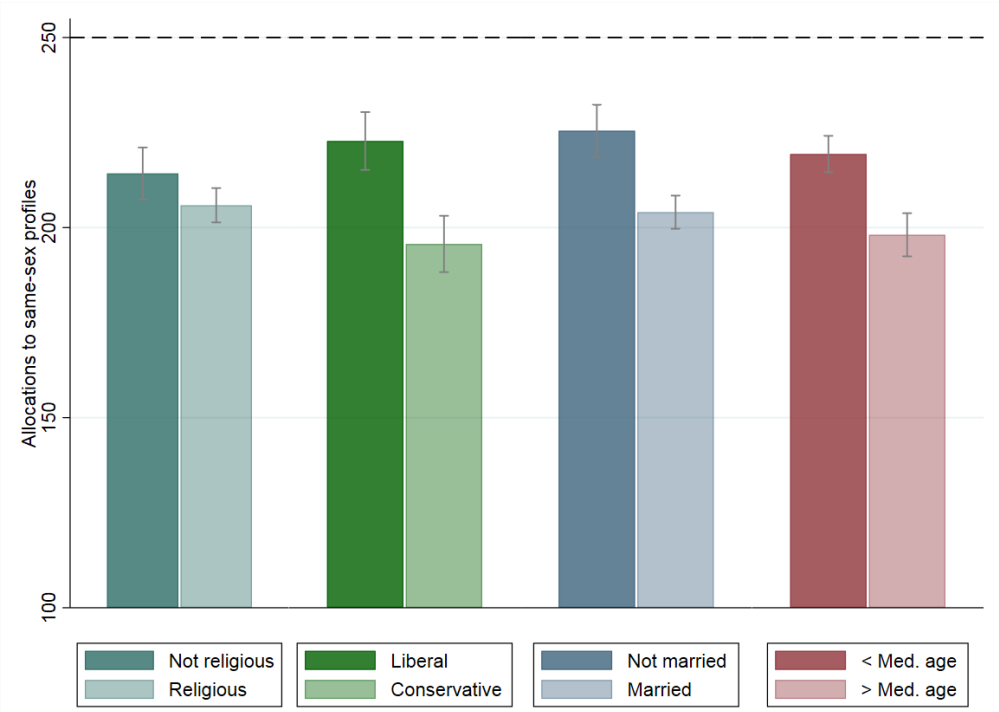
Note: Stars indicate significant differences between corresponding means.

Allocation decisions vary systematically by participants' background characteristics. The variation is mostly intuitive. Figure 5 shows that religious, conservative, married and older respondents send less money to same-sex profiles compared to their counterparts. The differences within these groups are statistically significant; however, after controlling for basic characteristics only the differences within the allocations of liberal/conservative and above/below-median-age participants maintain their significance level ($p<0.001$); the group differences within married/not married and religious/non-religious participants diminish. The data does not reveal systematic differences based on other group characteristics.

Next, I explore heterogeneity in money allocations based on prior beliefs about the origins of sexual orientation. Figure A.3. in the Appendix shows the distribution of these beliefs. Around 64% of participants believes that sexual orientation is, to a greater extent, influenced by biological factors, i.e. biological factors explain the causes of sexual orientation by more than 50%. Not surprisingly, I observe that there is a positive correlation between these beliefs and allocation amounts to same-sex profiles (Appendix Table B.2.). This correlation is consistent with the predictions of attribution theory regarding the biological attributions of homosexuality and discrimination against sexual minorities (Lewis, 2009; Gneezy et al., 2012). However, there is no significant association between the prior beliefs and other two outcome variables - support for recognizing same-sex marriages and

child adoption by same-sex couples. Summarizing the results from this section, I arrive at Result 1 below.

Figure 5: Mean Allocations to Same-sex Profiles by Different Subgroups



Note: Median age is 41. "> Med. age" represents participants above median age; "< Med. age" represents participants below or equal to median age. Whiskers show 95% confidence intervals.

Result 1: *The data presents strong evidence of sexual-orientation discrimination. Around 54% of respondents exhibit discriminatory behavior towards same-sex profiles, which manifests in these profiles receiving 16 percentage points less money than different-sex profiles.*

4.2 Treatment Effects on Allocation Decisions, Policy Support, Beliefs and Trait Attributions

4.2.1 Treatment Effects on Money Allocation Decisions and Policy Support

This section presents the causal effects of the Information treatment on discrimination towards profiles with same-sex partners. Column 1 of Panel A in Table 3 illustrates that the Information negatively affects people's allocation decisions to same-sex profiles: participants send 9.1 RUB, or 1.8 percentage points, less to same-sex profiles relative to the Baseline group. In other words, providing information about the biological origins of homosexuality increases discrimination against same-sex profiles. This finding is unexpected, given the correlational pattern observed in

the previous section and the initial hypothesis of the study. Moreover, this effect becomes even larger after controlling for basic demographics and prior beliefs.

Subgroup analysis for male and female same-sex profiles shows that the negative effect is slightly more pronounced in the case of allocations to male same-sex profiles. Relative to non-treated participants, treated participants send 10.2 RUB, or 2.04 percentage points, less to male same-sex profiles and 8 RUB, or 1.62 percentage points, less to female same-sex profiles ($p<0.05$, see Table 3). However, the difference between coefficients in Column 2 and 3 is not significant ($p=0.50$).

I further explore the heterogeneity of treatment effects. I find that treatment effects are mostly driven by two groups of participants. The first group includes participants who, prior to the experiment, believe that sexual orientation is determined by other factors than biological ones, i.e. these are participants whose prior beliefs about the biological origins of sexual orientation is less than 50% (further, *lower prior beliefs*). On average, the treated participants with lower prior beliefs allocate 23 RUB less to same-sex profiles compared to untreated participants with lower prior beliefs (see Appendix Table B.3.). The second group includes religious participants: on average, religious treated participants send 14 RUB less to same-sex profiles compared to religious untreated participants (see Appendix Table B.4.). In fact, the subgroup analysis also shows that there are no effects of Information treatment on non-religious people. Interestingly, there is no association between religious participants and participants with lower prior beliefs ($r(2,065) = 0.0087, p = 0.6917$). As for support for pro-LGB policies, I find that treatment effects are close to zero and insignificant, see Table 3. I do not observe any heterogeneity in treatment effects on policy views based on beliefs and religiosity either. Summarizing the results from this section, I document Result 2 below.

Result 2: *Information treatment negatively affects respondents' allocation decisions: treated subjects send significantly less money to same-sex profiles relative to untreated subjects. The treatment had non-significant effect on pro-LGB policy support.*

4.2.2 Treatment Effects on Personality Traits of Same-sex Profiles

Here I discuss the Information effects on personality trait attributions to same-sex profiles by respondents. Table 4 shows that participants in the Information group give lower points to same-sex profiles on the given nine personality traits, compared to participants in the Baseline group. For six of these traits, the attribution differences between experimental groups are statistically significant. The most affected traits are family-orientation and persistence.

I further consolidated these traits into a composite measure, the Positive Trait Index, following the method described by Anderson (2008). The final column of Panel B in Table 4 reveals a negative treatment effect on the Positive Trait Index. This finding is suggestive of the explanation that the

Table 3: Treatment Effects on Main Outcomes

	Allocations to profiles			Support for policies	
	All same-sex (1)	Male same-sex (2)	Female same-sex (3)	Same-sex marriage (4)	Child adoption (5)
Panel A: Without controls					
Information	-9.153**	-10.21**	-8.098**	0.0345	0.000696
	(3.798)	(4.407)	(4.129)	(0.0587)	(0.0576)
N	2110	2107	2109	2068	2069
Panel B: With controls					
Information	-10.73***	-12.06***	-9.392**	0.00395	-0.0191
	(3.738)	(4.342)	(4.074)	(0.0520)	(0.0507)
N	2061	2061	2061	2061	2061
Control Mean	213.49	206.14	220.76		

Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: This table presents treatment effects on the main outcomes. Panel A presents univariate regression coefficients. The dependent variable in columns 1-3 is the amount respondents chose to allocate to same-sex profiles. Same-sex marriage reflects respondents' support for recognizing same-sex marriages. Child adoption reflects respondents' support for same-sex couples to adopt a child. Panel B includes controls in the regressions (gender, age, education and income level, marriage status, children dummy, prior beliefs, religiosity index, sexual orientation and having a homosexual contact).

provision of Information may serve as a prime, triggering cognitive discomfort, irritation, or other emotional responses. This outcome highlights another potential avenue through which discriminatory behavior can be observed - via allocations based on traits.

Further heterogeneity analysis suggests that the treatment effects on personality trait attributions are predominantly driven by religious participants and those with lower prior beliefs. This outcome is demonstrated in Table B.5. and Table B.6. in the Appendix, where significant treatment effects can be observed across all traits among participants with lower prior beliefs, and across most traits among participants who are religious. Thus, I arrive at Result 3 below.

Result 3: *On average, the Information treatment appears to have a negative impact on participants' views of specific personality traits associated with same-sex profiles. Post-treatment, participants perceive profiles featuring same-sex individuals as less family-oriented, less reliable, less persistent, less hardworking, and less emotionally stable. The heterogeneity analysis implies that this effect is primarily propelled by religious participants and those with lower pre-existing beliefs about the biological determinants of sexual orientation.*

Table 4: Treatment Effects on Trait Attributions

	Personality traits				
Panel A					
	Reliable	Hard-working	Family-oriented	Career-oriented	Persistent
	(1)	(2)	(3)	(4)	(5)
Information	-0.103**	-0.103**	-0.135***	-0.0798**	-0.114***
	(0.0464)	(0.0432)	(0.0514)	(0.0396)	(0.0422)
Panel B					
	Em. Stable	Open to new exp.	Risk-lover	Creative	**Positive Trait Index**
	(6)	(7)	(8)	(9)	(10)
Information	-0.0914*	-0.0512	-0.0487	-0.0616	-0.0755**
	(0.0472)	(0.0407)	(0.0427)	(0.0413)	(0.0339)
N	2061	2061	2061	2061	2061

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: Columns 1-9 show the Information treatment effects on given personality traits of same-sex profiles. Column 10 in Panel B shows the treatment effect on the Positive Trait index. All regressions include the following controls: gender, age, education and income level, marriage status, children dummy, prior beliefs, religiosity index, sexual orientation and having a homosexual contact.

5 Discussion

I document the existence of sexual-orientation discrimination in Russia and explore one potential way of reducing it. I focus on people's perceptions about the roots of sexual orientation, evaluating whether providing scientific evidence supporting the biological origins of homosexuality can affect changes in discriminatory actions. Contrary to my pre-registered hypothesis, the findings suggest that exposure to the Information treatment amplifies discrimination even more. One plausible explanation might be that information regarding the biological causes of homosexuality primes respondents with negative perceptions about sexual minority groups and, given the intolerant setting of Russian society, awakens ingrained negative sentiments towards these groups[14]. The extensive literature on belief perseverance and motivated reasoning suggests that people maintain or even strengthen their beliefs in response to opposing or disconfirming evidence (e.g. Kunda, 1990; Pomerantz et al., 1995; Munro & Ditto, 1997; Cohen et al., 2000). The suggested underlying mechanism in this literature is biased information processing that can have both cognitive and affective manifestations, e.g. irritation, anger etc (e.g. Zuwerink & Devine, 1996; Munro et al., 2012). As stated earlier, the results of this study

[14]Gulevich et al. (2016) document that Russians see homosexuality as a fashion coming from the Western world that threatens indigenous Russian values. Moreover, they write that sexual minorities are perceived as a source of threat to both individuals and to the Russian society as a whole "as they do not contribute to the national birth rate, bringing nearer the extinction of the nation".

predominantly come from religious participants and those who, before the experiment, held the view that non-biological elements largely determine sexual orientation. This outcome hints at the possibility that the presentation of information inconsistent with previously-held beliefs could provoke cognitive dissonance, annoyance, and anger, subsequently resulting in more severe forms of discrimination. In fact, as shown in the previous section, participants in the treatment group assigned lower scores to same-sex profiles across numerous positive personality characteristics such as reliability, emotional stability, persistence and so forth. This might be supportive evidence for biased information processing with underlying irritation, anger and/or cognitive discomfort[15].

There is also the possibility that the provided information accentuated the aspect of sexual orientation in the profiles, leading participants in the treatment group to notice this aspect more frequently, i.e. the Information treatment made the signal of sexual orientation in the profile more salient. To address this, I analyzed responses to an open-ended question posed at the end of the experiment. I asked both Information and Baseline groups about their perceptions of the experiment's objective. The results from this analysis show no significant difference between the two groups regarding the frequency of references to sexual orientation in their understanding of the experiment's main idea[16].

An alternative interpretation of the observed negative treatment effects could be associated with participants' social identities. The introduction of the Information treatment might instill a perception of significant dissimilarity, even at a biological level, between the participants and individuals with same-sex partners. This perceived divergence could heighten social distance and diminish empathy towards sexual minority groups, thereby potentially intensifying discriminatory behavior.

In summary, the findings imply that, in countries exhibiting high levels of intolerance, informational interventions akin to this study may not prove effective in reducing sexual-orientation discrimination.

[15] Anglin (2019) writes that many studies demonstrating belief perseverance use mixed rather than clear evidence in their experiments. She suggests that people may be receptive to counter-attitudinal evidence when the findings are clear. To test whether the information text in the experiment conveys a clear vs mixed message about the biological causes of homosexuality, I conducted a small online survey with 44 students at CERGE-EI. While 47.7% of students report that the text has a clear message (i.e. the text conveys that homosexuality has biological causes), 45.5% find the message of the treatment text uncertain. Thus, if I assume that, in fact, the treatment text conveys mixed messages, the results may be in line with research on belief perseverance and attitude polarization with mixed evidence; that is, people are less receptive to disconfirming evidence when the findings are perceived to be uncertain.

[16] The question was phrased in the following way: "What do you think the experiment is about?". I manually processed the data by establishing a dummy variable that is set to 1 if the response includes a reference to sexual orientation or a related notion, and set to 0 if such concepts are absent. Following this, I performed a basic regression analysis to explore any differences between the Information and Baseline groups. The p-value of the difference equals 0.279, controls included.

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Appendix A Figures

Figure A1: Outline of the Experimental Design

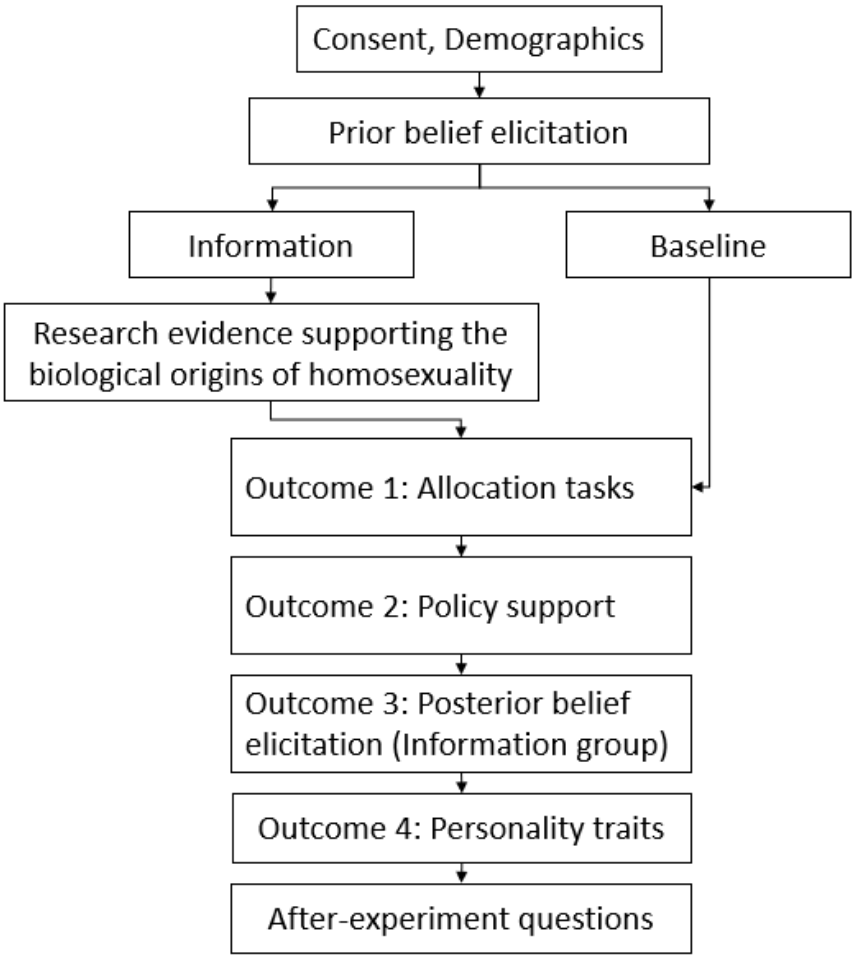


Figure A2: Difference in Allocation Amounts Between Same-sex and Different-sex Profiles (dashed line represents 0)

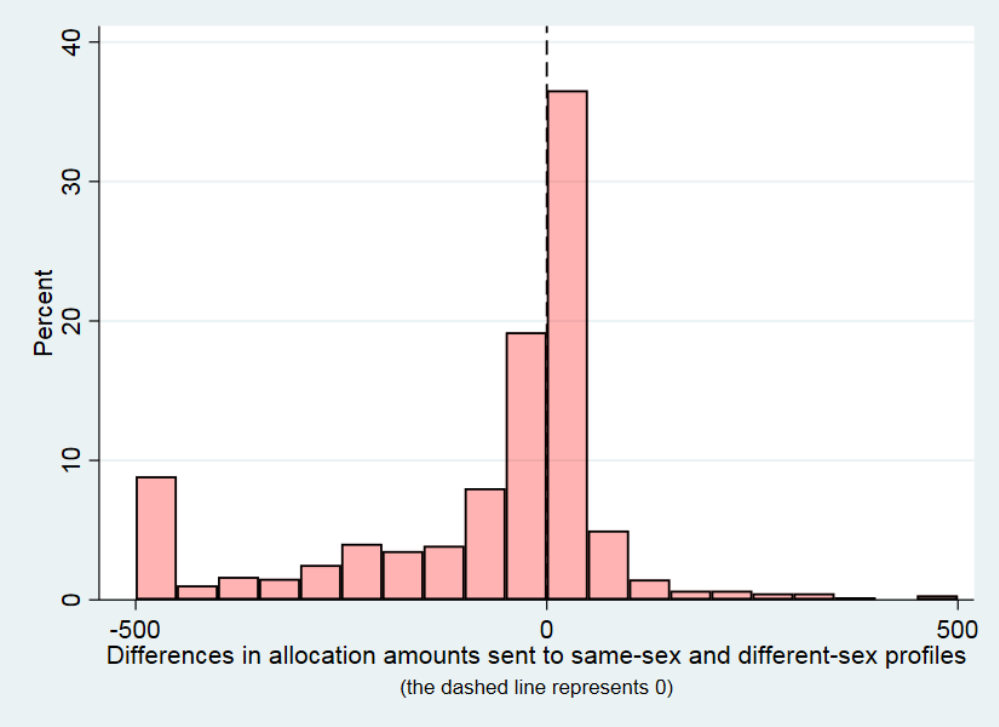
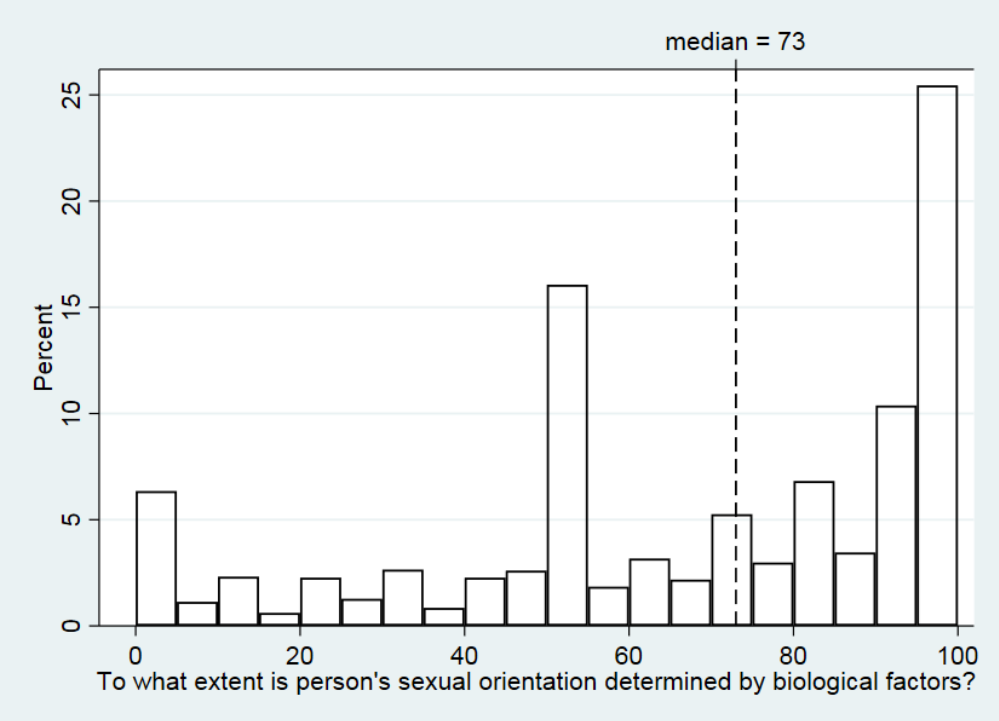


Figure A3: Distribution of Prior Beliefs About the Extent Sexual Orientation is Influenced by Biological Factors



Appendix B Tables

Table B1: Summary Statistics

	Obs.	%	Census[17] %
Sex			
Male	1014	48	47
Female	1096	52	53
Age groups			
18–24	235	11	11
25–34	492	23	25
35–44	555	26	23
45–54	394	19	19
55–64	434	21	22
Region			
Central	640	30	28
Northwestern	272	13	6
Southern	214	10	11
North Caucasian	40	2	7
Volga	360	17	20
Ural	240	11	8
Far Eastern	65	3	9
Siberian	279	13	11
Education			
Incomplete secondary or below	12	1	21
Secondary general	192	9	17
Primary professional or secondary specialized	555	26	35
Student	108	5	3
Bachelors	732	35	6
Masters	461	22	17
Postgraduate	50	2	1

[17]The data is retrieved from official statistics web-page of the Federal State Statistics Service, `https://rosstat.gov.ru/folder/12781`, and from the (non-official) web-page of Russian Public Opinion Research Center (VCIOM) (2021) `https://wciom.ru/analytical-reviews/analiticheskii-obzor/velikii-post-2021`(on religion) by the author.

cont.

	Obs.	%	
Marriage status			
Married	1147	54	54
Single	463	22	19
Widow	47	2	11
Divorced	211	10	10
Civil marriage	226	11	6
Hard to answer	16	1	-
Total	2110	100	
Religion			
Orthodoxy	1347	65	66
Catholicism	9	0	0
Protestantism	11	1	1
Islam	47	2	6
Buddhism	16	1	1
Judaism	3	0	0
No religion	518	25	14
Other	52	3	6
Hard to answer	62	3	6
Total	2065	100	
Sexual orientation			Ipsos survey[18]
Heterosexual	1679	80	91
Homosexual	41	2	2
Bisexual	163	8	2
Hard to answer	172	8	5
Other	55	2	
Income groups[19]			
< 20,000 RUB	141	7	-
20,000 - 49,900 RUB	605	29	-
50,000 - 79,900 RUB	592	28	-
80,000 - 99,900 RUB	340	16	-
100,000 - 199,900 RUB	344	16	-

[18]To the best of my knowledge, there is no census data available on this domain. Instead, I used the Ipsos report based on LGBT+ Pride 2021 Global Survey (Boyon, 2021).

[19]Unfortunately, I was unable to access income distribution data in Russia that was categorized into the specific income groups used in the survey.

> 200,000 RUB	88	4	-
Total	2110	100	

Table B2: Associations Between Prior Beliefs and Outcomes

	Allocations to profiles			Support for policies	
	All same-sex	Male same-sex	Female same-sex	Same-sex marriage	Child adoption
	(1)	(2)	(3)	(4)	(5)
Prior beliefs about the bio. causes of sexual orientation	0.217***	0.236***	0.198***	0.000598	0.000592
	(0.0615)	(0.0717)	(0.0672)	(0.000854)	(0.000833)
N	2061	2061	2061	2061	2061

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: Prior belief is a continuous measure of a respondent's belief that sexual orientation is influenced by biological factors (number from 0 to 100 percent). The table shows OLS regression coefficients. The dependent variable in cols 1-3 is the amount sent to same-sex profiles. Cols 4-5 represent respondents' support for same-sex marriage and adoption of a child for same-sex couples. Controls included (gender, age, education and income level, marriage status, having children, religiosity index, sexual orientation and having a homosexual contact).

Table B3: Heterogeneity Analysis by Prior Beliefs

	Allocations to profiles			Support for policies	
	All same-sex	Male same-sex	Female same-sex	Same-sex marriage	Child adoption
	(1)	(2)	(3)	(4)	(5)
Information (a)	-4.002	-8.110	0.105	0.0368	0.0294
	(4.646)	(5.373)	(5.040)	(0.0650)	(0.0621)
Lower Prior	8.171	9.856	6.487	0.0368	0.0946
	(7.691)	(9.389)	(8.402)	(0.114)	(0.115)
Information $\times$ Lower Prior (b)	-18.72**	-10.98	-26.46***	-0.0914	-0.135
	(7.826)	(9.222)	(8.596)	(0.108)	(0.107)
Constant	260.5***	225.8***	295.2***	3.117***	2.622***
	(21.85)	(27.50)	(24.38)	(0.334)	(0.398)
Linear combination: a + b	**-22.72****	**-19.08****	**-26.35****	-0.0545	-0.105
	(6.293)	(7.451)	(6.931)	(0.086)	(0.087)
N	2061	2061	2061	2061	2061

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: Prior belief is a continuous measure reflecting the respondent's belief, ranging from 0 to 100 percent, regarding the influence of biological factors on sexual orientation. Lower prior is an indicator that these beliefs are at or below 50 percent: it is assigned a value of 1 when beliefs are equal to or less than 50%, and a value of 0 when beliefs exceed 50%. The table presents OLS regression coefficients, controls included (gender, age, education and income level, marriage status, children dummy, religiosity index, political views, sexual orientation and having a homosexual contact).

Table B4: Heterogeneity Analysis by Religiousness

	Allocations to profiles			Support for policies	
	All same-sex	Male same-sex	Female same-sex	Same-sex marriage	Child adoption
	(1)	(2)	(3)	(4)	(5)
Information (a)	-2.407	-4.402	-0.413	0.0379	0.0287
	(6.851)	(7.914)	(7.547)	(0.0985)	(0.0930)
Information × Religious (b)	-11.98	-11.02	-12.93	-0.0490	-0.0688
	(8.201)	(9.522)	(8.998)	(0.116)	(0.111)
Religious	-2.407	-4.402	-0.413	0.0379	0.0287
	(6.851)	(7.914)	(7.547)	(0.0985)	(0.0930)
Constant	257.7***	228.6***	286.7***	3.114***	2.662***
	(20.65)	(25.93)	(23.91)	(0.309)	(0.369)
Linear combination: a + b	**-14.38*****	**-15.42****	**-13.34*****	-0.011	-0.040
	(4.476)	(5.227)	(4.856)	(0.061)	(0.060)
N	2061	2061	2061	2061	2061

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: Religious is a dummy reflecting religious subjects. Controls include gender, age, education and income level, marriage status, children dummy, political views, prior beliefs about the causes of homosexuality, sexual orientation and having a homosexual contact.

Table B5: Heterogeneity Analysis of Treatment Effects on Personality Trait Attributions by Prior Beliefs

	(1) Reliable	(2) Hard-working	(3) Family-oriented	(4) Career-oriented	(5) Persistent	(6) Em. Stable	(7) Open to new exp.	(8) Risk-lover	(9) Creative	(10) **Pos. Trait Index**
Information (a)	-0.0439	-0.0620	-0.131**	-0.0367	-0.0685	-0.0455	0.0120	0.0112	-0.0178	-0.0344
	(0.0579)	(0.0540)	(0.0641)	(0.0494)	(0.0527)	(0.0591)	(0.0507)	(0.0533)	(0.0515)	(0.0423)
lower prior	0.00989	-0.0260	-0.0164	0.0379	-0.00586	-0.0429	0.0786	0.119*	0.0143	0.0489
	(0.0694)	(0.0647)	(0.0769)	(0.0592)	(0.0631)	(0.0708)	(0.0608)	(0.0639)	(0.0618)	(0.0507)
Information × lower prior (b)	-0.172*	-0.123	-0.0222	-0.123	-0.131	-0.141	-0.178**	-0.165*	-0.124	-0.118*
	(0.0964)	(0.0899)	(0.107)	(0.0823)	(0.0877)	(0.0983)	(0.0845)	(0.0887)	(0.0858)	(0.0705)
Constant	4.342***	4.146***	4.026***	3.929***	3.824***	4.300***	4.100***	3.495***	4.167***	0.390
	(0.350)	(0.327)	(0.388)	(0.299)	(0.318)	(0.357)	(0.307)	(0.322)	(0.312)	(0.256)
Linear combination:	**-0.216****	**-0.185****	**-0.153***	**-0.159****	**-0.199*****	**-0.186****	**-0.166****	**-0.154****	**-0.142****	**-0.153*****
a+b	(0.077)	(0.072)	(0.085)	(0.065)	(0.070)	(0.079)	(0.067)	(0.0710)	(0.068)	(0.056)
N	2061	2061	2061	2061	2061	2061	2061	2061	2061	2061

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes Prior belief is a continuous measure reflecting the respondent's belief, ranging from 0 to 100 percent, regarding the influence of biological factors on sexual orientation. Lower prior is an indicator that these beliefs are at or below 50 percent: it is assigned a value of 1 when beliefs are equal to or less than 50%, and a value of 0 when beliefs exceed 50%. The table presents OLS regression coefficients, controls included (gender, age, education and income level, marriage status, children dummy, religiosity index, political views, sexual orientation and having a homosexual contact). The linear combination coefficient represents the treatment effect among people with lower prior beliefs.

Table B6: Heterogeneity Analysis of Treatment Effects on Personality Trait Attributions by Religiousness

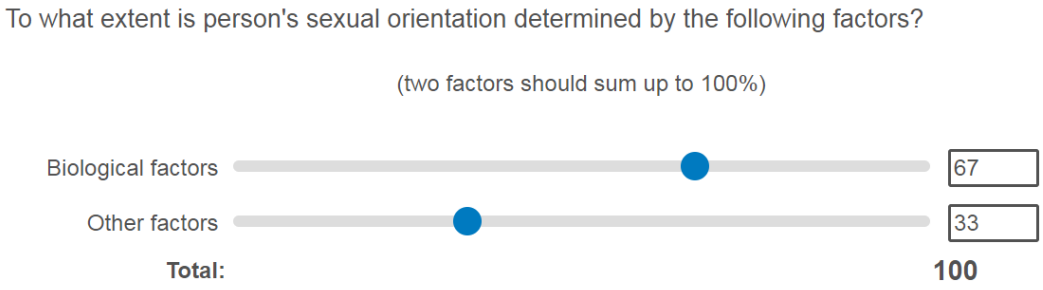
	(1) Reliable	(2) Hard-working	(3) Family-oriented	(4) Career-oriented	(5) Persistent	(6) Em. Stable	(7) Open to new exp.	(8) Risk-lover	(9) Creative	(10) **Pos. Trait Index**
Information (a)	-0.124	-0.0808	-0.162*	0.00804	-0.0489	-0.0305	-0.0725	-0.0622	-0.0701	-0.0704
	(0.0817)	(0.0769)	(0.0887)	(0.0710)	(0.0752)	(0.0845)	(0.0749)	(0.0769)	(0.0745)	(0.0603)
Religious	0.0297	0.137**	0.0609	0.197***	0.142**	0.119	0.0544	0.0718	0.0858	0.0869*
	(0.0685)	(0.0645)	(0.0769)	(0.0593)	(0.0632)	(0.0727)	(0.0608)	(0.0646)	(0.0625)	(0.0502)
Information × Religious (b)	0.0300	-0.0319	0.0383	-0.127	-0.0931	-0.0875	0.0306	0.0194	0.0121	-0.00731
	(0.0992)	(0.0932)	(0.109)	(0.0858)	(0.0909)	(0.102)	(0.0894)	(0.0925)	(0.0897)	(0.0730)
Constant	4.248***	3.989***	3.971***	3.852***	3.694***	4.093***	4.109***	3.569***	4.107***	0.372
	(0.329)	(0.312)	(0.332)	(0.350)	(0.358)	(0.333)	(0.352)	(0.375)	(0.338)	(0.295)
Linear combination:	**-0.093***	**-0.113****	**-0.123****	**-0.118****	**-0.142*****	**-0.118****	**-0.042**	**-0.043**	**-0.058**	**-0.078***
a+b	(0.056)	(0.052)	(0.062)	(0.047)	(0.051)	(0.057)	(0.048)	(0.051)	(0.050)	(0.041)
N	2061	2061	2061	2061	2061	2061	2061	2061	2061	2061

Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: Religious is a dummy reflecting religious subjects. Controls include gender, age, education and income level, marriage status, children dummy, political views, prior beliefs about the causes of homosexuality, sexual orientation and having a homosexual contact. The linear combination coefficient represents the treatment effect among religious people.

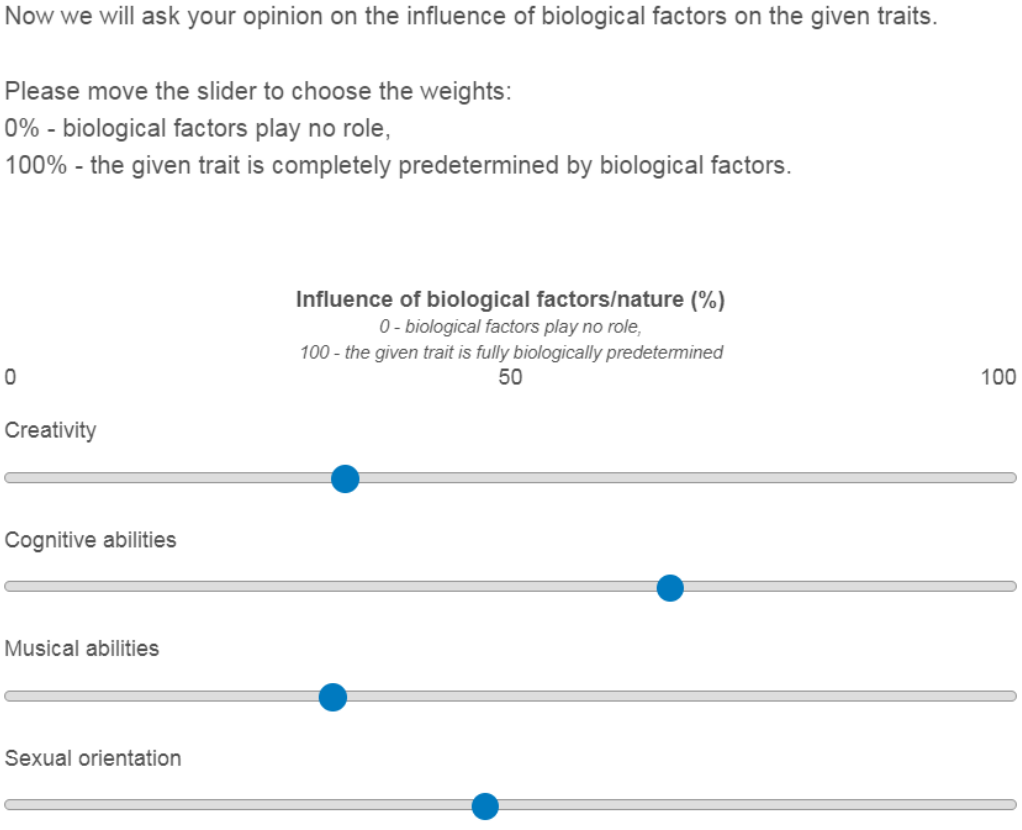
Appendix C Screenshots from the Instructions (translated from Russian)

Figure C1: Prior Belief Elicitation Stage



Note: The options have been displayed in random order.

Figure C2: Posterior Belief Elicitation Stage



Note: The options have been displayed in random order.

Abstrakt

Pochopení toho, co je hnacím motorem diskriminačního chování, je důležité pro identifikaci nejlepší strategie, jak se danému chování bránit. V této studii exogenně manipuluji přesvědčení účastníků o původu sexuální orientace tím, že poskytuji důkazy, které podporují biologické příčiny homosexuality. K měření diskriminace používám finančně motivována zadání. To mi umožňuje kauzálně identifikovat dopad informací na diskriminační chování. Nejprve dokumentuji prevalenci diskriminace jednotlivců s partnery stejného pohlaví v Rusku. V průměru zhruba 54% účastníků projevuje diskriminační chování vůči profilům s partnery stejného pohlaví tím, že jim přiděluje o 16 procentních bodů méně peněz. Výsledky dále naznačují, že vystavení důkazům o biologických příčinách homosexuality negativně ovlivňuje diskriminační chování. Účastníci „treatment“ skupiny přidělují méně peněz na profily s partnery stejného pohlaví ve srovnání s účastníky v kontrolní skupině. Možné důvody pro toto chování by mohly zahrnovat následující: (i) poskytování informací, které jsou v rozporu se stávajícím přesvědčením, může způsobit kognitivní disonanci, spustit podráždění a zesilit diskriminační tendence; (ii) informace by mohly podpořit přesvědčení, že jedinci v partnerstvích osob stejného pohlaví jsou v zásadě „jiní“ – a to i na biologické úrovni – a tím rozšířit vnímanou sociální propast mezi účastníky a těmito skupinami sexuálních menšin, a dále podporovat diskriminaci.

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