

# (Anticipated) Discrimination against Sexual Minorities in Prosocial Domains\*

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## Abstract

We experimentally study discrimination in prosocial domains against sexual minorities using a sharing (dictator) game, where these individuals are given the opportunity to signal their identity. We find that political affiliations matter: Republican heterosexual individuals are much less generous to others who are perceived to be sexual minorities, while their Democratic counterparts are slightly more generous. Moreover, women, but not men, are less likely to signal their sexual minority status when they are aware of the potential payoff implications of their decisions, suggesting possible spillover effects of discrimination along one dimension of identity onto other dimensions.

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Understanding the determinants of discrimination is an important area of research given its detrimental effects on individuals' economic well-being and lifetime outcomes. Within economics, a large body of literature examines the drivers and impact of discrimination.<sup>1</sup> While most of this research focuses on discrimination based on salient characteristics such as a person's gender or race, attention has also been given to behavior toward other minority groups with less salient characteristics such as sexual orientation, social class, or nationality. Examining discrimination on the basis of these less salient characteristics is challenging since individuals base their behavior on stereotypes or other cues which may not always be correctly inferred. This paper focuses on the treatment of one such minority group: sexual minorities.

Although it can be difficult to infer one's sexual identity based on observable characteristics, sexual minorities are still persistently discriminated against in formal markets such as hiring decisions in the labor market or rental offers in the housing market, contributing to their significant economic hardships (Badgett et al., 2021).<sup>2</sup> Yet, the disparities faced by sexual minorities may also be caused by differential treatments outside of these formal markets. For example, prosocial behaviors such as helping co-workers and offering mentorship to junior colleagues play a crucial role in day-to-day workplace interactions. Consequently, if one's prosocial attitudes are affected by one's belief about others' sexual identity, this may affect the level of support sexual minorities receive in the workplace by those in positions of power, which can play a critical role in shaping their career outcomes.<sup>3</sup> While there is evidence of discrimination in prosocial domains based on, e.g., artificially induced identities (Chen and Li, 2009; Chen and Chen, 2011), less is known about the prevalence or determinants

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<sup>1</sup>See, e.g., Becker (1971); Arrow (1973); Bertrand and Duflo (2017); Neumark (2018).

<sup>2</sup>In the United States, LGBTQ+ individuals are more likely to be unemployed, be uninsured, and have lower food security and income than the general population. See: <https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats>.

<sup>3</sup>Moreover, a self-fulfilling prophecy could emerge where minorities become less productive or under-perform, especially if they believe that their managers harbor biases against them (e.g., Glover et al., 2017, find this to be the case for racial minorities).

of discrimination in prosocial behavior on the basis of sexual identity.

Against this backdrop, we have two research goals. First, we examine whether individuals discriminate in prosocial domains based on their perception of others' sexual identity. Importantly, we examine the role that one's political identity plays in driving any such behavior.<sup>4</sup> Heterosexual individuals in the United States are not monolithic in terms of their attitudes toward sexual minorities – indeed these differ greatly across political identities. For example, party divisions exist when it comes to religious values such as gay marriage (Glaeser et al., 2005), and almost all of the gender and sexual minorities elected to office in the recent 2020 elections come from the Democratic party.<sup>5</sup> In the workplace environment, Republicans are more likely than Democrats to state that they would not be happy with a lesbian, gay, or bisexual manager (Coffman et al., 2017). Our research can help inform organizations of the appropriate groups to target with the interventions needed to reduce such biases in behavior.

Our second research goal is to examine whether sexual minorities strategically mask signals about their sexual identity in anticipation of discrimination. Given the non-salient nature of one's sexual identity, these individuals can choose to hide signals about their sexual identity.<sup>6</sup> However, this could have mental health consequences and create minority stress (e.g., see Meyer, 2003). They may also select away from certain careers or schools, contributing to occupational segregation and further exacerbating existing wage gaps. Nonetheless, the lived experiences that inform these decisions are not necessarily identical for all sexual minorities. For instance, non-transgender sexual minority women have been found to be more likely than their male counterparts to report experiencing everyday discrimination (Meyer et al., 2021). Recent evidence also

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<sup>4</sup>Indeed, the interaction between multiple dimensions of identity has been found to drive economic behavior in other contexts (e.g., Chen et al., 2014; Gangadharan et al., 2019).

<sup>5</sup><https://www.nbcnews.com/feature/nbc-out/congress-will-have-record-number-lgbtq-lawmakers-next-session-n1246487>.

<sup>6</sup>For example, 46% of LGBTQ+ workers in the United States are not “out” in the workplace. See <https://www.hrc.org/resources/a-workplace-divided-understanding-the-climate-for-lgbtq-workers-nationwide>.

suggests that women respond strategically in anticipation of gender-based discrimination (Alston, 2019; Charness et al., 2020). Taken together, this implies there may be gender differences in sexual minorities’ anticipation and response to possible discrimination. Hence, we also examine whether men and women respond differently in environments where they may expect to be discriminated against.

To achieve these goals, we design a set of incentivized online experiments involving the canonical dictator game with some modifications. As in the standard game, participants are randomly assigned a role: either a dictator or a recipient. Each dictator is matched with a recipient and is in charge of dividing a sum of money between them. Hence, dictators’ decisions are interpreted as a measure of their prosocial attitudes, and behavior in similar settings has been shown to predict prosocial behavior in the field (e.g., see Franzen and Pointner, 2013).

We introduce the Icon Task as a way for recipients to anonymously signal their sexual identity. In the Icon Task, recipients choose an experimental ID that is later shown to their matched dictators. The ID consists of an alphanumeric string and a flag icon. One of the icon options is a rainbow icon (the “Pride” flag), which is used by many individuals to represent their affiliation to the LGBTQ+ community and is commonly associated with sexual and gender minority groups. Using the dictators’ perceptions about the sexual identity of their matched recipients, we examine whether they discriminate in their giving behavior based on the perceived sexual identity of the recipient. To study how behavior is shaped by the dictators’ own sexual and political identities, we leverage an online participant recruitment platform that allows us to follow a stratified recruitment strategy (see Section 2.4).

To study recipients’ responses to anticipated discrimination, we design two treatments. In the Uninformed-Choice treatment, recipients choose their personal IDs in the Icon Task before they are informed of the details of the dictator game. In the Informed-Choice treatment, this order is reversed. Hence,

when creating their IDs, recipients in the Informed-Choice treatment know that their IDs would be shown to their matched dictators. We measure the response to anticipated discrimination as the difference between these two treatments in the proportion of recipients who choose the Pride flag. In order to investigate whether men and women respond differently in the face of possible discrimination, we recruit a balanced sample of recipients across sexual and gender identities.

Our findings are as follow. First, we find that prosocial attitudes toward sexual minorities are driven by dictators' political preferences. Republican heterosexual dictators give about 14% less of their endowments to recipients perceived to be non-heterosexual. On the other hand, Democratic heterosexual dictators give about 5% more of their endowments to recipients perceived as non-heterosexual. These results are robust to the inclusion of a wide range of controls (such as dictators' religious affiliation and their perception about the recipient's political leaning), alternative empirical specifications, and also supported by a causal forest estimation. Next, despite the potential for discrimination, the proportions of non-heterosexual recipients who choose the Pride icon in the Icon Task do not differ between the two information treatments. We instead find that gender matters when it comes to anticipating discrimination. Women, but not men, are less likely to signal their affinity with the LGBTQ+ community when they are informed about the potential consequences of their decisions. This indicates that the intersection between gender and sexual minority status matters in driving behavioral responses to situations where discrimination may be expected.

Our findings have several implications and contribute to our understanding of discrimination based on sexual identity in economic decision making. First, the compelling and strong evidence of taste-based discrimination that we find implies that more targeted interventions are needed to overcome individuals' implicit biases toward sexual minorities (e.g. Bertrand et al., 2005). For instance,

evidence shows that increased contact between different social groups divided along ethnicity, race, or social class can reduce implicit biases and discrimination against minority groups (e.g., see Boisjoly et al., 2006; Rao, 2019; Schindler and Westcott, 2021). Additionally, our finding that discriminatory behavior is shaped by political views suggests that the sharp divide along party lines in attitudes toward sexual minorities also extends to prosocial domains. Nonetheless, recent studies by Abou-Chadi and Finnigan (2019) and Aksoy et al. (2020) indicate that laws could play an important role in shaping attitudes toward sexual minorities, suggesting that policy itself can bring about changes to public opinion and the treatment of minority groups.

Next, the gender differences we find in recipients' behavior suggest that discrimination along one dimension of identity may have spillover effects when it comes to signaling other dimensions of minority status. Our findings provide suggestive evidence that non-heterosexual women may be more capable of avoiding disadvantageous situations arising from discrimination as compared to non-heterosexual men. The differences in strategic responses between sexual minority men and women may contribute to our understanding of the gay wage penalty and lesbian wage premium documented in the literature (Klawitter, 2015; Badgett et al., 2021).

Finally, from a methodological perspective, the Icon Task introduced in this study can provide researchers with a tool for investigating behavior involving individuals with less salient characteristics using controlled experiments. This method could prove useful for advancing research on sexual minorities (in both strategic and non-strategic environments) and also be adapted to study other minority groups.

## **1 Contributions to the Related Literature**

Our research contributes to three broad strands of the literature: the economics of discrimination, identity economics, and LGBTQ+ economics.

First, early work by Becker (1971), Phelps (1972), and Arrow (1973) have

spurred a vast literature documenting evidence of discrimination based on characteristics such as gender, ethnicity, and sexual orientation, across different economic domains. Much of the empirical evidence comes from audit and correspondence studies that allow researchers to isolate the causal impact of one's identity on behavior (e.g., see Ayres and Siegelman, 1995; Neumark et al., 1996; Bertrand and Mullainathan, 2004; Oreopoulos, 2011).<sup>7</sup> The literature distinguishes between taste-based and statistical discrimination, and our focus is on the former. To the best of our knowledge, our paper is the first that uses incentivized experiments to document taste-based discrimination against sexual minorities.

Moreover, we further differentiate ourselves from this literature by investigating how sexual minorities respond to situations where they may anticipate discrimination. For example, evidence suggests that ethnic minorities or immigrants change their names to improve their economic outcomes (Biavaschi et al., 2017), women tend to hide signals about their gender identity owing to anticipated gender discrimination (Charness et al., 2020; Alston, 2019), and gender and sexual minorities frequently constrain their behavior in ways to avoid being stereotyped (Mohr et al., 2019; Newheiser and Barreto, 2014). By examining the behavior of gay men and lesbian women separately, we further our understanding of the role that multiple dimensions of an individual's stigmatized identity may play when responding to environments where discrimination is likely to occur.

Second, we contribute to the literature on social identity and economic decision making (Akerlof and Kranton, 2000). Research has shown that an individual's identity plays an important role in shaping their economic behaviors,<sup>8</sup> and

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<sup>7</sup>See, also, surveys by Rodgers (2009), Bertrand and Duflo (2017), and Neumark (2018). More recently, a combination of laboratory and field experiments have been used to identify specific channels through which discriminatory behavior could manifest (e.g., see Fershtman and Gneezy, 2001; Reuben et al., 2014; Bohren et al., 2019). Lane (2016) provides a survey of evidence from the laboratory.

<sup>8</sup>For example, researchers have studied the role of identity in driving investments in education (Akerlof and Kranton, 2002), work incentives (Akerlof and Kranton, 2005), group work

people tend to exhibit preferential treatment (or bias) toward others who share the same characteristics as themselves (i.e., in-group bias). Within this literature, researchers have studied in-group and out-group behavior in prosocial domains either by using individuals' natural identities (e.g., Klor and Shayo, 2010; Chen et al., 2014; Aksoy and Palma, 2019) or by artificially inducing identities (e.g., Chen and Li, 2009; Chen and Chen, 2011). Our novelty in relation to this literature is our focus on an individual's natural identity with non-salient traits.

Relatedly, researchers have also studied how political identities may shape one's attitude toward minority groups. Much of the attention has been on how changes in the political climate affect the extent of extremism or discriminatory behavior, e.g., in relation to ethnic minorities and immigrants (Bursztyrn et al., 2020; Grosjean et al., 2021) or sexual minorities (Ofosu et al., 2019; Aksoy et al., 2020). A distinction of our study relative to this literature is our focus on how one's own political views and preferences shape behavior toward minority groups. On this front, recent work examine in-group versus out-group prosocial behavior on the basis of political identities (Dimant, 2020; Kranton et al., 2020; Robbett and Matthews, 2021). We contribute to this discourse by examining the interaction between political and sexual identities in driving prosocial behavior.<sup>9</sup>

Third, our study contributes to a nascent but growing body of literature on the economics of LGBTQ+ individuals (Black et al., 2007; Badgett, 2009; 2020; Badgett et al., 2021).<sup>10</sup> Much of this work focuses on the economic outcomes of sexual minorities using observational data (e.g., Powdthavee and Wooden, 2015; Carpenter and Eppink, 2017; Sabia et al., 2017; Buser et al., 2018; Aksoy

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(Eckel and Grossman, 2005), inter-temporal or risky decision making (Benjamin et al., 2010), moral behavior (Bénabou and Tirole, 2011), marriage (Bertrand et al., 2015), and contributions to public goods (Benjamin et al., 2016).

<sup>9</sup>Conceptually, one can think of in-groups and out-groups as being jointly defined by these two dimensions of natural identity.

<sup>10</sup>There has also been increasing attention on improving the economic outcomes of LGBTQ+ individuals within the economics profession. To this end, the American Economic Association (AEA) set up the Committee on the Status of LGBTQ+ Individuals in the Economics Profession in 2016.



et al., 2018; 2019). A major methodological challenge faced by researchers in this area is with identifying LGBTQ+ individuals. While studies often rely on self-reported responses in surveys and/or data on the gender composition of couples living within the same household, such approaches may potentially lead to misidentification of LGBTQ+ individuals and biased estimates (Martell, 2021). Consequently, much like the broader experimental research on discrimination, research on discrimination against LGBTQ+ individuals often relies on audit or correspondence studies where one’s sexual identity is signalled through explicit statements in candidates’ résumés or social network profiles (e.g., Ahmed and Hammarstedt, 2009; Drydakis, 2009; Acquisti and Fong, 2020). However, this approach often limits researchers to the study of interactions in formal markets such as the labor and housing markets. It is less viable to use this approach to study discrimination in behavior outside of these formal contexts (e.g., helping, mentoring, or other prosocial behaviors).

Our study therefore makes two important contributions to this rapidly growing literature. First, we examine discrimination of sexual minorities in prosocial domains, which constitutes a major part of individuals’ day-to-day workplace interactions. Second, we provide a methodological contribution by designing an Icon Task which allows LGBTQ+ individuals to signal their unobservable identities in a salient but non-intrusive manner, thus enabling researchers to examine interactions between LGBTQ+ and non-LGBTQ+ individuals in a controlled environment.

## **2 Experimental Design**

Our experiment features a modified dictator game with an Icon Task where recipients and dictators make decisions asynchronously. Separate pools of participants were recruited in two online sessions, where those in the first session participated in the experiment as recipients and those in the second session participated as dictators.<sup>11</sup>

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<sup>11</sup>Instructions used in both sessions are available in Section D of the Online Appendix.

A key feature of our design is that each recipient is first asked to choose an ID in the Icon Task. Each dictator is then matched with one recipient, shown the recipient's chosen ID, and asked to decide whether they would like to share any of their endowment of 100 experimental currency units (ECU), equivalent to \$5, with their matched recipient. Below, we provide further details of our design.

Our experimental design and recruitment strategy are pre-registered on the American Economic Association's registry for randomized controlled trials.<sup>12</sup>

## 2.1 Icon Task

In the recipient sessions, each participant is asked to choose an ID that consists of two components: (i) a string component and (ii) an icon component. The reasons for having two components in each ID are twofold. First, we want it to resemble a handle that individuals would often see on social media (such as Twitter) and are therefore familiar with. Second, introducing a string component dilutes the emphasis on the icon component and helps minimize experimenter demand.

The string component consists of an alpha-numeric string of eight characters. All recipients are presented with the same three options: **rgzxw471**, **gwxzr174**, and **zrqgx741**. The options have been chosen in a way to not resemble any word or number that participants may potentially relate to (such as a U.S. ZIP code), and they are designed to mirror the formats of randomly generated usernames we often see in practice. The icon component resembles a flag. All recipients are given the same three options: , , and . The options for both components are presented in a random order for each recipient. As an example, a recipient who chooses the first string option and the third icon option will have the following ID:  **rgzxw471**.

The third icon option consists of the rainbow colors and resembles the traditional Pride flag, which is a well-established marker for the LGBTQ+ com-

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<sup>12</sup>AEARCTR-0006100: <https://doi.org/10.1257/rct.6100-4.0>.

munity.<sup>13</sup> The key feature of the Icon Task is that LGBTQ+ individuals can use the Pride flag to signal their unobservable identities in a salient but non-intrusive manner. A participant may choose the Pride flag because they identify as LGBTQ+ and/or as an ally to the LGBTQ+ community. Hence, the choice of a Pride icon provides a noisy signal of one’s affinity to the LGBTQ+ community as in the real world.<sup>14,15</sup>

## 2.2 Dictator Treatments

In the dictator sessions, participants are informed that they will be matched with another participant (recipient). They are provided with details of the Icon Task and shown the set of all possible IDs that the recipients can choose from. Next, each dictator is presented with an ID of their matched recipient and asked to choose how much of their endowment of 100 ECU to allocate between themselves and the recipient. They are informed that the actual matches will be realized after all the experiments are completed, and that their allocation decision will determine both their own and their matched recipient’s earnings. Dictators’ behavior provides a measure of their prosocial attitudes toward their recipients.

Each dictator is randomly assigned to either one of two treatments. In the *Pride* treatment, each dictator is matched with a recipient who has chosen the

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<sup>13</sup>Avatars and symbols have been used by researchers to signal one’s gender in an experimental setting (e.g., see Gangadharan et al., 2016; Mengel, 2020). In such instances, it is often made explicitly clear to participants that the icons represent the gender of the participants they represent. An important design consideration is about how participants are introduced to the use of these avatars and symbols in a way that do not feel abrupt to them and induce experimenter demand. We design the Icon Task with the purpose of mitigating this concern.

<sup>14</sup>An example is the use of campus LGBTQ+ “Safe Zones”, where faculty members may place a rainbow “Safe Zone” sticker on their office door to signal that sexual minority students can feel safe expressing themselves to them. In many cases, these rainbow stickers are used to signal the sexual identity of the faculty members themselves, while in others, they simply signal an affinity with the LGBTQ+ community.

<sup>15</sup>Prior to the main experiment, we conducted a pilot study where participants completed only the Icon Task, and they were given more icon options in addition to the ones presented here. The pilot study yielded two outcomes. First, based on participants’ decisions in the pilot study, we selected the two most frequently chosen non-Pride flags as the other icon options for our main experiment. Second, we verified that the Pride flag is an effective tool for signaling one’s sexual identity. Non-heterosexual individuals were more likely to choose the Pride flag in the Icon Task, and participants who chose the Pride flag were more likely to be perceived by others as non-heterosexual.

Pride flag for their ID. In the *Non-Pride* treatment, each dictator is matched with a recipient who has chosen one of the two non-Pride flags for their ID.<sup>16</sup>

As we conjecture that the recipients' flag choice provides a signal about their identity, we elicit dictators' beliefs about their matched recipient at the end of the experiment. Specifically, we elicit their beliefs about the recipient's gender ("Female", "Male", or "Trans/Non-Binary/Other"), sexual orientation ("Heterosexual" or "Non-Heterosexual"), age group, LGBTQ+ ally status, and political leanings on social issues (ranges from "Very Liberal" to "Very Conservative"). One of these questions is randomly chosen, and the dictator is paid \$2 if their answer for that question is correct.

### 2.3 Recipient Treatments

Recipients are randomly assigned to either the *Uninformed-Choice* or *Informed-Choice* treatments. These treatments differ on the timing in which recipients are given the details of the dictator game, relative to participating in the Icon Task. In the *Uninformed-Choice* treatment, recipients complete the Icon Task *before* they are informed that their chosen ID will be shown to their matched dictator. In the *Informed-Choice* treatment, this order is reversed.<sup>17</sup>

This treatment variation provides a between-subject evaluation of recipients' responses to anticipated discrimination. In the Informed-Choice treatment, the potential implications of recipients' decisions in the Icon Task are made explicitly clear to them. Hence, if recipients anticipate that dictators will

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<sup>16</sup>In our experiment, all dictators participate in both treatments. In other words, each dictator participates in the dictator game twice, and they are matched with two different recipients with non-identical IDs. Dictators are only given details of the second dictator game after they have made the allocation decision in the first game, and they are paid for one of the randomly chosen decisions. Our main analysis focuses on the dictators' allocation decisions to their first recipient, which provides us with a between-subject comparison. Our design also allows us to carry out a within-subject comparison of dictators' allocation decisions, albeit with the caveat that a within-subject design may induce order and experimenter demand effects (Zizzo, 2010; Charness et al., 2012). As robustness, we present analysis of the within-subject treatment comparisons in Section C.1 of the Online Appendix. Our main result is robust to a within-subject comparison.

<sup>17</sup>To eliminate the role that higher-order beliefs about recipients' strategic ID choices may play in the dictator's decision-making process, dictators are given details of the Icon Task but not the different treatments faced by the recipients.

discriminate in their giving behavior against recipients who are perceived as non-heterosexual, then they may be less likely to choose the Pride flag in the Informed-Choice treatment to avoid signalling their affinity with the LGBTQ+ community.

Recipients' choices in the Icon Task may also be driven by their beliefs about how they would be perceived by dictators based on their flag choices. After the Icon Task, we present each recipient with the IDs of two other participants, one with a Pride flag and the other with a Non-Pride flag. They are then asked to indicate their beliefs about the average amounts each of these participants would receive from their matched partner. These beliefs are incentivized using the binarized scoring rule (Hossain and Okui, 2013). As with the dictators, we also elicit recipients' beliefs about the characteristics of these other participants.

#### **2.4 Key Considerations and Experimental Implementation**

Our experiment is designed and implemented in a way to circumvent several issues that one would encounter when studying discriminatory behavior using observational data. In the field, it is difficult to both identify sexual minorities based on their observed characteristics and to reliably elicit one's beliefs about the identity of others based on these characteristics. Moreover, any observed interactions in the field between sexual minorities and other members of society are subject to concerns about selection, since the occurrence of these interactions may depend on the latter's attitudes toward the out-group in the first place. Both the Icon Task and exogenous (random) matching between recipients and dictators are suited to overcome these issues.

Nonetheless, challenges remain when it comes to conducting research involving sexual minorities using traditional laboratory experiments on university campuses. Because sexual minorities form a relatively small sample of the population, a more targeted on-campus recruitment is typically required. This could cause two issues. First, the targeted recruitment could reveal the nature and purpose of the study, which may then induce experimenter demand. Second, since

students select into universities (e.g., depending on how accepting the universities are toward the LGBTQ+ community), there may be systematic differences in both the sexual minority populations and attitudes toward these populations across different universities.

In light of these issues, we conducted the experiments online, coded using oTree (Chen et al., 2016), and we recruited participants currently residing in the United States via Prolific, an online participant recruitment tool catered to researchers. Crucially, Prolific allows researchers to recruit participants based on the demographic variables participants report on their Prolific profiles, including gender and sexual orientation. Hence, we are able to identify participants' sexual and gender identities without having to reveal the purpose of the experiment to them.

A total of 282 participants participated in the recipient sessions, and another 590 participants participated in the dictator sessions about a week after the recipient sessions.<sup>18</sup> For the recipient sessions, the recruitment was balanced on participants' gender (male and female) and sexual orientation (heterosexual and homosexual) as reported on their Prolific profiles. This allows us to examine whether male and female recipients differ in their response to anticipated discrimination. For the dictator sessions, participants were recruited separately based on their sexual orientation (heterosexual and homosexual). As we anticipated the behavior of heterosexual dictators to also depend on their political views, we recruited a balanced sample of heterosexual participants based on their

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<sup>18</sup>Table A.1 in Appendix A presents summary statistics of key demographic variables of our dictator and recipient samples. Additionally, Tables B.1 and B.2 of the Online Appendix present our tests for balance, where we show average participant characteristics by treatment and test whether the differences across treatments are statistically significant for our dictator and recipient samples, respectively. There are no statistically significant differences in the participants' overall characteristics between treatments (F-test: p-values = 0.940 and 0.434, respectively). Nonetheless, dictators in the Pride treatment are more likely to have some college degree than those in the non-Pride treatment (p-value = 0.095), while recipients in the Informed-Choice treatment are slightly younger, are less likely to have some college degree, and are more likely to have a Bachelor's degree than those in the Uninformed-Choice treatment (p-values = 0.034, 0.053, and 0.065, respectively). We control for these demographic variables in our regression analyses.

political party affiliations in the United States (i.e., Republicans, Democrats, and Independent/Other). Hence, a larger sample of heterosexual dictators ( $N = 416$ ) was recruited relative to that of homosexual dictators ( $N = 174$ ).<sup>19</sup>

At the end of both sessions, participants were asked to complete a survey eliciting demographic variables and feedback about the decisions they have made during the experiment (see Appendix E), as well as an Implicit Association Test to measure their implicit bias against homosexual individuals (dictators only) (Nosek et al., 2007).<sup>20</sup> We also asked participants to complete two attention check questions during the experiments. Only two recipients and six dictators answered exactly one attention check question incorrectly, but no participant answered both questions incorrectly. Hence, we include all the participants for the main analysis presented below. Each recipient session lasted for about 14 minutes while each dictator session lasted for about 18 minutes. As the experiment was conducted with asymmetric sample sizes between the recipient and dictator sessions, some recipients were matched with and received payments from multiple dictators. The average earnings were \$6.75 and \$5.82 in the recipient and dictator sessions, respectively.

### 3 Results

In this section, we first present evidence that the Icon Task is successful in signalling recipients' sexual identity. Next, we show that discrimination in prosocial behavior is driven by political identity: While Republican heterosexual dictators give much less to recipients who they perceive to be non-heterosexual,

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<sup>19</sup>It was not possible to recruit a balanced sample of homosexual dictators based on political party affiliations since very few homosexual participants on Prolific identify as Republicans.

<sup>20</sup>Tables A.2 and A.3 in Appendix A present comparisons of dictators' and recipients' characteristics, respectively, as reported in the questionnaire and on their Prolific profiles. Overall, 18 dictators and 22 recipients (3.1% and 7.8% of the respective samples) have Prolific profiles that are inconsistent with their responses in the questionnaire. For the main analysis presented below, we use the participants' characteristics as reported on their Prolific profiles. Our conclusions do not change when we consider the analysis using participants' gender and sexual identities as reported in the questionnaire. Finally, 4 recipients (1.4%) and 14 dictators (2.4%) indicated in the post-experimental questionnaire that they suffer from color blindness. Our main results are robust to the exclusion of these participants.

Democrats give slightly more, and Independents or those with other affiliations show no differential treatment. Finally, we show that, on average, neither heterosexual nor non-heterosexual recipients respond to information about the potential implications of their decisions. Instead, we find that women, but not men, respond to such information by hiding their affinity with the LGBTQ+ community.

### **3.1 Flag Choice as a Representation of Sexual Identity**

The Icon Task is an effective tool in signalling one’s sexual identity. Figure 1 reveals that recipients view the Pride flag icon as a representation of their sexual identity, and that dictators are more likely to perceive a Pride-recipient to be non-heterosexual. Panel (a) presents the overall proportion of recipients who choose the Pride flag based on their sexual orientation. We observe that non-heterosexual recipients (79%) are more likely to choose the Pride flag than their heterosexual counterparts (43%) (Fisher’s exact test:  $p\text{-value} < 0.001$ ). Panel (b) presents the proportion of dictators who perceive the recipient to be non-heterosexual based on the recipient’s flag choice. 47% and 76% of heterosexual and non-heterosexual dictators, respectively, perceive Pride flag owners to be non-heterosexual, while only 7% and 22% of the respective samples perceive non-Pride flag owners to be non-heterosexual. Hence, Pride recipients are more likely to be perceived as non-heterosexual than non-Pride recipients by both heterosexual and non-heterosexual dictators (Fisher’s exact test:  $p\text{-values} < 0.001$  for both groups of dictators).

The Icon Task is designed to give recipients the opportunity to send a noisy signal of their sexual identity, where the noisiness of such signals mirror those in real-world environments. We confirm in our data that the Pride flag is indeed a noisy representation of one’s sexual identity. First, a non-trivial proportion of heterosexual recipients choose the Pride flag. Second, not all non-heterosexual recipients choose the Pride flag, even though the majority of them do so.

In sum, we conclude that the Pride flag is both used by recipients as a (noisy)



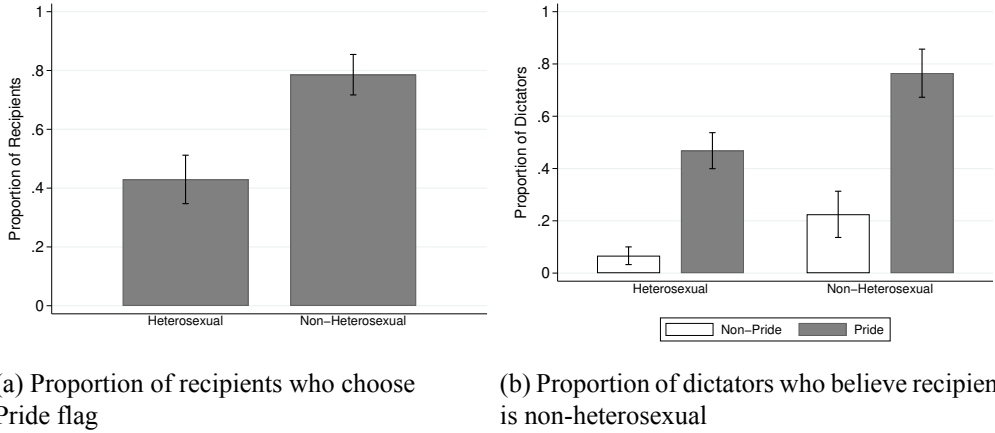


Figure 1: Recipients' Flag Choice and Dictators' Beliefs about their Recipient's Sexual Identity

marker of their sexual identity, and viewed by dictators as a signal of the recipient's sexual identity.

### 3.2 Dictators' Giving Behavior

We examine dictators' giving behavior based on their perceptions of the recipient's sexual identity to study our first research question of whether there is discrimination based on perceived sexual identity.<sup>21</sup> We present our findings on giving behavior across four dictator groups: heterosexual dictators based on their party affiliations (Republicans, Democrats, and Independent/Other), and non-heterosexual dictators.

Figure 2 shows the distributions of amounts sent by each group of dictators based on whether dictators perceive the recipient to be non-heterosexual (gray bars) or heterosexual (white bars), with a solid gray line and a dashed black line representing the average (mean) amounts sent to the respective groups of recipients. The figures yield several key insights.

First, we observe differences in behavior by Democratic and Republican het-

<sup>21</sup>We also analyze dictators' behavior based on the recipients' flag choice, and these findings are presented in Section C.2 of the Online Appendix. While giving behavior by flag choice is similar to those by perceived sexual identity, treatment differences are not statistically significant. This may be attributed to the Pride flag being an imperfect signal of the sexual identity, contributing to a lower precision in the estimates.

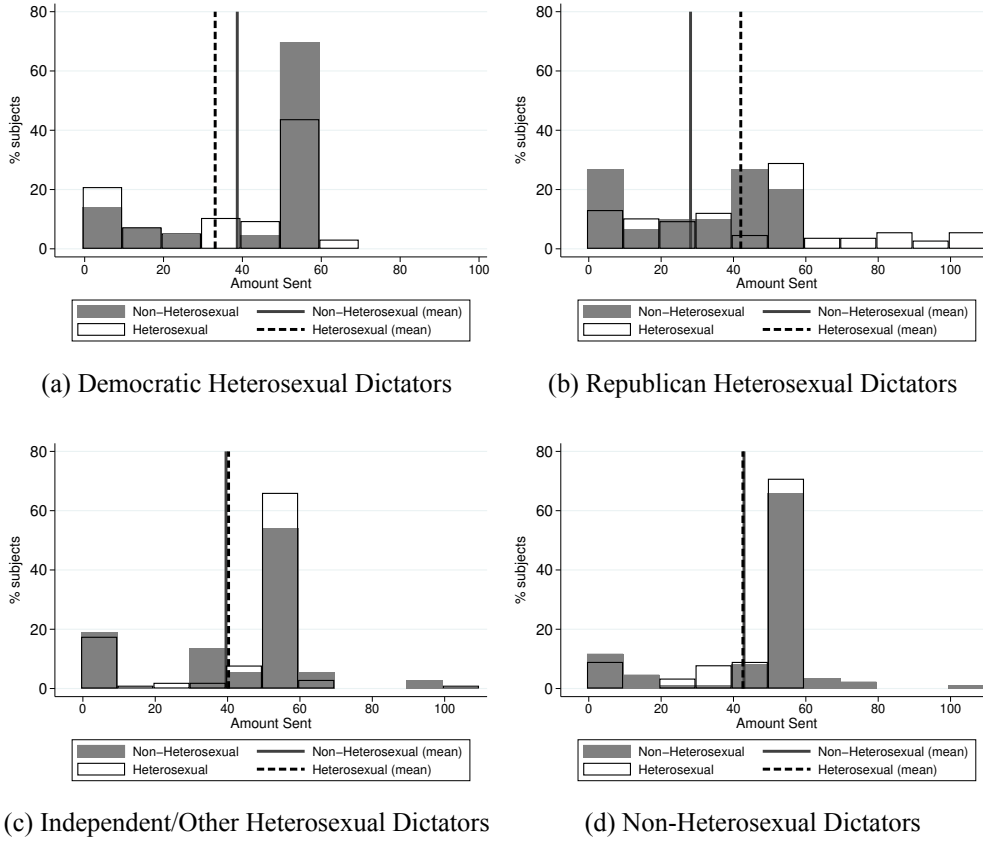


Figure 2: Distributions of and Average Amount Sent by Dictators (Endowment = 100 ECU)

erosexual dictators. Democratic heterosexual dictators transfer a greater proportion of their endowment, on average, to recipients who are perceived to be non-heterosexual (38.7%) than those who are perceived to be heterosexual (33.1%) (rank-sum and Kolmogorov-Smirnov tests:  $p$ -values = 0.045 and 0.089, respectively). However, Republican heterosexual dictators exhibit discrimination against sexual minorities. On average, they transfer a lower proportion of their endowment to recipients whom they perceive to be non-heterosexual (28.1%) than those whom they perceive to be heterosexual (42.0%) (rank-sum and Kolmogorov-Smirnov tests:  $p$ -values = 0.011 and 0.015, respectively).

Next, we do not find any statistically significant evidence that heterosexual dictators who are either Independents or have other party affiliations transfer dif-

ferent amounts to recipients who are perceived as non-heterosexual (39.6%) versus heterosexual (40.3%) (rank-sum and Kolmogorov-Smirnov tests: p-values = 0.622 and 0.856, respectively). We do not find any statistically significant evidence of in-group bias by non-heterosexual dictators either. On average, this group of dictators transfer 42.9% and 42.6% of their endowment to recipients whom they perceive as non-heterosexual and heterosexual, respectively (rank-sum and Kolmogorov-Smirnov tests: p-values = 0.615 and 0.966, respectively).

Table 1 presents coefficient estimates of tobit regressions of dictators' giving behavior, where we control for dictators' gender, age, ethnicity, education level, religion, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequent they interact with LGBTQ+ individuals. The baseline comparison group in both models is Democratic heterosexual dictators.

Our main focus is the effect of perceiving a recipient to be non-heterosexual on giving behavior by each group of dictators. Column (1) reveals that only Republican heterosexual dictators exhibit a statistically significant differential behavior in giving to recipients based on perceived sexual identity (p-value = 0.002). Contrary to our non-parametric tests above, the difference in giving by Democratic heterosexual dictators to non-heterosexual versus heterosexual recipients is not statistically significant (p-value = 0.192).

In addition, it may be the case that the discrimination by Republicans is driven by their religious views, and not political identity. For example, in our sample, while about 82% of Republican heterosexual dictators are Christians, these proportions are 37% for Democratic and 36% for Independent/Other heterosexual dictators. Hence, in column (2), we interact dictators' religion with their perceptions of the recipient's identity. Our results in column (1) remain robust to the inclusion of these interaction terms.<sup>22</sup>

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<sup>22</sup>We also examine dictators' giving behavior on the extensive and the intensive margins using a double hurdle model. The estimates, presented in Table A.4, reveal that Republican heterosexual dictators discriminate against recipients whom they perceive to be non-heterosexual

Table 1: Tobit Regression Results for Amount Sent

	(1)	(2)
Dependent Variable: Amount Sent		
Dict: Non-Heterosexual	9.735 (4.015)	9.851 (4.030)
Dict: Republican Heterosexual	11.108 (4.147)	10.833 (4.189)
Dict: Independent/Other Heterosexual	7.527 (3.616)	7.576 (3.618)
Recip: Non-Heterosexual	5.928 (4.541)	6.198 (5.109)
Recip: Non-Hetero $\times$ Dict: Non-Hetero	-6.548 (5.831)	-6.784 (5.905)
Recip: Non-Hetero $\times$ Dict: Rep. Hetero	-21.896 (6.961)	-21.051 (7.254)
Recip: Non-Hetero $\times$ Dict: Indep./Other Hetero	-6.072 (6.572)	-6.121 (6.582)
Dict: Christian	3.577 (2.580)	4.088 (3.127)
Dict: Other Religion	7.197 (3.691)	6.200 (4.775)
Recip: Non-Hetero $\times$ Dict: Christian		-1.572 (5.197)
Recip: Non-Hetero $\times$ Dict: Other Religion		2.403 (7.327)
Constant	31.508 (6.214)	31.299 (6.255)
Observations	590	590
Controls	Y	Y

Coefficients of tobit model reported. Standard errors in parentheses. In the regressions, we also control for dictators' gender, age, ethnicity, education level, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequent they interact with LGBTQ+ individuals.

Overall, we find evidence that Republican heterosexual dictators exhibit negative discrimination against recipients who are perceived as non-heterosexual. There is weak evidence that Democratic heterosexual dictators positively discriminate toward recipients whom they perceive as non-heterosexual. Moreover, we do not find any statistically significant evidence that non-heterosexual dictators nor heterosexual dictators with other party affiliations treat recipients differently based on their perceived sexual identity. We summarize as follows.

**Result 1** *Republican heterosexual dictators are less generous on average toward recipients who are perceived to be non-heterosexual. There is weak evidence that Democratic heterosexual dictators are more generous toward recipients who are perceived to be non-heterosexual.*

### 3.2.1 Additional Analyses and Robustness Checks

In this section, we present further analyses to examine the robustness of our findings. In sum, we find that Result 1 is robust to the inclusion of other aspects of dictators' beliefs and alternative approaches to examining dictators' behavior.

**Dictator Giving by Voting Behavior.** While our recruitment of heterosexual dictators and main analysis of their behavior is stratified by their political affiliations, we also collected data on dictators' voting behavior in the 2016 U.S. Presidential Elections in the post-experimental questionnaire. As to be expected, there is a significant correlation between dictators' party affiliation and their voting behavior. 68.4% of Democratic heterosexual dictators voted for the Democratic candidate (Hillary Clinton), while only 2.2% of them voted for the Republican candidate (Donald Trump). On the other hand, 78.8% of Republican heterosexual dictators voted for Donald Trump, while only 5.8% of them voted for Hillary Clinton. The rest either indicated that they voted for another candidate, or that they did not vote.

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on both the extensive margin (p-values = 0.048 and 0.033 in columns 1 and 2, respectively) and the intensive margin (p-values = 0.012 and 0.060 in columns 3 and 4, respectively).

We find that the giving behavior of heterosexual dictators conditional on their voting behavior are in line with that based on their party affiliations. Donald Trump voters ( $N = 138$ ) exhibit discriminatory behavior against recipients perceived to be non-heterosexual by transferring significantly less on average to these recipients (24.3%) relative to those perceived to be heterosexual (41.6%) (rank-sum and Kolmogorov-Smirnov tests:  $p$ -values = 0.001 and 0.008, respectively). While heterosexual dictators who voted for Hilary Clinton ( $N = 135$ ) send slightly more on average to recipients perceived to be non-heterosexual (39.6%) relative to heterosexual (34.9%), this difference is not statistically significant (rank-sum and Kolmogorov-Smirnov tests:  $p$ -values = 0.108 and 0.409, respectively). We also do not find any statistically significant evidence of differential giving by dictators who did not vote for either candidate ( $N = 99$ ) (36.0% to perceived non-heterosexual versus 39.9% to heterosexual; rank-sum and Kolmogorov-Smirnov tests:  $p$ -values = 0.289 and 0.952, respectively). The tobit regression estimates presented in Table B.3 of the Online Appendix broadly support our conclusions from these non-parametric tests.<sup>23</sup>

**Incorporating Other Perceptions.** It is possible that dictators' behavior is shaped by their perceptions about other aspects of the recipient's identity. In particular, the Pride flag, being a symbol for the LGBTQ+ rights movement, may also provide signals about recipients' political views, which may in turn influence dictators' behavior toward them. For example, Dimant (2020) finds that Donald Trump supporters demonstrate out-group hate on the basis of political identity in helping and cooperative behavior. As a robustness check, we examine whether the discriminatory behavior exhibited by Republican heterosexual dictators is driven by their perceptions about other characteristics of the recipient, such as their political views.

When we include dictators' beliefs about the recipient's gender, LGBTQ+

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<sup>23</sup>In column (2) of Table B.3, we find that Clinton voters give more to recipients perceived as non-heterosexual ( $p$ -value = 0.077).

allyship, age, and political views on social issues as additional controls (see Table B.4 of the Online Appendix), we find that our main result still holds. That is, the discriminatory behavior by Republican heterosexual dictators persists even after controlling for their perceptions of the recipient’s gender, LGBTQ+ allyship, age, and political views on social issues.

**Perceived LGBTQ+ Status.** We also consider dictators’ giving behavior based on their perceptions about the recipient’s *LGBTQ+ status*, that is, whether the recipient identifies as a sexual minority *and/or* a gender minority. We classify a recipient to be *perceived as LGBTQ+* if the dictator believes that the recipient either is non-heterosexual *and/or* identifies as “Trans/Non-Binary/Other”.

We find that there is a large overlap between dictators’ perception of the recipient’s LGBTQ+ status and sexual identity. Overall, about 13% of recipients are perceived to be “Trans/Non-Binary/Other” (8% of Non-Pride recipients and 19% of Pride recipients). Of these, almost all (89%) are also perceived to be non-heterosexual by dictators. Table B.5 of the Online Appendix provides estimates of tobit regressions using dictators’ perception of the recipient’s LGBTQ+ identity. We find similar conclusions to the ones reported in Table 1.

**Causal Forest Estimation.** In addition to the analyses specified in our pre-analysis plan, we also examine heterogeneity in dictators’ giving behavior based on perceived sexual identity using a causal forest estimation (Athey and Imbens, 2016; Athey et al., 2019).<sup>24</sup> This method is based on a regression tree that repeatedly partitions the control variable space into increasingly smaller subsets in order to predict a dependent variable using observations with similar characteristics. It allows us to estimate conditional average differences in giving by perceived sexual identity for various controls, as well as the degree to which each control is important for explaining these differences. We feed the causal

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<sup>24</sup>We thank Cevat Aksoy for graciously providing the R code.

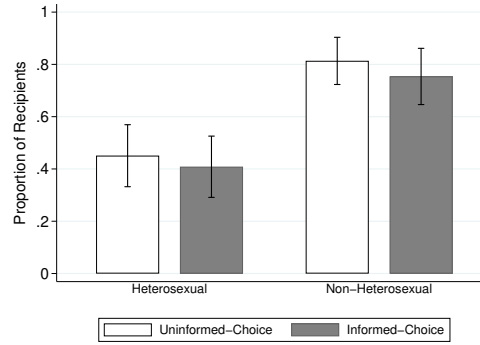


Figure 3: Recipients' Choice of Pride Flag by Treatment

forest various subsets of independent variables and controls used in our main regressions in Table 1. The procedure reveals that, relative to being a Democrat, being a Republican, but not Independent/Other, is consistently within the top 3 variables in explaining differences in giving based on perceived sexual identity. The results of one such exercise can be found in Figure B.1 of the Online Appendix. Hence, our main result is supported by causal estimation techniques often applied to observational datasets.

### 3.3 Recipients' Flag Choice by Treatment

We now turn to recipients' icon choices to study our second research question of whether recipients strategically mask signals about their affinity to the LGBTQ+ community in order to avoid discrimination, and whether this strategic behavior differs between men and women.

Figure 3 presents the proportions of heterosexual and non-heterosexual recipients who choose the Pride flag in each treatment. We do not observe any statistically significant difference in the proportion of recipients who choose the Pride flag between the Informed-Choice and the Uninformed-Choice treatments (Fisher's exact tests:  $p$ -values = 0.735 and 0.416 for heterosexual and non-heterosexual recipients, respectively).

These findings are also consistent with results of a regression analysis. Table 2 presents coefficient estimates of probit regressions of recipients' choice



Table 2: Probit Regressions of Recipients' Choice of Pride Flag

	(1)	(2)	(3)	(4)	(5)
	<i>Pooled</i>	<i>Pooled</i>	<i>Pooled</i>	<i>Hetero.</i>	<i>Non-Hetero.</i>
Dependent variable: Choose Pride flag					
Informed-Choice	−0.106 (0.178)	−0.079 (0.236)	0.484 (0.250)	0.373 (0.347)	0.847 (0.510)
Female	−0.109 (0.179)	−0.108 (0.180)	0.478 (0.250)	0.529 (0.365)	0.626 (0.481)
Female × Informed-Choice			−1.238 (0.358)	−1.010 (0.501)	−1.995 (0.688)
Non-hetero	0.884 (0.206)	0.914 (0.266)	0.909 (0.212)		
Non-hetero × Informed-Choice		−0.061 (0.348)			
Constant	−1.784 (0.702)	−1.801 (0.708)	−1.878 (0.720)	−1.504 (0.994)	−6.774 (1.979)
Observations	282	282	282	142	140
Controls	Y	Y	Y	Y	Y

Coefficients of probit model reported. Standard errors in parentheses. In the regressions, we also control for recipients' age, ethnicity, education level, religion, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, how frequent they interact with LGBTQ+ individuals, their beliefs about the amounts sent to other recipients' based on their flag choice, and their beliefs about the political views of the Prolific population.

of Pride flag against the information treatment variable and recipients' sexual identity and gender. In the regressions, we control for recipients' age, ethnicity, education level, religion, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, how frequent they interact with LGBTQ+ individuals, their beliefs about the amounts sent to other recipients' based on their flag choice, and their beliefs about the political views of the Prolific population. Columns (1) and (2) reveal that there is no significant treatment effect for neither heterosexual nor non-heterosexual recipients ( $p$ -values = 0.549 and 0.737, respectively). Hence, we find that recipients are similarly likely to choose the Pride flag in both treatments. We summarize as follows.

**Result 2** *There is no statistically significant difference in the proportions of neither heterosexual nor non-heterosexual recipients who signal their affinity with the LGBTQ+ community when they are informed about the potential con-*

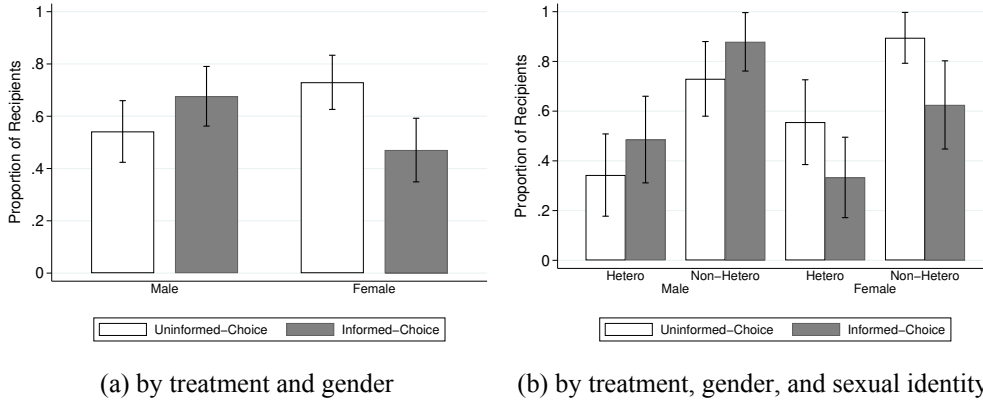


Figure 4: Choice of Pride flag by treatment, gender, and sexual identity

*sequences of their decisions, as compared to when they are not informed.*

### 3.3.1 Gender Differences in Recipients' Flag Choice by Treatment

As previously mentioned, there is reason to believe that gay men and lesbian women may respond differently in their behavior to anticipated discrimination. Hence, we recruited gender-balanced samples of non-heterosexual and heterosexual recipients to allow us to examine treatment differences by both sexual and gender identities of the recipients. Figure 4 presents the proportion of recipients who choose the Pride flag within each treatment, separately based on their gender (panel a), and on both their gender and sexual identities (panel b).

Panel (a) shows that the effect of revealing the details of the dictator game on the choice of Pride flag depends on the recipient's gender. Moving from the Uninformed-Choice treatment to the Informed-Choice treatment, there is a *decrease* in the proportion of *female* recipients who choose the Pride flag (Fisher's exact test:  $p\text{-value} = 0.002$ ). On the other hand, there is a slight, but statistically insignificant, increase in the proportion of male recipients who choose the Pride flag (Fisher's exact test:  $p\text{-value} = 0.121$ ). Moreover, female recipients are more likely to choose the Pride flag than male recipients in the Uninformed-Choice treatment (Fisher's exact test:  $p\text{-value} = 0.025$ ), but this gender difference is reversed in the Informed-Choice treatment (Fisher's exact test:  $p\text{-value} = 0.024$ ).

Hence, men and women differ in their flag choices depending on the information they are provided with about the potential implications of their decisions, and this gender difference is largely driven by female recipients.

These gender differences are similar independent of recipients' sexual identities. Panel (b) of Figure 4 reveals that both heterosexual and non-heterosexual female recipients are less likely to choose the Pride flag in the Informed-Choice treatment than in the Uninformed-Choice treatment, although this effect is only marginally statistically significant for the former (Fisher's exact tests: p-values = 0.096 and 0.010, respectively). There are no statistically significant treatment differences in the proportion of Pride flag choice for both heterosexual and non-heterosexual male recipients (Fisher's exact tests: p-values = 0.332 and 0.144, respectively). Finally, both heterosexual and non-heterosexual female recipients are more likely to choose the Pride flag in the Uninformed-Choice treatment than their male counterparts (Fisher's exact tests: p-values = 0.096 and 0.082, respectively). While this difference is reversed in the Informed-Choice treatment, it is statistically significant only for non-heterosexual recipients and not for heterosexual recipients (Fisher's exact tests: p-values = 0.023 and 0.232, respectively).

The estimates in columns (3) to (5) of Table 2 confirm our conclusions from the non-parametric tests. Column (3) reveals that female recipients are less likely to choose the Pride flag in the Informed-Choice treatment than in the Uninformed-Choice treatment (p-value = 0.001). For male recipients, this effect is reversed but it is only marginally statistically significant (p-value = 0.053). Columns (4) and (5) confirm that the treatment difference for female recipients hold for both heterosexual and non-heterosexual recipients (p-values = 0.044 and 0.004, respectively).<sup>25</sup> We summarize as follows.

**Result 3** *Female recipients are less likely to signal their affinity with the LGBTQ+*

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<sup>25</sup>We do not find any statistically significant evidence of heterogeneous treatment effects based on recipients' LGBTQ+ allyship or political views on social issues. Moreover, we find that our main conclusions hold even when we analyze recipients' individual icon and string choices. These additional analyses can be found in Sections C.3 and C.4 of the Online Appendix.

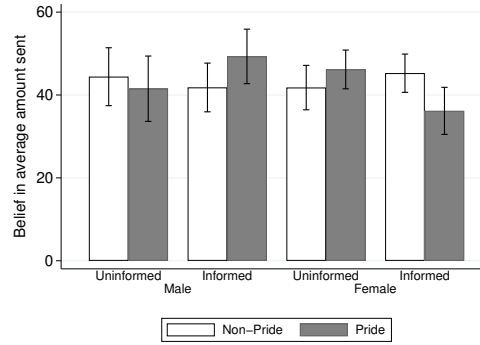


Figure 5: Recipients' belief about amount sent to other Pride and Non-Pride recipients

*community when they are informed about the potential consequences of their decisions, while there is no statistically significant evidence that male recipients change their behavior in response to such information.*

We observe stark gender differences in the choice of Pride flag between the Uninformed-Choice and Informed-Choice treatments regardless of recipients' sexual orientation. What might be driving these gender differences? One possible explanation is that women may be more likely to perceive discrimination along other dimensions of identity given prevailing discrimination and unequal treatment of women along gender lines (e.g., Fisk and Overton, 2019; Charness et al., 2020). This conjecture is also consistent with the intergroup threat theory in the psychology literature which suggests that individuals of low-power groups tend to be more susceptible to perceiving threats to their group as compared to those from high-power groups (Stephan et al., 2009). Moreover, evidence suggests that men and women react differently to cues on outgroup threat (Yuki and Yokota, 2009; Sugiura et al., 2017).

To further explore this, we examine whether gender differences in perceived discrimination manifest in recipients' beliefs about the amount sent to other recipients based on their flag choice. Figure 5 presents recipients' beliefs about the amounts sent to other Pride and Non-Pride recipients, separately by treatment and their own gender.

The figure provides suggestive evidence that recipients' beliefs in the Informed-Choice treatment are consistent with their own choices. Female recipients in the Informed-Choice treatment believe that Pride recipients will receive less than Non-Pride recipients on average (Wilcoxon rank-sum test:  $p\text{-value} = 0.006$ ). While male recipients in the same treatment believe that Pride recipients will receive slightly more than Non-Pride recipients, this difference is not statistically significant (Wilcoxon rank-sum test:  $p\text{-value} = 0.446$ ).<sup>26</sup> In addition, we find that recipients' beliefs do not yield any explanatory power when included as controls in the regressions reported in Table 2.<sup>27</sup> Hence, while recipients' beliefs are qualitatively in line with their actions, they are unable to fully explain our main result.

Gender differences in recipients' responses to the Informed-Choice treatment may also be attributed to differences in recipients' response to ambiguity. In other domains, evidence suggests that men and women respond differently to ambiguity (e.g., see Borghans et al., 2009; Pulford and Gill, 2014). In the Uninformed-Choice treatment of our experiment, recipients are presented with an uncertain environment since they are not informed of the potential implications of their choices. However, such ambiguity is resolved in the Informed-Choice treatment. Hence, the difference in uncertainty between the two treatments may contribute to gender differences in recipients' choices in the Icon Task. We leave the further investigation of this to future research.

#### **4 Conclusion**

Using controlled experiments with an Icon Task that allows participants to signal their sexual identity, we document differential treatment of individuals based on

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<sup>26</sup>In the Uninformed-Choice treatment, the difference in recipients' beliefs about the average amounts sent to Pride versus Non-Pride recipients is not statistically significant for neither male nor female recipients (Wilcoxon rank-sum tests:  $p\text{-values} = 0.974$  and  $0.288$ , respectively).

<sup>27</sup>We control for the difference in each recipient's beliefs about the average amounts sent to other Pride versus Non-Pride recipients in our regressions reported in Table 2, but this variable is not statistically significant. Note that within subjects, the second reported belief may be affected by anchoring or experimenter demand, thus potentially reducing the explanatory power of a within-subject difference in beliefs.

their perceived sexual identity in prosocial domains. We find strong evidence of discriminatory behavior by heterosexual individuals, and that such behavior is driven by political preferences. Specifically, Republican heterosexual dictators are significantly less prosocial toward recipients whom they perceive to be non-heterosexual.

It is concerning to find such deep-rooted divides along party lines in the treatment of sexual minorities. The lack of bipartisan support and consensus on the treatment of these individuals is likely to pose significant challenges for the legislation of laws for minority rights, and, consequently, these minority groups may continue to face significant hardships. Our results suggest that more targeted interventions may be required to overcome individuals' implicit biases toward sexual minorities. One possible measure would be to devise strategies to increase contact between individuals from different social groups (e.g., see Boisjoly et al., 2006; Corno et al., 2019; Rao, 2019). Further research will be needed to investigate the effectiveness of such policies in reducing the discriminatory behavior of the type documented in our study.

We also find a stark gender difference in recipients' behavioral responses. In particular, both non-heterosexual and heterosexual female recipients are less likely to reveal their affinity with the LGBTQ+ community when they are aware of the potential consequences of these decisions. This provides suggestive evidence that groups who are subject to historical discrimination on the basis of one dimension of their identity may be more apt or primed to recognize the potential for discrimination on the basis of other dimensions of identity. Further research is necessary to understand how multiple dimensions of identity (e.g., ethnicity, gender, and sexual orientation) might interact to result in differential behavioral responses to anticipated discrimination.

## References

- T. Abou-Chadi and R. Finnigan. Rights for same-sex couples and public attitudes toward gays and lesbians in Europe. *Comparative Political Studies*, 52(6):868–895, 2019.
- A. Acquisti and C. Fong. An experiment in hiring discrimination via online social networks. *Management Science*, 66(3):1005–1024, 2020.
- A. M. Ahmed and M. Hammarstedt. Detecting discrimination against homosexuals: Evidence from a field experiment on the internet. *Economica*, 76(303):588–597, 2009.
- G. A. Akerlof and R. E. Kranton. Economics and identity. *Quarterly Journal of Economics*, 115(3):715–753, 2000.
- G. A. Akerlof and R. E. Kranton. Identity and schooling: Some lessons for the economics of education. *Journal of Economic Literature*, 40(4):1167–1201, 2002.
- G. A. Akerlof and R. E. Kranton. Identity and the economics of organizations. *Journal of Economic Perspectives*, 19(1):9–32, 2005.
- B. Aksoy and M. A. Palma. The effects of scarcity on cheating and in-group favoritism. *Journal of Economic Behavior & Organization*, 165:100–117, 2019.
- C. G. Aksoy, C. S. Carpenter, and J. Frank. Sexual orientation and earnings: New evidence from the United Kingdom. *ILR Review*, 71(1):242–272, 2018.
- C. G. Aksoy, C. S. Carpenter, J. Frank, and M. L. Huffman. Gay glass ceilings: Sexual orientation and workplace authority in the UK. *Journal of Economic Behavior & Organization*, 159:167–180, 2019.
- C. G. Aksoy, C. S. Carpenter, R. De Haas, and K. D. Tran. Do laws shape attitudes? Evidence from same-sex relationship recognition policies in Europe. *European Economic Review*, 124:103399, 2020.
- M. Alston. The (perceived) cost of being female: An experimental investigation of strategic responses to discrimination. *Working Paper*, 2019.

- K. Arrow. The theory of discrimination, discrimination in labor markets. *Achenfelter, A. Rens (eds.), Princeton–New Jersey*, 1973.
- S. Athey and G. Imbens. Recursive partitioning for heterogeneous causal effects. *Proceedings of the National Academy of Sciences*, 113(27):7353–7360, 2016.
- S. Athey, J. Tibshirani, and S. Wager. Generalized random forests. *The Annals of Statistics*, 47(2):1148–1178, 2019.
- I. Ayres and P. Siegelman. Race and gender discrimination in bargaining for a new car. *American Economic Review*, 85(3):304–321, 1995.
- M. L. Badgett. Bias in the workplace: Consistent evidence of sexual orientation and gender identity discrimination 1998-2008. *Chicago-Kent Law Review*, 84:559, 2009.
- M. L. Badgett. *The Economic Case for LGBT Equality: Why Fair and Equal Treatment Benefits Us All*. Beacon Press, 2020.
- M. L. Badgett, C. S. Carpenter, and D. Sansone. LGBTQ economics. *Journal of Economic Perspectives*, 35(2):141–70, 2021.
- G. Becker. *The Economics of Discrimination*. University of Chicago Press, 1971.
- R. Bénabou and J. Tirole. Identity, morals, and taboos: Beliefs as assets. *Quarterly Journal of Economics*, 126(2):805–855, 2011.
- D. J. Benjamin, J. J. Choi, and A. J. Strickland. Social identity and preferences. *American Economic Review*, 100(4):1913–28, 2010.
- D. J. Benjamin, J. J. Choi, and G. Fisher. Religious identity and economic behavior. *Review of Economics and Statistics*, 98(4):617–637, 2016.
- M. Bertrand and E. Duflo. Field experiments on discrimination. In *Handbook of economic field experiments*, volume 1, pages 309–393. Elsevier, 2017.
- M. Bertrand and S. Mullainathan. Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *American Economic Review*, 94(4):991–1013, 2004.
- M. Bertrand, D. Chugh, and S. Mullainathan. Implicit discrimination. *American*



- Economic Review*, 95(2):94–98, 2005.
- M. Bertrand, E. Kamenica, and J. Pan. Gender identity and relative income within households. *Quarterly Journal of Economics*, 130(2):571–614, 2015.
- C. Biavaschi, C. Giuliatti, and Z. Siddique. The economic payoff of name Americanization. *Journal of Labor Economics*, 35(4):1089–1116, 2017.
- D. A. Black, S. G. Sanders, and L. J. Taylor. The economics of lesbian and gay families. *Journal of Economic Perspectives*, 21(2):53–70, 2007.
- J. A. Bohren, A. Imas, and M. Rosenberg. The dynamics of discrimination: Theory and evidence. *American Economic Review*, 109(10):3395–3436, 2019.
- J. Boisjoly, G. J. Duncan, M. Kremer, D. M. Levy, and J. Eccles. Empathy or antipathy? The impact of diversity. *American Economic Review*, 96(5):1890–1905, 2006.
- L. Borghans, J. J. Heckman, B. H. Golsteyn, and H. Meijers. Gender differences in risk aversion and ambiguity aversion. *Journal of the European Economic Association*, 7(2-3):649–658, 2009.
- L. Bursztyn, G. Egorov, and S. Fiorin. From extreme to mainstream: The erosion of social norms. *American Economic Review*, 110(11):3522–48, 2020.
- T. Buser, L. Geijtenbeek, and E. Plug. Sexual orientation, competitiveness and income. *Journal of Economic Behavior & Organization*, 151:191–198, 2018.
- C. S. Carpenter and S. T. Eppink. Does it get better? Recent estimates of sexual orientation and earnings in the United States. *Southern Economic Journal*, 84(2):426–441, 2017.
- G. Charness, U. Gneezy, and M. A. Kuhn. Experimental methods: Between-subject and within-subject design. *Journal of Economic Behavior & Organization*, 81(1):1–8, 2012.
- G. Charness, R. Cobo-Reyes, S. Meraglia, and Á. Sánchez. Anticipated discrimination, choices, and performance: Experimental evidence. *European Economic Review*, 127:103473, 2020.
- D. L. Chen, M. Schonger, and C. Wickens. oTree—an open-source platform for

- laboratory, online, and field experiments. *Journal of Behavioral and Experimental Finance*, 9:88–97, 2016.
- R. Chen and Y. Chen. The potential of social identity for equilibrium selection. *American Economic Review*, 101(6):2562–89, 2011.
- Y. Chen and S. X. Li. Group identity and social preferences. *American Economic Review*, 99(1):431–57, 2009.
- Y. Chen, S. X. Li, T. X. Liu, and M. Shih. Which hat to wear? Impact of natural identities on coordination and cooperation. *Games and Economic Behavior*, 84:58–86, 2014.
- K. B. Coffman, L. C. Coffman, and K. M. M. Ericson. The size of the LGBT population and the magnitude of antigay sentiment are substantially underestimated. *Management Science*, 63(10):3168–3186, 2017.
- L. Corno, E. La Ferrara, and J. Burns. Interaction, stereotypes and performance: Evidence from South Africa. *Working Paper*, 2019.
- E. Dimant. Hate trumps love: The impact of political polarization on social preferences. *Working Paper*, 2020.
- N. Drydakis. Sexual orientation discrimination in the labour market. *Labour Economics*, 16(4):364–372, 2009.
- C. C. Eckel and P. J. Grossman. Managing diversity by creating team identity. *Journal of Economic Behavior & Organization*, 58(3):371–392, 2005.
- C. Fershtman and U. Gneezy. Discrimination in a segmented society: An experimental approach. *Quarterly Journal of Economics*, 116(1):351–377, 2001.
- S. R. Fisk and J. Overton. Who wants to lead? Anticipated gender discrimination reduces women’s leadership ambitions. *Social Psychology Quarterly*, 82(3): 319–332, 2019.
- A. Franzen and S. Pointner. The external validity of giving in the dictator game. *Experimental Economics*, 16(2):155–169, 2013.
- L. Gangadharan, T. Jain, P. Maitra, and J. Vecci. Social identity and governance: The behavioral response to female leaders. *European Economic Review*, 90:

302–325, 2016.

- L. Gangadharan, P. J. Grossman, M. K. Molle, and J. Vecci. Impact of social identity and inequality on antisocial behaviour. *European Economic Review*, 119:199–215, 2019.
- E. L. Glaeser, G. A. Ponzetto, and J. M. Shapiro. Strategic extremism: Why Republicans and Democrats divide on religious values. *Quarterly Journal of Economics*, 120(4):1283–1330, 2005.
- D. Glover, A. Pallais, and W. Pariente. Discrimination as a self-fulfilling prophecy: Evidence from French grocery stores. *Quarterly Journal of Economics*, 132(3):1219–1260, 2017.
- P. A. Grosjean, F. Masera, and H. Yousaf. Whistle the racist dogs: Political campaigns and police stops. *Working Paper*, 2021.
- T. Hossain and R. Okui. The binarized scoring rule. *Review of Economic Studies*, 80(3):984–1001, 2013.
- M. Klawitter. Meta-analysis of the effects of sexual orientation on earnings. *Industrial Relations*, 54(1):4–32, 2015.
- E. F. Klor and M. Shayo. Social identity and preferences over redistribution. *Journal of Public Economics*, 94(3-4):269–278, 2010.
- R. Kranton, M. Pease, S. Sanders, and S. Huettel. Deconstructing bias in social preferences reveals groupy and not-groupy behavior. *Proceedings of the National Academy of Sciences*, 117(35):21185–21193, 2020.
- T. Lane. Discrimination in the laboratory: A meta-analysis of economics experiments. *European Economic Review*, 90:375–402, 2016.
- M. E. Martell. Labor market differentials estimated with researcher-inferred and self-identified sexual orientation. *Economics Letters*, page 109959, 2021.
- F. Mengel. Gender differences in networking. *Economic Journal*, 130(630):1842–1873, 2020.
- I. H. Meyer. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological*

- Bulletin*, 129(5):674, 2003.
- I. H. Meyer, B. D. Wilson, and K. O'Neill. LGBTQ People in the US: Select Findings from the Generations and TransPop Studies, 2021. The Williams Institute.
- J. J. Mohr, H. M. Markell, E. B. King, K. P. Jones, C. I. Peddie, and M. S. Kendra. Affective antecedents and consequences of revealing and concealing a lesbian, gay, or bisexual identity. *Journal of Applied Psychology*, 2019.
- D. Neumark. Experimental research on labor market discrimination. *Journal of Economic Literature*, 56(3):799–866, 2018.
- D. Neumark, R. J. Bank, and K. D. Van Nort. Sex discrimination in restaurant hiring: An audit study. *Quarterly Journal of Economics*, 111(3):915–941, 1996.
- A.-K. Newheiser and M. Barreto. Hidden costs of hiding stigma: Ironic interpersonal consequences of concealing a stigmatized identity in social interactions. *Journal of Experimental Social Psychology*, 52:58–70, 2014.
- B. A. Nosek, F. L. Smyth, J. J. Hansen, T. Devos, N. M. Lindner, K. A. Ranganath, C. T. Smith, K. R. Olson, D. Chugh, A. G. Greenwald, et al. Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, 18(1):36–88, 2007.
- E. K. Ofosu, M. K. Chambers, J. M. Chen, and E. Hehman. Same-sex marriage legalization associated with reduced implicit and explicit antigay bias. *Proceedings of the National Academy of Sciences*, 116(18):8846–8851, 2019.
- P. Oreopoulos. Why do skilled immigrants struggle in the labor market? A field experiment with thirteen thousand resumes. *American Economic Journal: Economic Policy*, 3(4):148–71, 2011.
- E. S. Phelps. The statistical theory of racism and sexism. *American Economic Review*, 62(4):659–661, 1972.
- N. Powdthavee and M. Wooden. Life satisfaction and sexual minorities: Evidence from Australia and the United Kingdom. *Journal of Economic Behavior*

- & *Organization*, 116:107–126, 2015.
- B. D. Pulford and P. Gill. Good luck, bad luck, and ambiguity aversion. *Judgment and Decision Making*, 9(2):159–166, 2014.
- G. Rao. Familiarity does not breed contempt: Generosity, discrimination, and diversity in Delhi schools. *American Economic Review*, 109(3):774–809, 2019.
- E. Reuben, P. Sapienza, and L. Zingales. How stereotypes impair women’s careers in science. *Proceedings of the National Academy of Sciences*, 111(12):4403–4408, 2014.
- A. Robbett and P. H. Matthews. Polarization and group cooperation. *Working Paper*, 2021.
- W. M. Rodgers. *Handbook on the Economics of Discrimination*. Edward Elgar Publishing, 2009.
- J. J. Sabia, M. Wooden, and T. T. Nguyen. Sexual identity, same-sex relationships, and labour market dynamics: New evidence from longitudinal data in Australia. *Southern Economic Journal*, 83(4):903–931, 2017.
- D. Schindler and M. Westcott. Shocking racial attitudes: Black G.I.s in Europe. *Review of Economic Studies*, 88(1):489–520, 2021.
- W. G. Stephan, O. Ybarra, and K. R. Morrison. Intergroup threat theory. In T. D. Nelson, editor, *Handbook of prejudice, stereotyping, and discrimination*, chapter 3. Psychology Press, 2009.
- H. Sugiura, N. Mifune, S. Tsuboi, and K. Yokota. Gender differences in intergroup conflict: The effect of outgroup threat priming on social dominance orientation. *Personality and Individual Differences*, 104:262–265, 2017.
- M. Yuki and K. Yokota. The primal warrior: Outgroup threat priming enhances intergroup discrimination in men but not women. *Journal of Experimental Social Psychology*, 45(1):271–274, 2009.
- D. J. Zizzo. Experimenter demand effects in economic experiments. *Experimental Economics*, 13(1):75–98, 2010.

## A Additional Tables

Table A.1: Sample Demographics

	Dictators						Recipients		
	All	Het.				Non-Het.	All	Het.	Non-Het.
		Combined	Dem.	Rep.	Indep/Other				
Age	33.8	35.4	33.6	38.5	34.0	30.0	31.1	32.3	29.9
Gender									
Male	0.51	0.59	0.53	0.60	0.62	0.33	0.50	0.49	0.51
Female	0.44	0.41	0.47	0.39	0.37	0.52	0.49	0.51	0.47
Trans/Non-Binary/Other	0.08	0.01	-	0.01	0.01	0.24	0.03	0.01	0.04
Ethnicity									
White	0.76	0.76	0.66	0.86	0.76	0.76	0.71	0.70	0.73
Black/African American	0.08	0.08	0.09	0.07	0.07	0.09	0.10	0.10	0.10
Asian	0.14	0.13	0.19	0.05	0.15	0.15	0.14	0.14	0.14
Hispanic/Latino	0.08	0.08	0.12	0.03	0.08	0.09	0.10	0.11	0.09
Education									
Some college degree	0.27	0.22	0.22	0.20	0.25	0.39	0.31	0.23	0.39
Bachelor's	0.39	0.41	0.48	0.30	0.46	0.33	0.38	0.44	0.31
Master's and above	0.23	0.27	0.23	0.43	0.16	0.14	0.19	0.21	0.16
Religion									
Christian	0.42	0.51	0.37	0.82	0.36	0.21	0.32	0.47	0.16
Not religious	0.48	0.40	0.52	0.15	0.52	0.68	0.59	0.43	0.74
Income									
<\$20,000	0.12	0.09	0.09	0.08	0.09	0.19	0.15	0.11	0.19
\$20,000 - \$39,999	0.17	0.15	0.18	0.12	0.14	0.22	0.22	0.23	0.22
\$40,000 - \$59,999	0.20	0.17	0.17	0.13	0.22	0.25	0.16	0.16	0.15
\$60,000 - \$79,999	0.16	0.18	0.21	0.13	0.21	0.09	0.18	0.16	0.20
\$80,000 - \$99,999	0.11	0.13	0.13	0.12	0.14	0.06	0.07	0.06	0.09
>\$99,999	0.25	0.28	0.23	0.41	0.19	0.18	0.22	0.29	0.16
Observations	590	416	139	137	140	174	282	142	140

All demographic variables reported in the table are based on subjects' responses in the post-experimental questionnaire.

Table A.2: Frequency Table of Dictators' Sexual Identity (Prolific Profile versus Post-Experimental Questionnaire Responses)

Questionnaire	Prolific Profile		Total
	Heterosexual	Homosexual	
Heterosexual	410	12	422
Non-Heterosexual	6	162	168
Total	416	174	590

Table A.3: Frequency Table of Recipients' Gender and Sexual Identities (Prolific Profile versus Post-Experimental Questionnaire Responses)

Questionnaire	Prolific Profile				Total
	Hetero. Male	Homo. Male	Hetero. Female	Homo. Female	
Hetero. Male	70	5	0	1	76
Homo. Male	0	64	0	0	64
Hetero. Female	0	0	66	4	70
Homo. Female	0	0	5	60	65
Hetero. Other <sup>a</sup>	0	0	1	0	1
Homo. Other <sup>a</sup>	0	1	0	5	6
Total	70	70	72	70	282

<sup>(a)</sup>No non-binary recipients were recruited based on their Prolific profiles. However, 7 recipients (2.48% of the sample) reported their gender as non-binary in the post-experimental questionnaire.

Table A.4: Double Hurdle Model Regression Results for Dictator Giving

	(1)	(2)	(3)	(4)
Dependent Variable:	Prob. of Giving	Prob. of Giving	Amount Sent	Amount Sent
Recip: Non-Heterosexual	0.375 (0.296)	0.271 (0.334)	1.924 (3.261)	2.364 (3.658)
Dict: Non-Heterosexual	0.754 (0.287)	0.775 (0.289)	1.919 (2.851)	2.484 (2.870)
Dict: Republican Heterosexual	0.534 (0.268)	0.638 (0.276)	4.153 (2.946)	2.905 (3.017)
Dict: Independent/Other Hetero	0.082 (0.222)	0.102 (0.225)	7.162 (2.628)	7.611 (2.634)
Recip: Non-Hetero $\times$ Dict: Non-Hetero	-0.526 (0.416)	-0.464 (0.427)	-0.713 (4.137)	-1.460 (4.175)
Recip: Non-Hetero $\times$ Dict: Republican Hetero	-0.870 (0.439)	-0.989 (0.465)	-12.749 (5.057)	-9.961 (5.278)
Recip: Non-Hetero $\times$ Dict: Independent/Other Hetero	-0.305 (0.423)	-0.237 (0.428)	-2.940 (4.738)	-2.740 (4.754)
Dict: Christian		0.081 (0.197)		3.838 (2.312)
Dict: Other Religion		0.779 (0.398)		-1.594 (3.344)
Recip: Non-Hetero $\times$ Dict: Christian		0.302 (0.362)		-4.400 (3.713)
Recip: Non-Hetero $\times$ Dict: Other Religion		-0.386 (0.584)		7.826 (5.137)
Constant	1.096 (0.398)	0.989 (0.417)	41.870 (4.291)	39.735 (4.477)
Observations	590	590	513	513
Controls	Y	Y	Y	Y

The first two columns report the coefficients of a probit model (first hurdle). The dependent variable is the probability of giving, which is an indicator variable that takes the value of 1 if the amount sent by the dictator is non-zero and 0 otherwise. The last two columns report the coefficients of an OLS model. The dependent variable is the amount sent by dictators conditional on sending a positive amount. Standard errors in parentheses. In the regressions, we also control for dictators' gender, age, ethnicity, education level, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequently they interact with LGBTQ+ individuals.



**[FOR ONLINE PUBLICATION]**

**B Additional Tables and Figures**

Table B.1: Summary Statistics of Dictators' Characteristics by Treatment

	Non-Pride	Pride	p-value
Age	33.310 [12.475]	34.262 [12.624]	0.301
Male	0.523 [0.500]	0.497 [0.501]	0.564
Female	0.433 [0.496]	0.448 [0.498]	0.740
Trans/ Non-binary/ Other	0.070 [0.256]	0.079 [0.271]	0.754
Non-heterosexual	0.273 [0.446]	0.297 [0.458]	0.584
White	0.767 [0.424]	0.755 [0.431]	0.773
Black/ African American	0.073 [0.261]	0.090 [0.286]	0.547
Asian	0.130 [0.337]	0.141 [0.349]	0.719
Hispanic/ Latino	0.077 [0.267]	0.079 [0.271]	1.000
Some college degree	0.240 [0.428]	0.303 [0.461]	0.095
Bachelor's	0.410 [0.493]	0.369 [0.483]	0.312
Master's and above	0.250 [0.434]	0.217 [0.413]	0.382
Not religious	0.490 [0.501]	0.476 [0.500]	0.742
Christian	0.430 [0.496]	0.414 [0.493]	0.739
Other religion	0.080 [0.272]	0.110 [0.314]	0.261
V. Liberal on social issues	0.327 [0.470]	0.338 [0.474]	0.794
Liberal on social issues	0.327 [0.470]	0.334 [0.473]	0.861
(V.) Conservative on social issues	0.193 [0.396]	0.197 [0.398]	1.000
LGBTQ+ ally	0.650 [0.478]	0.645 [0.479]	0.931
Observations	300	290	

Standard deviations in brackets. All demographic variables reported in the table are based on dictators' responses in the post-experimental questionnaire. Two-tailed pairwise comparisons are conducted using Fisher's exact tests (for binary outcome variables) and Wilcoxon rank-sum tests (for continuous outcome variables).

Table B.2: Summary Statistics of Recipients' Characteristics by Treatment

	Uninformed-Choice	Informed-Choice	p-value
Age	32.151 [10.554]	30.022 [10.924]	0.034
Male	0.500 [0.502]	0.500 [0.502]	1.000
Female	0.493 [0.502]	0.485 [0.502]	0.906
Trans/ Non-binary/ Other	0.021 [0.142]	0.029 [0.170]	0.715
Non-heterosexual	0.486 [0.502]	0.471 [0.501]	0.812
White	0.712 [0.454]	0.713 [0.454]	1.000
Black/ African American	0.103 [0.305]	0.096 [0.295]	1.000
Asian	0.130 [0.338]	0.147 [0.355]	0.732
Hispanic/ Latino	0.096 [0.295]	0.096 [0.295]	1.000
Some college degree	0.363 [0.483]	0.250 [0.435]	0.053
Bachelor's	0.322 [0.469]	0.434 [0.497]	0.065
Master's and above	0.219 [0.415]	0.154 [0.363]	0.173
Not religious	0.589 [0.494]	0.581 [0.495]	0.904
Christian	0.315 [0.466]	0.316 [0.467]	1.000
Other religion	0.096 [0.295]	0.103 [0.305]	0.845
V. Liberal on social issues	0.411 [0.494]	0.353 [0.480]	0.329
Liberal on social issues	0.356 [0.481]	0.441 [0.498]	0.180
(V.) Conservative on social issues	0.075 [0.265]	0.110 [0.314]	0.411
LGBTQ+ ally	0.801 [0.400]	0.816 [0.389]	0.764
Observations	146	136	

Standard deviations in brackets. All demographic variables reported in the table are based on recipients' responses in the post-experimental questionnaire. Two-tailed pairwise comparisons are conducted using Fisher's exact tests (for binary outcome variables) and Wilcoxon rank-sum tests (for continuous outcome variables).

Table B.3: Amount Sent by Voting Behavior (Heterosexual Dictators)

	(1)	(2)
Dependent Variable: Amount Sent		
Dict: Donald Trump Voter	6.666 (4.476)	5.476 (4.550)
Dict: Other Voter	5.506 (4.142)	5.286 (4.114)
Recip: Non-Heterosexual	6.577 (5.088)	10.085 (5.685)
Recip: Non-Hetero $\times$ Dict: Donald Trump Voter	-27.297 (7.953)	-23.543 (8.381)
Recip: Non-Hetero $\times$ Dict: Other Voter	-4.859 (7.113)	-4.610 (7.146)
Dict: Christian		7.619 (3.787)
Dict: Other Religion		12.394 (6.092)
Recip: Non-Hetero $\times$ Dict: Christian		-8.149 (6.814)
Recip: Non-Hetero $\times$ Dict: Other Religion		-9.262 (10.689)
Constant	32.557 (8.073)	28.469 (8.245)
Observations	416	416
Controls	Y	Y

Coefficients of tobit model reported. Standard errors in parentheses. In the regressions, we also control for dictators' gender, age, ethnicity, education level, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequently they interact with LGBTQ+ individuals.

Table B.4: Amount Sent by Other Perceptions about Recipient

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable: Amount Sent						
Recip: Female	2.799 (2.404)	3.604 (4.500)	2.879 (2.402)	2.920 (2.420)	2.670 (2.404)	2.559 (2.402)
Recip: Trans/Non-Binary/Other	7.891 (3.745)	7.950 (3.749)	15.229 (7.571)	7.931 (3.742)	7.779 (3.746)	8.130 (3.731)
Recip: Ally	2.600 (2.617)	2.494 (2.632)	2.434 (2.615)	-2.230 (5.256)	2.474 (2.621)	1.857 (2.627)
Recip: Political Leaning	2.400 (1.275)	2.415 (1.276)	2.286 (1.276)	2.331 (1.276)	0.942 (2.694)	2.264 (1.270)
Recip: Age	0.908 (1.403)	0.968 (1.408)	0.852 (1.405)	0.769 (1.409)	0.894 (1.400)	-4.546 (2.945)
Dict: Non-Heterosexual	8.723 (4.026)	9.000 (4.523)	8.769 (4.032)	5.574 (5.483)	2.936 (10.726)	-10.269 (11.421)
Dict: Republican Heterosexual	11.222 (4.170)	10.881 (4.582)	11.404 (4.165)	8.181 (4.989)	2.682 (9.479)	-19.992 (13.100)
Dict: Independent/Other Heterosexual	7.733 (3.624)	8.341 (4.143)	7.767 (3.626)	6.094 (4.932)	11.171 (10.271)	-4.918 (12.654)
Recip: Non-Heterosexual	4.606 (4.944)	4.540 (4.942)	1.768 (5.543)	7.194 (5.506)	3.431 (5.353)	3.094 (4.981)
Recip: Non-Hetero $\times$ Dict: Non-Hetero	-5.018 (5.887)	-5.035 (5.887)	-2.177 (6.531)	-8.212 (6.679)	-3.082 (6.709)	-3.243 (5.933)
Recip: Non-Hetero $\times$ Dict: Rep. Hetero	-23.461 (6.943)	-23.528 (6.983)	-16.740 (8.480)	-27.982 (8.087)	-20.660 (7.469)	-19.925 (7.043)
Recip: Non-Hetero $\times$ Dict: Indep/Other Hetero	-7.886 (6.571)	-7.857 (6.571)	-5.091 (7.755)	-10.284 (7.405)	-8.272 (7.161)	-6.402 (6.695)
Recip: Female $\times$ Dict: Non-Hetero		-1.106 (5.855)				
Recip: Female $\times$ Dict: Rep. Hetero		0.969 (7.005)				
Recip: Female $\times$ Dict: Indep/Other Hetero		-2.482 (6.344)				
Recip: Trans/Non-Binary/Other $\times$ Dict: Non-Hetero			-8.160 (9.218)			
Recip: Trans/Non-Binary/Other $\times$ Dict: Rep. Hetero			-16.429 (11.890)			
Recip: Trans/Non-Binary/Other $\times$ Dict: Indep/Other Hetero			-7.465 (10.270)			
Recip: Ally $\times$ Dict: Non-Hetero				6.549 (7.044)		
Recip: Ally $\times$ Dict: Rep. Hetero				7.907 (7.167)		
Recip: Ally $\times$ Dict: Indep/Other Hetero				4.024 (7.040)		
Recip: Political Leaning $\times$ Dict: Non-Hetero					2.267 (3.769)	
Recip: Political Leaning $\times$ Dict: Rep. Hetero					3.208 (3.234)	
Recip: Political Leaning $\times$ Dict: Indep/Other Hetero					-1.464 (3.799)	
Recip: Age $\times$ Dict: Non-Hetero						6.407 (3.623)
Recip: Age $\times$ Dict: Rep. Hetero						9.655 (3.843)
Recip: Age $\times$ Dict: Indep/Other Hetero						4.038 (4.041)
Constant	22.821 (7.674)	20.141 (8.728)	23.331 (7.670)	24.932 (7.931)	27.267 (10.065)	40.599 (11.225)
Observations	590	590	590	590	590	590
Controls	Y	Y	Y	Y	Y	Y

Coefficients of tobit model reported. Standard errors in parentheses. In the regressions, we also control for dictators' gender, age, ethnicity, education level, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequently they interact with LGBTQ+ individuals.

The following variables are constructed using the dictators' perception on recipients: (i) Recip: Non-Hetero, (ii) Recip: Female, (iii) Recip: Trans/Non-Binary/Other, (iv) Recip: Political Leaning, (v) Recip: Ally, and (vi) Recip: Age. Recip: Political Leaning is a variable that ranges from 1 ("Very Liberal") to 5 ("Very Conservative"). Recip: Age is a categorical variable that takes the value of 1 for "Under 18", 2 for "18-24", 3 for "25-34", 4 for "35-44", 5 for "45-54", and 6 for "55-64". All other variables are dummy variables.

Table B.5: Amount Sent by Perceived LGBTQ+ Status

	(1)	(2)
Dependent Variable: Amount Sent		
Dict: Non-Heterosexual	9.364 (4.082)	9.645 (4.090)
Dict: Republican Heterosexual	11.023 (4.118)	10.932 (4.196)
Dict: Independent/Other Heterosexual	7.335 (3.661)	7.416 (3.657)
Recip: LGBTQ+	7.013 (4.515)	6.781 (5.044)
Recip: LGBTQ+ $\times$ Dict: Non-Hetero	-6.152 (5.841)	-6.190 (5.886)
Recip: LGBTQ+ $\times$ Dict: Rep. Hetero	-22.993 (6.948)	-21.557 (7.234)
Recip: LGBTQ+ $\times$ Dict: Indep/Other Hetero	-6.432 (6.466)	-5.446 (6.470)
Dict: Christian		4.154 (3.171)
Dict: Other Religion		6.543 (4.783)
Recip: LGBTQ+ $\times$ Dict: Christian		-1.610 (5.070)
Recip: LGBTQ+ $\times$ Dict: Other Religion		1.547 (7.308)
Constant	33.863 (6.009)	31.150 (6.272)
Observations	590	590
Controls	Y	Y

Coefficients of tobit model reported. Standard errors in parentheses. In the regressions, we also control for dictators' gender, age, ethnicity, education level, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequently they interact with LGBTQ+ individuals.

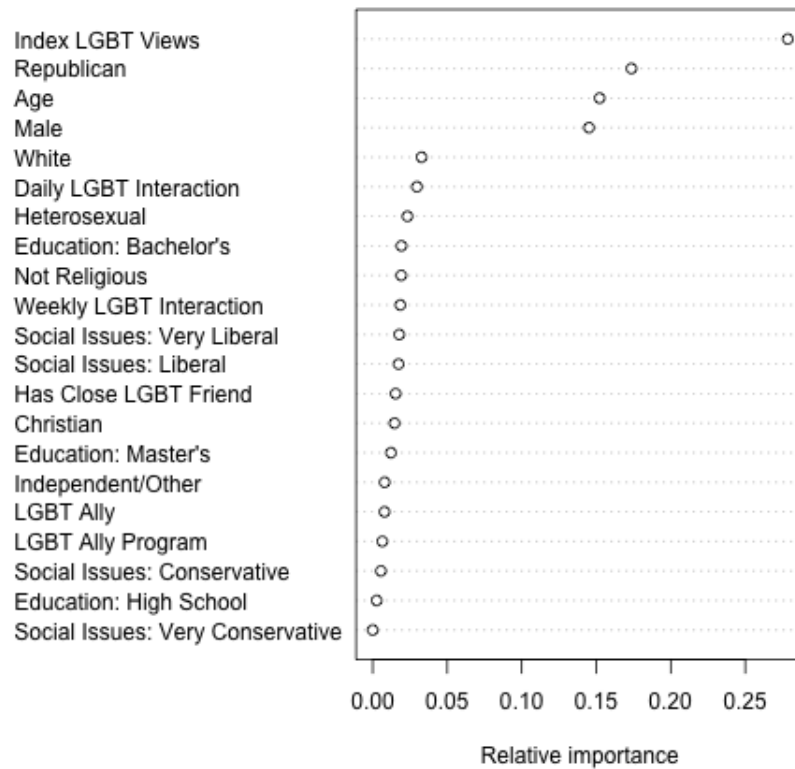


Figure B.1: Relative Importance of Independent Variables in Explaining Effect of Being Perceived as Non-Heterosexual on Dictators' Giving Behavior

*Notes:* To maximize the size of the sample fed into the causal forest estimation, we use both rounds of dictators' choices. Independent variables are presented in the order of relative importance in explaining the effect of a recipient being perceived as non-heterosexual on dictators' giving behavior. While this figure shows one example of the causal forest estimation, using different combinations and subsets of independent variables, we find being Republican to be consistently among the most important variables for explaining this effect.

## C Additional Analyses

### C.1 Within-Subject Analysis of Dictators' Behavior

As explained in Section 2.2, we also implemented a within-subject variation for the dictator sessions. In Table C.1, we report estimates from tobit regressions using dictators' decisions for both recipients they were matched with. Our main finding reported in Table 1 is robust, albeit with a reduction in the effect sizes. This reduction may be attributed to experimenter demand and order effects, which are the typical concerns researchers face when analyzing behavior under a within-subject treatment design (Charness et al., 2012).

Table C.1: Tobit Regression Results for Amount Sent – Both Recipients

	(1)	(2)
Dependent Variable: Amount Sent		
Dict: Non-Heterosexual	7.020 (2.941)	7.362 (3.366)
Dict: Republican Heterosexual	5.364 (5.334)	5.444 (3.566)
Dict: Independent/Other Heterosexual	5.321 (2.701)	5.576 (3.348)
Recip: Non-Heterosexual	0.827 (0.934)	1.832 (0.918)
Recip: Non-Hetero $\times$ Dict: Non-Hetero	1.538 (1.219)	0.939 (1.166)
Recip: Non-Hetero $\times$ Dict: Rep. Hetero	−8.414 (2.303)	−7.274 (2.954)
Recip: Non-Hetero $\times$ Dict: Indep./Other Hetero	0.969 (1.637)	1.049 (1.564)
Dict: Christian		4.031 (2.054)
Dict: Other Religion		6.937 (3.814)
Recip: Non-Hetero $\times$ Dict: Christian		−2.779 (1.150)
Recip: Non-Hetero $\times$ Dict: Other Religion		0.497 (1.769)
Round	−1.788 (0.543)	−1.767 (0.700)
Constant	34.130 (6.473)	31.371 (5.560)
Observations	1180	1180
Controls	Y	Y

Coefficients of tobit model reported. Bootstrapped standard errors in parentheses. In the regressions, we also control for dictators' gender, age, ethnicity, education level, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequently they interact with LGBTQ+ individuals.

## C.2 Dictators' Behavior Toward Pride vs. Non-Pride Flag

Here, we present dictators' behavior toward recipients with a Pride flag versus a Non-Pride flag. Figure C.1 shows the average amounts sent to Pride versus Non-Pride recipients across four groups of dictators. We do not find any statistically significant differences in the amounts sent to Pride and Non-Pride recipients for any of the dictator groups.

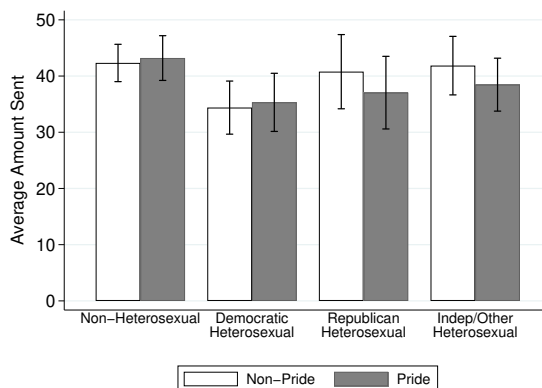


Figure C.1: Average Amount Sent By Flag Choice

Tables C.2 present coefficient estimates of tobit regressions of dictators' giving behavior. In the regressions, we also control for dictators' gender, age, ethnicity, education level, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequent they interact with LGBTQ+ individuals.. Overall, although the signs of the regression coefficients are mostly in line with our main findings (giving behavior by perceived sexual orientation), the differences in giving by flag choice are not statistically significant. As discussed in the main text, we posit that this is likely due to the Pride flag being an imperfect signal of recipients' LGBTQ+ identity.



Table C.2: Tobit Regression Results for Amount Sent – Pride vs. Non-Pride

	(1)	(2)
Dependent Variable: Amount Sent		
Dict: Non-Heterosexual	7.308 (4.317)	7.281 (4.320)
Dict: Republican Heterosexual	7.752 (4.741)	7.311 (4.930)
Dict: Independent/Other Heterosexual	7.863 (4.286)	7.811 (4.271)
Pride Recipient	0.475 (4.259)	0.224 (4.790)
Pride Recipient $\times$ Dict: Non-Hetero	0.457 (5.679)	0.838 (5.723)
Pride Recipient $\times$ Dict: Rep. Hetero	-3.591 (6.021)	-1.968 (6.408)
Pride Recipient $\times$ Dict: Indep/Other Hetero	-4.290 (6.035)	-3.413 (6.039)
Dict: Christian		4.625 (3.672)
Other Religion		7.870 (5.570)
Pride Recipient $\times$ Dict: Christian		-1.411 (4.893)
Pride Recipient $\times$ Dict: Other Religion		-0.929 (7.375)
Constant	36.043 (6.202)	33.241 (6.470)
Observations	590	590
Controls	Y	Y

Coefficients of tobit model reported. Standard errors in parentheses. In the regressions, we also control for dictators' gender, age, ethnicity, education level, LGBTQ+ allyship, views on LGBTQ+ issues, political views on social issues, whether they have a family member or close friend who identifies as LGBTQ+, and how frequently they interact with LGBTQ+ individuals.

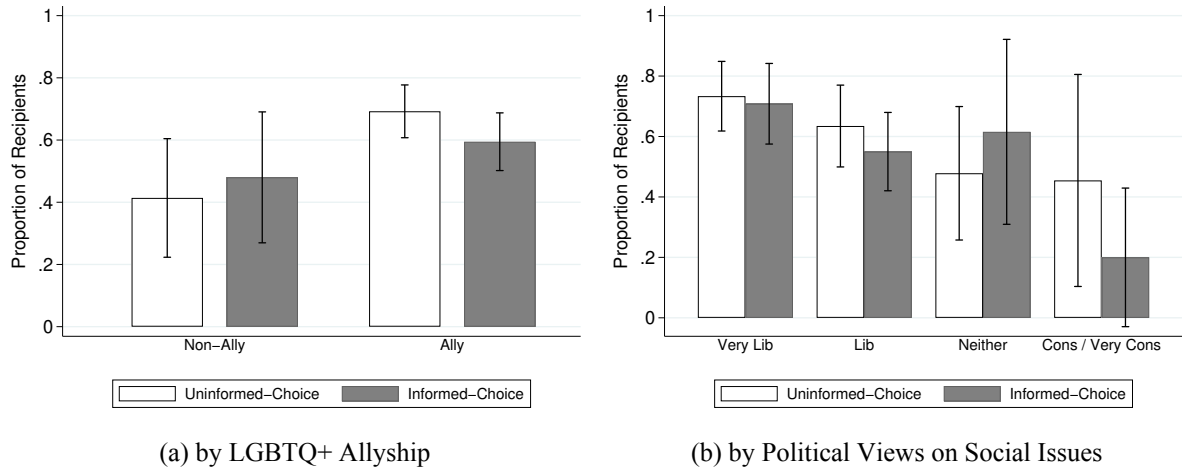


Figure C.2: Choice of Pride Flag

### C.3 Heterogeneous Treatment Effects in Recipients' Flag Choice

Here, we present further analysis of recipients' Pride flag selection along LGBTQ+ allyship and their political views on social issues. In sum, we do not find statistically significant evidence of heterogeneous treatment effects along these two dimensions. Nonetheless, we control for these characteristics in our main regression analysis (Table 2).

Panel (a) of Figure C.2 presents the proportion of recipients who choose the Pride flag based on their allyship status within each treatment. We do not find any statistically significant difference in the proportion of Pride flag choices between the Uninformed-Choice and Informed-Choice treatments for neither non-allies nor allies (Fisher's exact tests:  $p$ -values = 0.784 and 0.130, respectively).

Next, Panel (b) of Figure C.2 presents recipients' flag choice based on their political views on social issues within each treatment.<sup>1</sup> There is no statistically significant difference in the proportion of Pride flag choices between the Uninformed-Choice and Informed-Choice treatments for any of the recipient groups (Fisher's exact tests: (i) very liberal:  $p$ -value = 0.831; (ii) liberal:  $p$ -value = 0.442; (iii) neither:  $p$ -value = 0.502; and (iv) conservative/ very conservative:  $p$ -value = 0.218).

### C.4 Recipients' Individual Flag and String Choices

In this section, we present additional analyses of recipients' individual icon and string choices. In sum, our main conclusions hold even when we consider the individual icon and string choices made by recipients.



We first examine the proportion of recipients choosing each of the three individual icons. Table C.3 presents marginal effect estimates of multinomial probit regressions of recipients' flag choices against recipients' sexual orientation and gender, and the treatment variable. Column

<sup>1</sup>Overall, 38.3% of recipients identify as very liberal, 39.7% as liberal, 12.8% as neither liberal nor conservative, and 9.2% as either conservative or very conservative. Due to the low proportions of recipients identifying as conservative (7.5%) and very conservative (1.8%), we pool these into one category.

(1) reveals that there is no overall difference in the share of recipients choosing the Pride flag between the two treatments (p-value = 0.338), and that non-heterosexual recipients are more likely to choose the Pride flag than heterosexual recipients (p-value < 0.001). Columns (2) and (3) reveal that the statistically insignificant treatment effect holds for both heterosexual and non-heterosexual recipients. However, we observe in column (1) that relative to the Uninformed-Choice treatment, there are more recipients who choose Non-Pride flag 1 (p-value = 0.005) and fewer recipients who choose Non-Pride flag 2 (p-value = 0.081) in the Informed-Choice treatment. This result appears to be driven by heterosexual recipients (column 2).

Table C.3: Multinomial Probit Regressions of Recipients' Flag Choice

	(1) <i>Pooled</i>	(2) <i>Hetero.</i>	(3) <i>Non-Hetero.</i>	(4) <i>Male</i>	(5) <i>Female</i>
Dependent variable: Flag choice					
<b><u>Informed-Choice</u></b>					
Non-Pride 1	0.131 (0.046)	0.210 (0.075)	0.055 (0.053)	0.083 (0.063)	0.181 (0.067)
Non-Pride 2	−0.079 (0.045)	−0.166 (0.073)	0.003 (0.053)	−0.231 (0.063)	0.066 (0.062)
Pride	−0.052 (0.054)	−0.043 (0.083)	−0.058 (0.070)	0.147 (0.075)	−0.247 (0.075)
<b><u>Non-Heterosexual</u></b>					
Non-Pride 1	−0.190 (0.046)			−0.196 (0.063)	−0.184 (0.066)
Non-Pride 2	−0.162 (0.045)			−0.188 (0.063)	−0.133 (0.061)
Pride	0.352 (0.054)			0.384 (0.075)	0.318 (0.075)
<b><u>Female</u></b>					
Non-Pride 1	0.034 (0.046)	0.030 (0.075)	0.039 (0.052)		
Non-Pride 2	−0.032 (0.045)	−0.053 (0.073)	−0.013 (0.053)		
Pride	−0.002 (0.054)	0.023 (0.083)	−0.026 (0.069)		
Observations	282	142	140	140	142
Controls	N	N	N	N	N

Marginal effects of multinomial probit model reported. Standard errors in parentheses. Individual controls are excluded to allow for convergence of the estimated models. Non-Pride 1 and Non-Pride 2 refer to  and , respectively.

Consistent with Result 3, columns (4) and (5) reveal that male recipients are more likely to choose the Pride flag in the Informed-Choice treatment relative to the Uninformed-Choice treatment (p-value = 0.049), while the reverse holds for female recipients (p-value = 0.001).

Specifically, column (4) reveals that there are fewer male recipients choosing Non-Pride flag 2 in the Informed-Choice treatment than in the Uninformed-Choice treatment ( $p\text{-value} < 0.001$ ), while column (5) reveals that female recipients are switching from the Pride flag to Non-Pride flag 1 between the treatments ( $p\text{-value} = 0.007$ ). Overall, we conclude that, while there are some gender differences in recipients' choices between the two Non-Pride flags, our main conclusions centered around the choice of Pride versus Non-Pride flags are robust after controlling for these differences.

We next move on to recipients' choice of string in their ID. Table C.4 presents marginal effect estimates of multinomial probit regressions of recipients' string choices against recipients' sexual orientation and gender, and the treatment variable. Overall, the table reveals that there are no systematic differences in the recipients' choice of strings across treatments. The only exception is that recipients are slightly more likely to choose String 3 in the Informed-Choice treatment than in the Uninformed-Choice treatment ( $p\text{-value} = 0.052$ ). This difference appears to be driven by non-heterosexual recipients, as shown in column (3) ( $p\text{-value} = 0.038$ ), and male recipients, as shown in column (4) ( $p\text{-value} = 0.041$ ). Nonetheless, the lack of systematic differences in string choices suggest that recipients do not view the string component of the ID as conveying any meaningful representation of their identity.

Table C.4: Multinomial Probit Regressions of Recipients' String Choice

	(1) <i>Pooled</i>	(2) <i>Hetero.</i>	(3) <i>Non-Hetero.</i>	(4) <i>Male</i>	(5) <i>Female</i>
Dependent variable: String choice					
<b><u>Informed-Choice</u></b>					
String 1	−0.087 (0.057)	−0.014 (0.080)	−0.163 (0.080)	−0.125 (0.079)	−0.050 (0.082)
String 2	−0.023 (0.053)	−0.041 (0.076)	−0.005 (0.075)	−0.042 (0.075)	−0.005 (0.076)
String 3	0.110 (0.057)	0.055 (0.080)	0.167 (0.081)	0.167 (0.082)	0.056 (0.079)
<b><u>Non-Heterosexual</u></b>					
String 1	0.002 (0.057)			−0.005 (0.079)	0.009 (0.082)
String 2	−0.024 (0.053)			−0.029 (0.075)	−0.019 (0.076)
String 3	0.022 (0.057)			0.034 (0.082)	0.010 (0.078)
<b><u>Female</u></b>					
String 1	0.065 (0.057)	0.059 (0.080)	0.070 (0.080)		
String 2	0.009 (0.053)	0.006 (0.076)	0.015 (0.075)		
String 3	−0.074 (0.057)	−0.065 (0.080)	−0.085 (0.080)		
Observations	282	142	140	140	142
Controls	N	N	N	N	N

Marginal effects of multinomial probit model reported. Standard errors in parentheses. Individual controls are excluded to allow for convergence of the estimated models. Strings 1, 2, and 3 refer to “gwzxr174”, “rgzxw471”, and “zrwgx741”, respectively.

## **D Instructions**

In this section, we provide screenshots of the instructions for the main tasks for both the recipient and dictator sessions. We provide a list of questions asked in the post-experimental questionnaire in Section E of the Online Appendix.

## D.1 Instructions for Recipient Sessions

### Uninformed-Choice Treatment

#### Overview of study

Welcome! Here is a brief overview of the study.

##### What will I have to do?

This study consists of **two** tasks which will be explained in detail later. The study should take no longer than **20** minutes in total.

##### How much payment will I receive for my participation?

You will be paid 1 USD for completing the study.

Additionally, you may receive **additional bonus payments** based on your decisions in the tasks. Hence, you should pay close attention to the tasks as your decisions may determine your earnings.

##### How will payment be made?

During the study, we will be trading in experimental currency units (ECU). At the end of the study, any ECU you have received from the tasks will be converted to USD using the following conversion rate: **20 ECU = 1 USD**.

This experiment will continue over the next 21 days. Once all participants complete this study, we will determine your bonus payments based on the decisions made in the tasks and pay these to you via the Prolific platform.

##### Please note!

There will be several **Attention Check** questions throughout this study meant to test whether you are paying attention. If you fail to correctly complete any of these Attention Check questions, you may not be paid.

Finally, please note that in line with standard economics experiments, your bonus payments will be determined in the manner as described in the instructions.

NEXT

## Task 1 : Creation of Personal ID

You will be asked to create a personal ID that is a combination of (i) an 8-digit alpha-numeric string of characters and (ii) an icon.

### Step 1: Choose Alpha-Numeric String

All the participants in this study are given these three options. Please select one to form the alpha-numeric part of your personal ID.

- ☐ rgzxw471
- ☐ zrwgx741
- ☐ gwxzr174

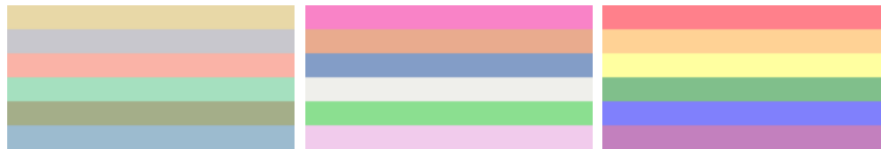
You **do not** need to remember which option you have selected. Your ID will always be shown to you whenever it is necessary.

NEXT

## Task 1 : Creation of Personal ID

### Step 2: Choose Icon

All participants in this study are given these three options. Please select one to form the icon part of your personal ID.



You **do not** need to remember which option you have selected. Your ID will always be shown to you whenever it is necessary.

NEXT

## Task 1 : Creation of Personal ID

Your personal ID is:



zrwgx741

We are now ready to begin the next Task.

This is to check your attention. Please select the word "Dog":

- ☐ Cat
- ☐ Dog
- ☐ Bird

NEXT



## Task 2


In this task, we will ask you to answer some questions, please answer them to the best of your ability. You may receive **additional bonus payments** based on your responses to some of the questions.

The survey consists of five parts.

NEXT


## Task 2 : Part 1


You will be randomly matched with one or more participants from the United States, also recruited via the Prolific platform.


Each of these participants will be shown your ID (zrwgx741), and they will be asked to make one decision which will determine the bonus payments that you will receive from this part of Task 2.


Specifically, each participant you are matched with will be given the following information:

### Information Given to Your Matched Participant(s)

You are randomly matched with a participant who has chosen the following ID: zrwgx741.

You will be asked to make one decision which will determine the bonus payments that you and zrwgx741 will receive from this task.

Your Decision: You will be asked how you would like to allocate 100 ECU between yourself and zrwgx741.

You can send any amount to zrwgx741 in increments of 1 ECU between 0 and 100 ECU. The remaining amount, if any, will be yours to keep.


In short, each of your matched partner(s) will be shown your personal ID and will be asked how to allocate 100 ECU between the two of you.



NEXT

## Task 2 : Part 1

Your matched participant(s) will make their decisions on a screen as shown below:

**Decision Screen as Seen by Your Matched Participant(s)**

Please choose how you would like to allocate 100 ECU between yourself and  zrwgx741

70 ME   zrwgx741 30

Note: you must click on the above in order for the selection slider to be displayed.

Show/Hide Information from Previous Screen

Each of your matched participant(s) will use the slider above to allocate 100 ECU between themselves and you.

To ensure that you completely understand this task, please use the slider above to see how it works. **There is no decision for you to make here, but you will not be able to move forward without first clicking on the slider.**

**Your Payment:** Since you may be matched with more than one participant, your bonus payment for this part of Task 2 will be the **sum** of all their decisions.

NEXT

## Task 2 : Part 1

To check that you understand the instructions, please answer the following question.

My bonus payment from this part of Task 2 is determined by the decisions of **one** randomly chosen partner I have been matched with.

- ☐ True
- ☐ False

SUBMIT

## Informed-Choice Treatment

### Overview of study

Welcome! Here is a brief overview of the study.

#### What will I have to do?

This study consists of **four** tasks which will be explained in detail later. The study should take no longer than **20** minutes in total.

#### How much payment will I receive for my participation?

You will be paid 1 USD for completing the study.

Additionally, you may receive **additional bonus payments** based on your decisions in the tasks. Hence, you should pay close attention to the tasks as your decisions may determine your earnings.

#### How will payment be made?

During the study, we will be trading in experimental currency units (ECU). At the end of the study, any ECU you have received from the tasks will be converted to USD using the following conversion rate: **20 ECU = 1 USD**.

This experiment will continue over the next 21 days. Once all participants complete this study, we will determine your bonus payments based on the decisions made in the tasks and pay these to you via the Prolific platform.

#### Please note!

There will be several **Attention Check** questions throughout this study meant to test whether you are paying attention. If you fail to correctly complete any of these Attention Check questions, you may not be paid.

Finally, please note that in line with standard economics experiments, your bonus payments will be determined in the manner as described in the instructions.

NEXT

## Task 1

In this experiment, you will be asked to construct a personal ID (to be explained in detail later).

You will then be randomly matched with one or more participants. Each of these participants will be shown your personal ID, and they will be asked to make one decision which will determine your bonus payments from this part of Task 1.


Before we ask you to choose your personal ID, we will first explain the decision that your matched participant(s) will be making.

NEXT

## Task 1


You will be randomly matched with one or more participants from the United States, also recruited via the Prolific platform.


For now, assume that your personal ID is: abcde123. (You will get to choose this later).


Each of these participants will be shown your ID (abcde123), and they will be asked to make one decision which will determine the bonus payments that you will receive from this part of Task 1.


Specifically, each participant you are matched with will be given the following information:

### Information Given to Your Matched Participant(s)

You are randomly matched with a participant who has chosen the following ID: abcde123.

You will be asked to make one decision which will determine the bonus payments that you and abcde123 will receive from this task.

Your Decision: You will be asked how you would like to allocate 100 ECU between yourself and abcde123.

You can send any amount to abcde123 in increments of 1 ECU between 0 and 100 ECU. The remaining amount, if any, will be yours to keep.

In short, each of your matched partner(s) will be shown your personal ID and will be asked how to allocate 100 ECU between the two of you.


NEXT

## Task 1

Your matched participant(s) will make their decisions on a screen as shown below:

**Decision Screen as Seen by Your Matched Participant(s)**

Please choose how you would like to allocate 100 ECU between yourself and **abcde123**

60 ME  abcde123 40

Note: you must click on the above in order for the selection slider to be displayed.

Show/Hide Information from Previous Screen

Each of your matched participant(s) will use the slider above to allocate 100 ECU between themselves and you.

To ensure that you completely understand this task, please use the slider above to see how it works. **There is no decision for you to make here, but you will not be able to move forward without first clicking on the slider.**

**Your Payment:** Since you may be matched with more than one participant, your bonus payment for this part of Task 1 will be the **sum** of all their decisions.

NEXT

## Task 1

To check that you understand the instructions, please answer the following question.

My bonus payment from this part of Task 1 is determined by the decisions of **one** randomly chosen partner I have been matched with.

- ☐ True
- ☐ False

SUBMIT

## Task 2 : Creation of Personal ID

Now we ask you to create a personal ID that is a combination of (i) an 8-digit alpha-numeric string of characters and (ii) an icon.

### Step 1: Choose Alpha-Numeric String

All the participants in this study are given these three options. Please select one to form the alpha-numeric part of your personal ID.

- ☐ gwxzr174
- ☐ rgzxw471
- ☐ zrwgx741

You **do not** need to remember which option you have selected. Your ID will always be shown to you whenever it is necessary.

NEXT

## Task 2 : Creation of Personal ID

### Step 2: Choose Icon

All participants in this study are given these three options. Please select one to form the icon part of your personal ID.



You **do not** need to remember which option you have selected. Your ID will always be shown to you whenever it is necessary.

NEXT

## Task 2 : Creation of Personal ID

Your personal ID is:



rgzxw471

We are now ready to begin the next Task.

This is to check your attention. Please select the word "Dog":

- ☐ Cat
- ☐ Dog
- ☐ Bird

NEXT

## Both Treatments

### Task 2 : Part 2

We will now ask you to predict what you think will be the decisions made by the matched partners of **other participants who are in a similar position as you.**

Specifically, you will be shown the IDs chosen by other participants, and you will be asked to predict what would be the average number of ECU each participant will receive from their matched partner(s). At the end of the experiment, **you will be paid** for the accuracy of **one** of your predictions.


Clicking the button below will provide a detailed description of how you will be paid for your predictions. You do not need to know it in detail, except that the procedure is designed so that **it is in your best interest to state your predictions as accurately as possible.**


Show/Hide Additional Details

NEXT

### Task 2 : Part 2

*Remember, you may receive additional bonus payments based on the accuracy of your answer.*

First, consider a participant who has chosen the following ID: rgzxw471.

On average, how many ECU do you think a participant with the ID rgzxw471 will receive from their matched partner(s)?





Average amount **received by** rgzxw471: 50

SUBMIT


### Task 2 : Part 2

*Remember, you may receive additional bonus payments based on the accuracy of your answer.*

Next, consider a participant who has chosen the following ID: rgzxw471.

On average, how many ECU do you think a participant with the ID rgzxw471 will receive from their matched partner(s)?



Average amount **received by** rgzxw471: 60

SUBMIT

## Task 2 : Part 3

Another participant in this study has chosen the ID rgzxw471 and provided us with information about themselves.

Please indicate how you think they responded to the following questions.

I think their gender identity is:

How sure are you?

I think their age is:

How sure are you?

I think their sexual orientation is:

How sure are you?

I think they identify as an ally to the LGBTQ+ community:


How sure are you?

On social issues, I think they are:

How sure are you?

NEXT

## Task 2 : Part 3

Now consider a participant who has chosen the ID rgzxw471.

Please indicate how you think they responded to the following questions.

I think their gender identity is:

How sure are you?

I think their age is:

How sure are you?

I think their sexual orientation is:

How sure are you?

I think they identify as an ally to the LGBTQ+ community:

How sure are you?

On social issues, I think they are:

How sure are you?

NEXT



## D.2 Instructions for Dictator Sessions

### Overview of study

Welcome! Here is a brief overview of the study.

#### What will I have to do?

This study consists of **three** tasks which will be explained in detail later. The study should take no longer than **20** minutes in total.

#### How much payment will I receive for my participation?

You will be paid 1 USD for completing the study.

Additionally, you may receive **additional bonus payments** based on your decisions in Tasks 1 or 2. At the end of the study, we will randomly pick **either** Task 1 **or** Task 2 to determine your bonus payment. Since nobody knows which task will be selected for payment, you should pay close attention to the tasks as your decisions may determine your earnings.

#### How will payment be made?

During the study, we will be trading in experimental currency units (ECU). At the end of the study, any ECU you have received from the tasks will be converted to USD using the following conversion rate: **20 ECU = 1 USD**.

This experiment will continue over the next 21 days. Once all participants complete this study, we will determine your bonus payments based on the decisions made in the tasks and pay these to you via the Prolific platform.

#### Please note!

There will be several **Attention Check** questions throughout this study meant to test whether you are paying attention. If you fail to correctly complete any of these Attention Check questions, you may not be paid.

Finally, please note that in line with standard economics experiments, your bonus payments will be determined in the manner as described in the instructions.

NEXT

### Task 1 : Instructions I

In Task 1, you will be matched with a participant. We asked this participant to construct an ID earlier, and you will now be asked to make a decision that will determine their bonus payment from the experiment.

#### Part I: Creation of Personal ID by Partner

Your matched partner was asked to create a personal ID that is a combination of (i) an 8-digit alpha-numeric string of characters and (ii) an icon.

For each component, all the participants in the experiment were given the same three options to choose from:

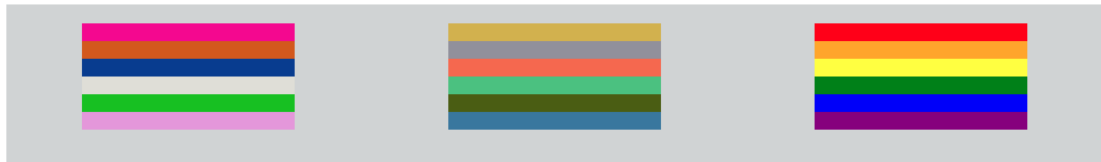
1. Alpha-numeric String:

gwxzr174

rgzxw471

zrwgx741

2. Icon:




This is to check your attention. Please select the word "Bird":


- ☐ Cat
- ☐ Dog
- ☐ Bird

NEXT


## Task 1 : Instructions I


Given the options presented on the previous screen, all the participants have each constructed a personal ID that takes **one** of the following nine formats:

 rgzxw471


 rgzxw471


 rgzxw471


 gwxzr174

 gwxzr174

 gwxzr174

 zrwgx741


 zrwgx741


 zrwgx741


NEXT


## Task 1 : Instructions II

You are randomly matched **with a participant who has chosen the following ID:**  gwxzr174.

You will be asked to make one decision which will determine the bonus payments that you and  gwxzr174 will receive from this task.

**Your Decision:** You will be asked how you would like to allocate 100 ECU between yourself and  gwxzr174.

You can send any amount to  gwxzr174 in increments of 1 ECU between 0 and 100 ECU. The remaining amount, if any, will be yours to keep.

If this task is randomly chosen to be the paying task, then your decision will determine **both** your and  gwxzr174's earnings.

NEXT

## Task 1 : Decision

Please choose how you would like to allocate 100 ECU between yourself and  gwxzr174

33

ME





gwxzr174


67


Note: you must click on the above in order for the selection slider to be displayed.


Show/Hide Instructions

You are randomly matched **with a participant who has chosen the following ID:**  gwxzr174.

You will be asked to make one decision which will determine the bonus payments that you and  gwxzr174 will receive from this task.

**Your Decision:** You will be asked how you would like to allocate 100 ECU between yourself and  gwxzr174.


You can send any amount to  gwxzr174 in increments of 1 ECU between 0 and 100 ECU. The remaining amount, if any, will be yours to keep.


If this task is randomly chosen to be the paying task, then your decision will determine **both** your and  gwxzr174's earnings.


SUBMIT


## Task 2 : Instructions

Task 2 is identical to Task 1 with one exception.

You are matched with a **different** participant who has chosen the following ID:  gwxzr174.

**Your Decision:** You will be asked how you would like to allocate 100 ECU between yourself and  gwxzr174.

You can send any amount to  gwxzr174 in increments of 1 ECU between 0 and 100 ECU. The remaining amount, if any, will be yours to keep.

If this task is randomly chosen to be the paying task, then your decision will determine **both** your and  gwxzr174's earnings.

NEXT

## Task 2 : Decision


Please choose how you would like to allocate 100 ECU between yourself and  gwxyzr174


60    gwxyzr174 40


Note: you must click on the above in order for the selection slider to be displayed.


Show/Hide Instructions

Task 2 is identical to Task 1 with one exception.

You are matched with a **different** participant who has chosen the following ID:  gwxyzr174.

**Your Decision:** You will be asked how you would like to allocate 100 ECU between yourself and  gwxyzr174.

You can send any amount to  gwxyzr174 in increments of 1 ECU between 0 and 100 ECU. The remaining amount, if any, will be yours to keep.

If this task is randomly chosen to be the paying task, then your decision will determine **both** your and  gwxyzr174's earnings.


SUBMIT

## Task 3 : Part 1

The participant you were matched with in Task 1 ( **gwxzr174**) provided us with information about themselves.

Please indicate how you think they responded to the following questions.

You will receive **\$2** if your guess for **one** randomly selected question is correct (no matter how sure you are of your answer).

Consider  **gwxzr174** from Task 1 :

I think their gender identity is:

How sure are you?

I think their age is:

How sure are you?

I think their sexual orientation is:

How sure are you?

I think they identify as an ally to the LGBTQ+ community:

How sure are you?

On social issues, I think they are:

How sure are you?


NEXT

## Task 3 : Part 1

The participant you were matched with in Task 2 ( **gwxzr174**) provided us with information about themselves.

Please indicate how you think they responded to the following questions.

You will receive **\$2** if your guess for **one** randomly selected question is correct (no matter how sure you are of your answer).

Consider  **gwxzr174** from Task 2 :

I think their gender identity is:

How sure are you?

I think their age is:

How sure are you?

I think their sexual orientation is:

How sure are you?

I think they identify as an ally to the LGBTQ+ community:

How sure are you?

On social issues, I think they are:

How sure are you?

NEXT

## **E Post-Experimental Questionnaire**

In this section, we provide a list of survey questions asked to participants at the end of the experiment for both the recipient and dictator sessions.

### **E.1 Questions for All Subjects**

1. What is your year of birth?
2. What sex were you assigned at birth, on your original birth certificate?
3. What is your current gender identity? Select all that apply.
  - (a) Male
  - (b) Female
  - (c) Trans male / Trans man
  - (d) Trans female / Trans woman
  - (e) Genderqueer / Gender non-conforming
  - (f) Nonbinary
  - (g) Other (please state below)
4. Which do you consider yourself to be:
  - (a) Heterosexual or straight
  - (b) Gay or lesbian
  - (c) Bisexual
  - (d) Other (please state below)
5. Have you ever had any kind of sexual relations with persons of the same gender as yourself?
6. Have you ever had any kind of sexual relations with persons of different gender(s) than yourself?
7. Have you ever been sexually attracted to or had sexual fantasies about persons of the same gender as yourself?
8. Have you ever been sexually attracted to or had sexual fantasies about persons of different gender(s) than yourself?
9. Do you have any form of color blindness?
10. What is your ethnicity?
11. Please indicate your current relationship status.

12. What is the highest education level you have attained?
13. Please select your household annual income from the options below.
14. What is your religious affiliation?
15. In which US state/territory do you currently live?
16. In which US state/territory did you spend the most time in for the first 18 years of your life?
17. On economic issues, politically I am:
  - (a) Very Conservative
  - (b) Conservative
  - (c) Equally Liberal and Conservative
  - (d) Liberal
  - (e) Very Liberal
18. On social issues, politically I am: [scale ranging from very conservative to very liberal]
  - (a) Very Conservative
  - (b) Conservative
  - (c) Equally Liberal and Conservative
  - (d) Liberal
  - (e) Very Liberal
19. Who did you vote for in the 2016 presidential election?
20. To what extent do you agree with the following statements?
  - (a) "Gay men and lesbians should be free to live their own lives as they wish."
  - (b) "It should be legal for business owners to refuse to serve same-sex partners."
  - (c) "It should be legal for same-sex partners to adopt a child."
  - (d) "Marriages between same-sex partners should be recognized by the law as valid, with the same rights as traditional marriages."
  - (e) "Transgender individuals should be allowed to use the bathroom corresponding to the gender that they identify as."
21. How often do you interact with anyone who identifies as LGBTQ+ (e.g., in the workplace, in social settings)?

22. Do you have a close friend or family member who identifies as LGBTQ+?
23. Do you consider yourself to be an ally to the LGBTQ+ community?
24. Are you formally registered as an LGBTQ+ ally (e.g., Safe Zone Training or Campus Ally programs) in your workplace, school, university, or other institutions?
25. Please indicate the extent to which you agree or disagree with the following two statements.
  - (a) "The instructions were clear."
  - (b) "The instructions helped me understand how my earnings are calculated."

## **E.2 Questions Specific to Recipients**

1. Here is the ID you have constructed:  
 String chosen: [String] Icon chosen: [Icon]
  - (a) Why did you choose [String] to be part of your ID?
  - (b) Why did you choose [Icon] to be part of your ID?
2. According to the US Census Data, about 51% of the US population is female. Which of the following best describes your opinion?
  - (a) I think less than 51% of Prolific participants from the US are female.
  - (b) I think about 51% of Prolific participants from the US are female.
  - (c) I think more than 51% of Prolific participants from the US are female.
3. According to the Gallup report, about 5% of the US population identifies as LGBT. Which of the following best describes your opinion?
  - (a) I think less than 5% of Prolific participants from the US identify as LGBT.
  - (b) I think about 5% of Prolific participants from the US identify as LGBT.
  - (c) I think more than 5% of Prolific participants from the US identify as LGBT.
4. What percentage of Prolific participants from the US do you think are allies to the LGBTQ+ community? Please enter a number between 0 and 100.
5. For each category below, please enter a number between 0 and 100 to indicate your beliefs about the political leanings of Prolific participants from the US. The sum of these numbers must add up to 100.
  - (a) Percentage of Prolific participants from the US who are more liberal than conservative on social issues.



- (b) Percentage of Prolific participants from the US who are equally liberal and conservative on social issues.
- (c) Percentage of Prolific participants from the US who are less liberal than conservative on social issues.

### **E.3 Questions Specific to Dictators**

1. First of all, what do you think of the study today?
2. Please briefly explain the factors influencing your decisions in Task 1 and Task 2. Just to remind you, you were matched with [Icon1][String1] in Task 1 and [Icon2][String2] in Task 2. If you need to refer to your partners in your response, please refer to them as “Task 1 partner” and “Task 2 partner”, respectively.
3. You made the following decisions:  
  
In Task 1, you sent [Amount1] ECU to [Icon1][String1].  
  
In Task 2, you sent [Amount2] ECU to [Icon2][String2].  
  
Why did you choose to send [the same amount / different amounts] to [Icon1][String1] (your Task 1 partner) and [Icon2][String2] (your Task 2 partner)? In your response, please refer to your partners as “Task 1 partner” and “Task 2 partner”.
4. To what extent do you agree with the following statement?  
  
“I care about what others think of my actions.”