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Far from free: How social proximity affects paternalism

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How social proximity affects paternalism*

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Abstract

Paternalistic policies are pervasive, yet little is known about how relationships between decision-makers and targets shape them. This paper examines how social proximity – the degree to which individuals share identity-defining traits – influences paternalistic interventions. In an experiment with a representative U.S. sample, we manipulate proximity and distinguish between preference-responsive paternalism, reflecting one's own preferences, and belief-responsive paternalism, reflecting beliefs about others' preferences. Social proximity leaves the overall frequency of restrictions unchanged but shifts their driver: low proximity fosters preference-responsive paternalism, while high proximity promotes belief-responsive paternalism. Non-religious and independents restrict least; Christians and Republicans restrict more dissimilar others.

JEL Classification: C91, D12, D15, D91

Keywords: Paternalism; Social identity; Social proximity; Experiment

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1 Introduction

Policymakers, managers, and institutional leaders routinely restrict others' choices in the name of improving welfare. Such paternalistic interventions (Dworkin, 1972) occur in domains ranging from health and education to personal finance. Yet, those imposing restrictions are often socially distant from the people whose choices they constrain. For instance, Non-Hispanic White Americans account for 75% of members of Congress but only 59% of the U.S. population (Schaeffer, 2023); in 2023, only 7.3% of federal judges were Hispanic, compared with 52% of defendants in federal cases (Motivans, 2024). These disparities raise a central question: does social distance shape how paternalists intervene in others' choices?

Understanding how social proximity affects paternalistic behavior is crucial to current debates about representation in policymaking. Theories of descriptive representation posit that shared identity between representatives and their constituents can promote substantive representation, that is, representatives acting in the interests of constituents (e.g., Phillips, 1995; Mansbridge, 1999, 2011), which also finds empirical support (e.g., Pande, 2003; Chattopadhyay and Duflo, 2004; Clots-Figueras, 2012). However, little is known about the behavioral mechanisms through which descriptive similarity might translate into substantive alignment. We study one such mechanism: whether social proximity alters the restrictiveness and motives of paternalistic interventions. We focus on whether shared identity between a decision maker and the person affected changes (i) how restrictive the intervention is and (ii) whether restrictions reflect the paternalist's own preferences or their beliefs about others' preferences.

To test these questions, we conduct a preregistered online experiment with a representative sample of the U.S. population. Participants are assigned to act as *Choice Architects* (paternalists) or *Choosers* (targets), following the framework of Ambuehl et al. (2021). Choice Architects can restrict Choosers' options in four intertemporal choice tasks involving trade-offs between smaller-sooner and larger-later payments. This setting allows us to distinguish between two motives for paternalism: *preference-responsive paternalism*, where restrictions mirror the Choice Architect's own preferences, and *belief-responsive paternalism*, where restrictions reflect beliefs about the Chooser's preferences. We elicited both the Choice Architects' own time preferences and their beliefs about the Choosers' time preferences, enabling us to identify the driving motive for each intervention.

To manipulate social proximity between CA and the target of their restrictions, each

Choice Architect selects four socio-demographic characteristics most central to their identity. Using these self-identified traits, we match each Choice Architect with two Choosers in a within-subject design: one highly similar (*HighProx*) and one highly dissimilar (*LowProx*). A pre-study confirmed that this manipulation significantly shifted perceived "oneness" (Gächter et al., 2015), ensuring that participants view *HighProx* matches as more socially proximate.

We document three main findings. First, social proximity does not affect the overall frequency or direction of paternalistic restrictions: Choice Architects restrict others' options at similar rates across treatments. Second, the motives underlying restrictions vary systematically. Crucially, having shown that treatments differ in how closely CA and Chooser preferences align (i.e., closer alignment when proximity is high), we then demonstrate that, conditional on this alignment, social proximity determines the strength of two competing motives: low proximity leads restrictions to mirror the Choice Architect's own preferences (*preference-responsive paternalism*) more closely than if proximity is low, while high proximity leads them to mirror the CA's beliefs about the Chooser's preferences (*belief-responsive paternalism*) more closely. Third, restrictions toward dissimilar others are less likely to be judged welfare-improving, suggesting that social distance fosters less benevolent interventions. Taken together, these results reveal a behavioral mechanism linking descriptive to substantive representation: when socially close, decision makers rely more on what they believe others want; when far, they impose their own views.

We further uncover meaningful heterogeneity across subgroups. A clustering analysis shows that substantial shares of participants consistently refrain from restricting others, while others restrict more either when proximity is high or when it is low. Non-religious and politically independent participants are more likely to refrain from intervention, whereas Republicans and Christians impose more restrictions, particularly on dissimilar others. These findings highlight that paternalism is not only a function of the decision context but also of who decides for whom: a shared identity shapes the motives underlying intervention.

Our findings contribute to several strands of literature. First, we contribute to social identity theory (Tajfel and Turner, 1979) that explains how group membership shapes behavior toward others. Individuals exhibit in-group favoritism across economic contexts, including allocation, cooperation, and punishment (e.g., Eckel and Grossman, 2005; Charness et al., 2007; Chen and Li, 2009; Bernhard et al., 2006; Goette et al., 2012; Chen and Chen, 2011; Ockenfels and Werner, 2014; Chen et al., 2014; Tanaka and Camerer, 2016). Charness and Chen (2020) review this literature.

Following Shayo (2020) and Bernard et al. (2016), we conceptualize social proximity as the number of shared social characteristics between individuals. We extend the study of social identity by showing that a shared identity also affects decisions about others' autonomy, where decision makers determine others' choice sets rather than payoffs.

Social identity also shapes belief formation. People exhibit greater interpersonal uncertainty for out-group members (Chakraborty and Henkel, 2025), tend to project their own preferences and beliefs onto others (see Krueger, 2000, for a review), with such social projection being stronger toward in-group members (see Clement and Krueger, 2002, for a meta-analysis). While projection has been primarily examined within psychology, economic work has focused on intrapersonal projection, how people project current preferences onto future selves (e.g., Loewenstein et al., 2003; Acland and Levy, 2015; Busse et al., 2015), rather than interpersonal projection across individuals. A recent exception is Bushong and Gagnon-Bartsch (2024), who show that people project their own preferences onto others even when their situations differ. We extend this insight to a paternalistic context, showing that interventions are independently motivated by both own preferences and beliefs about others' preferences.

We further contribute to the experimental literature on paternalism by introducing social proximity as a determinant of the motivation of intervention. The economic literature on paternalism both addresses (i) the normative question of when should institutions intervene in others' choices and when this is desired (e.g., Thaler and Sunstein, 2003; O'Donoghue and Rabin, 2003; Konrad and Simon, 2025) and (ii) the positive question of when individuals choose to intervene. Our paper falls into the second category. Prior research shows that interventions often reflect the paternalist's own preferences more than sensitivity to others' preferences (Ambuehl et al., 2021). Context and information shape these choices: information asymmetries influence whether interventions are restrictive or informational (Bartling et al., 2023), and richer information environments reduce paternalistic tendencies (Grossmann, 2024). The characteristics of decision makers also matter: conservatives are more likely to restrict others (Ambuehl et al., 2025), groups less so (Doerrenberg et al., 2025). We show that the social distance between paternalist and target shifts the basis of intervention from preference-responsive to belief-responsive without changing its overall frequency.

The remainder of the paper proceeds as follows. Section 2 describes our experimental design. Section 3 presents the main findings. Section 4 discusses results and im-

plications.

2 Experimental Design

The structure and core components of our experiments build on Ambuehl et al. (2021). In our study, participants are assigned to one of two roles: Choice Architects (CAs) or Choosers. To outline the experimental designs, we present our three experimental phases in chronological order.

2.1 Phase 1: Choosers

The Choosers answer eight demographic questions on their gender, religion, level of education, age, nationality, immigration background (if applicable), sexual orientation, and political affiliation. This part collects demographic data about the Choosers to be used for the treatment manipulation in Phase 2.

The Choosers receive a fixed payment of 0.5 GBP for completing the questionnaire. We ask Choosers to return for Phase 3 of the experiment, with a higher expected payment of up to 15 GBP to incentivize their return.

2.2 Phase 2: Choice Architects

For the second phase, we recruit a sample of Choice Architects (CAs). The second phase of the experiment has four parts, two of which (Parts 2 and 3) vary by treatment. Within Part 2 and Part 3, in a within-subject design, we introduce our treatment variation of social proximity (see Section 2.2.2). The order of the treatments is randomized between participants, but stays constant throughout Parts 2 and 3 for each participant.

In this experiment, CAs can make decisions for "the participant they have been matched with." This term refers to one of the Choosers who participated in Phase 1 of the experiment to return for Phase 3, after being matched with a CA. All decision interfaces and instructions are provided in Appendix E.

2.2.1 Part 1: Demographic questionnaire

At the start, CAs answer the same eight demographic questions that Choosers answer in Phase 1 on gender, religion, education level, age, nationality, immigration background, sexual orientation, and political affiliation. Of these eight characteristics, CAs select the four most relevant to their identity. We use these selected characteristics for our treatment variation.

2.2.2 Treatment conditions

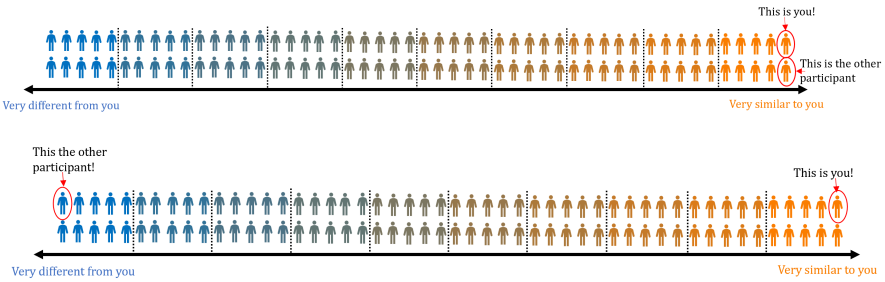
In Part 2 and Part 3, CAs are subjected to two treatments in a within-subject design. Each CA is required to make a set of decisions for a future participant who belongs either to the *10% most similar* (High Social proximity condition, i.e. *HighProx*) or the *10% least similar* (Low Social proximity condition, i.e. *LowProx*) Choosers.

High and low social proximity We consider social proximity, as measured by sharing characteristics, as a proxy for a shared social identity (see e.g., Bernard et al., 2016; Shayo, 2020). For each CA, the four characteristics selected as most important in Part 1 are compared with these characteristics of each Chooser. This produces a distribution of shared characteristics across all CA-Chooser pairs. We then identify, for each CA, the decile of Choosers who are either the *10% most similar* or *10% least similar.* These sets determine who the CA can be matched with. After making this selection but before making decisions about the choice sets in Part 2, CAs are informed that their matched future participant belongs either to the *10% most similar* or *10% least similar* Choosers, based on their pre-selected characteristics.

We illustrate this social distance measure and the division into deciles of *10% most similar* or *10% least similar* to the CA's using Figure 1.

We conducted a pre-test to ensure that this treatment variation is successful in changing perceptions of social proximity and to verify that this visual presentation effectively conveys the intended social proximity. In a between-subject design, we show that it shifts perceptions of 'Oneness' (Cialdini et al., 1997) substantially.[1] Details about the pre-test are presented in Appendix A.

[1] 'Oneness' measures the closeness of social relationships. For instance, an increased perception of Oneness allows coordination on superior equilibria in coordination games (Gächter et al., 2025).



Notes. The top panel provides the treatment illustration for treatment *HighProx*, the bottom panel for treatment *LowProx*.

Figure 1: Illustration Social Proximity treatments

2.2.3 Part 2: Construction of opportunity sets and welfare judgments

In Part 2, CAs construct opportunity sets for the Choosers in Phase 3 and judge whether the choice restrictions they impose are welfare improving or not. CAs repeat this part twice in random order, once per treatment condition.

Construction of opportunity sets CAs construct the Chooser's opportunity sets for four different choice menus displayed in random order. Each menu has three options that are a bundle of two monetary payments, X_i and Y_i (in GBP): one received on the day of the experiment (X_1, X_2, X_3), one received six months later (Y_1, Y_2, Y_3). If Choosers take a higher immediate payment, their total payment decreases – creating a trade-off between a high early payment and a high overall payment.

(X_1, X_2, X_3) and (Y_1, Y_2, Y_3) differ between menus, varying how much future payment an individual needs to sacrifice for a higher payment on the day of the experiment. Specifically, we use:[2]

$$(X_1, X_2, X_3) \in \left\{ \begin{array}{l} (0, 3, 5) \\ (0, 3, 6) \\ (0, 2, 4) \\ (0, 2, 4) \end{array} \right\} \qquad (Y_1, Y_2, Y_3) \in \left\{ \begin{array}{l} (15, 10, 1) \\ (15, 9, 1) \\ (15, 12, 2) \\ (15, 9, 2) \end{array} \right\}$$

CAs decide which options to make available or unavailable for the future participant, keeping at least one option available. CAs can send an open-ended message, which the Chooser sees on the same page as the opportunity set before deciding. Addi-

[2] For comparison, the values of $X_1, X_2, X_3, Y_1, Y_2, Y_3$ are identical to the four main menus in Ambuehl et al. (2021). In our experiment, they represent amounts paid in GBP.

tionally, CAs can indicate disapproval of specific options by clicking "recommended against". When selected, the option appears with a red asterisk and a note stating a previous participant advised against it. As motivated in Ambuehl et al. (2021), this ensures we capture hard rather than soft paternalism, as CAs restrict options only when wanting to impose actual restrictions, not simply because they lack other ways to convey opinions or advice to Choosers. CAs' payoffs do not depend on their decisions in this part, removing conflicts of interest and ensuring restrictions are not motivated by self-interest. At the end, CAs must answer comprehension questions which will determine the payment for this part.

Welfare judgments We measure CAs' beliefs about their restrictions' welfare effects by showing them two choice sets – the original and its restricted version – and asking: *"Which choice set is better for the future participant?"*. As paternalistic interventions are assumed to be perceived as welfare-improving by the paternalist (Dworkin, 1972), hence benevolent, this indicates whether restrictions stem from benevolence or malevolence. Responses do not affect CAs' payoffs.

2.2.4 Part 3: Elicitation of beliefs about choosers' time preferences

To assess CAs' beliefs about Choosers' time preferences, we ask them in both treatments to estimate how ten future participants will choose from each unrestricted menu. They place ten "Participant" tokens into bins representing the three options. Comparing these estimates to actual choices allows us to see whether paternalism is driven by inaccurate assumptions about Choosers' behavior. This task is performed once per treatment and is incentivized.

2.2.5 Part 4: Elicitation of Choice Architects' time preferences

Part 4 assesses whether CAs' own time preferences align with the choices they make for Choosers. We elicit these preferences using four multiple-choice lists, where CAs choose between receiving a payment X_1 on the day of the experiment or receiving a larger payment, X_2, after a delay of one to six months. The monetary amounts vary across the different menus, but the structure of the delay (ranging from one to six months) remains constant. We use the following bundles of values (in GBP) in randomized order:

$$(X_1, X_2) \in \left\{ \begin{matrix} (2, 10) \\ (5, 10) \\ (8, 10) \\ (2, 15) \end{matrix} \right\}.$$

As in Ambuehl et al. (2021), we intentionally design the two decision contexts in Part 2 and Part 3 to be difficult to compare, in order to prevent inflated correlations between the choices that CAs make for themselves and those they make on behalf of others. In Part 4, all monetary rewards are identical across options, but the delay varies. In contrast, in Part 2 the delay remains constant while the monetary amounts differ.

2.2.6 Incentives

CAs receive a fixed payment of 6 GBP plus a bonus determined by one randomly selected part of the experiment. There is a 1-in-3 chance that Part 2 is selected; if so, the bonus depends only on performance in five comprehension questions (0.50 GBP per correct answer), not on the choice restrictions. There is a 1-in-2 chance that Part 3 is selected; if so, either the *HighProx* or *LowProx* condition is chosen, and CAs can earn up to 5 GBP based on the accuracy of their predictions of ten future participants' choices, with 0.50 GBP deducted for each incorrect allocation. There is a 1-in-6 chance that Part 4 is selected; if so, one menu and one choice are randomly drawn to determine the bonus payment.[3]

2.3 Phase 3: Choosers

In Phase 3, a Chooser is matched to a CA from Phase 2. This phase implements Phase 2 restrictions. The matching procedure ensures each CA who had Part 2 selected for bonus payment affects one Chooser, and that this Chooser's demographics place them in either the *10% most similar* or *10% least similar* group based on the CA's selected characteristics, depending on the implemented treatment. Choosers now make decisions in the four menus described in Section 2.2.3. Choosers see the full unrestricted menus, including all three options, along with messages (open-ended

[3] The varying probabilities are chosen to generate average earnings of approximately 10 GBP and to ensure that there is one CA paid for their restrictions per Chooser.

messages and recommendations against any options). For each menu, choosers rank the three options. Their highest-ranked option among those left available by the CA is implemented and paid. This measures both the distribution of unrestricted choices among choosers and the implemented choice subject to Phase 2 restrictions. Choosers receive 1 GBP for returning for Phase 3 and a one-in-two chance of receiving payment associated with one randomly chosen decision.

2.4 Experimental procedures

Data collection occurred in April 2025. Phase 1 recruitment started April 10th, Phase 3 launched April 22nd. Both Choosers and CAs are recruited on Prolific. For Phase 1, we recruited 200 U.S. Choosers,[4] balanced by gender; 140 returned for Phase 3. For Phase 2, we recruited a final sample of 600 CAs[5]. The CA sample is representative of the U.S. population in terms of age, gender, political affiliation, and ethnicity. Experiments lasted on average 2 minutes (Phase 1), 47 minutes (Phase 2), and 4 minutes (Phase 3). Average payments were 10 GBP (Phase 2) for CAs and 7.7 GBP (Phase 1 and 3) for Choosers, paid at various points. We pre-registered our experiment and main analyses on AsPredicted (#221759).[6]

3 Experimental Results

We will analyze restrictions from the representative sample of 600 CAs, exhibiting substantial variation in their characteristics (see Appendix B for details). Our treatment was successful in changing the number of selected characteristics that a CA believes to share with the Chooser (see Figure B5). In *HighProx*, CAs believe they share 3.28 out of the four characteristics with the Chooser, in *LowProx* only 0.99 characteristics, so significantly fewer ($p < 0.001$; *t-test*).

We first study the effect of social proximity on the extent of paternalistic interventions, then the treatment effects on the type of paternalism, and last treatment differences in the characteristics of individuals who engage in different types of paternalistic interventions.

[4] Eligibility criteria included a 98% approval rate on previous tasks and fluency in English.

[5] We used pre-registered exclusion criteria to exclude participants who failed comprehension questions, had incomplete observations, or were flagged as likely bots by Qualtrics. In total, 67 participants were excluded as possible bots. To further prevent bots, we use CAPTCHA and require manual entry of a password provided separately on Prolific.

[6] https://aspredicted.org/rk2h-7xpp.pdf

3.1 Effect of proximity on the frequency of choice restrictions

We first consider the extent to which CAs restrict the Chooser. CAs remove on average a substantial share (24%) of options. The intermediate option is restricted least often (16%), the most impatient choice most often (32%). Thus, CAs exhibit a preference for allowing a compromise between a high early payoff and a high overall payoff over allowing either extreme patience or impatience ($p < 0.001$ for both comparisons; *t-tests*).[7]

Table 1 provides the results of linear regressions of the fraction of choice restrictions (Column 1), an indicator for removing the least patient option (Option 3) from the choice set (Column 2), and an indicator for removing the most patient option (Option 1, Column 3) on an indicator for the *HighProx* treatment. Turning to the role of

	(1) Fraction unavailable	(2) Option 3 unavailable	(3) Option 1 unavailable	(4) Welfare improvement
High Proximity	-0.003	0.020	-0.018	0.0462**
	(0.00563)	(0.0132)	(0.0121)	(0.0179)
Constant	0.265***	0.330***	0.285***	0.591***
	(0.0114)	(0.0220)	(0.0215)	(0.0233)
Observations	4800	4800	4800	2848
Clusters	600	600	600	485
R-squared	0.005	0.002	0.004	0.003

Notes. Linear regressions of the fraction of options made unavailable (column (1)), an indicator of the third, least patient, option made unavailable (column (2)), an indicator of the first, most patient, option made unavailable (column (3)), and an indicator for choice restrictions being considered welfare improving (column(4)) on the treatment indicator *High Prox*. Column (4) excludes choices that leave all options available. Fixed effects for treatment and menu order are included. Standard errors clustered at the participant level in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 1: Treatment effects on choice restrictions

social proximity, we find neither evidence in favor of an overall treatment effect on the number of restrictions when proximity is high ($p = 0.554$; Column 1, Table 1), nor on either more impatient ($p = 0.131$; Column 2, Table 1) or more patient choice options being restricted ($p = 0.148$; Column 3, Table 1).[8] With a point estimate of -0.003,

[7] This is in contrast to the findings by Ambuehl et al. (2021). An important difference is that we used a representative sample from the U.S. population, whereas the sample in Ambuehl et al. (2021) is from a German university subject pool. Therefore, this finding may indicate that a general population is more likely to push others toward making 'compromise' choices, rather than extreme choices, compared to university students.

[8] This is robust to considering soft paternalism instead, i.e., looking at the share of recommenda-

this is a precise null; using equivalence testing (Fitzgerald, 2024), we have statistically significant evidence to exclude that social proximity increases the fraction of choice restrictions by more than 6 percentage points or decreases this fraction by more than 13 percentage points with 95% confidence.

Result 1. *There is no detectable effect of social proximity on the fraction of restricted choices or on the likelihood of removing the most or least patient option from the choice set.*

Thus, a CA's social proximity seems to have no overall effect on the frequency of restricting Choosers. However, this does not imply that social proximity has no effect on paternalism more generally. We will show that the motives and therefore the types of paternalistic intervention differ (Section 3.2). Furthermore, this aggregate result masks heterogeneity in the response to social proximity (Section 3.3).

3.2 Effect of proximity on the type of paternalistic interventions

We examine how social proximity affects two ways in which paternalists may intervene. The first type of intervention restricts the Chooser by implementing choice restrictions that align with the CA's own preferences, which we call *preference-responsive paternalism*. Preference-responsive restrictions will impose a higher degree of patience if the CA is more patient and vice versa. The second type of intervention restricts the Chooser by implementing choice restrictions that align with the CA's beliefs about the Chooser's preferences. We call this *belief-responsive paternalism*. Belief-responsive restrictions allow for more patient choices if the CA believes the Chooser to be more patient. For this classification, our main outcome variable is MaxEarly, measuring the degree of impatience that a CA allows the Chooser to exhibit. MaxEarly is defined as the maximum amount a chooser can receive on the day of the experiment given the imposed choice restrictions.

To study the effect of our treatments on *preference-responsive paternalism* and *belief-responsive paternalism*, we regress MaxEarly on two measures, Patience Percentile and Belief Percentile, interacted with our treatment indicator, shown in Table 2. Patience Percentile is a relative measure of the CA's patience, defined as the percentile rank of the average number of months the CA is willing to delay receiving the larger

tions against choice options instead of the removal of choice options, and robust to excluding the set of participants who can be classified as being libertarian, i.e., those individuals, who never impose any restrictions. We report those robustness tests in Appendix C, Table C3.

payment rather than receiving the smaller payment immediately, elicited in Part 4 of Phase 2 (see Section 2.2.5). We use this to identify *preference-responsive paternalism*.[9] Belief Percentile is a relative measure of the CA's belief about the Chooser's patience (by treatment), defined as the percentile rank of their beliefs about the inverse of the mean amount the chooser receives on the day of the experiment if choosing in the unrestricted choice set, elicited in Part 3 of Phase 2 (see Section 2.2.4). We use this to identify *belief-responsive paternalism*.[10]

	(1) MaxEarly	(2) MaxEarly	(3) MaxEarly
High Proximity	0.031	0.141***	0.071*
	(0.0310)	(0.0400)	(0.0383)
Patience Percentile	-0.282***		-0.160*
	(0.0793)		(0.0845)
High Proximity × Patience Percentile	-0.119**		0.236***
	(0.0576)		(0.0779)
Belief Percentile		-0.488***	-0.436***
		(0.0772)	(0.0842)
High Proximity × Belief Percentile		-0.341***	-0.441***
		(0.0775)	(0.0950)
Constant	2.084***	2.186***	2.241***
	(0.0513)	(0.0439)	(0.0500)
Observations	4800	4800	4800
Clusters	600	600	600
R-squared	0.020	0.064	0.066

Notes. Linear regression of MaxEarly, i.e., the maximum amount a chooser can receive on the day of the experiment given the choice restrictions, on the treatment indicator *High Prox*, Patience Percentile, and their interactions in column (1), the treatment indicator *High Prox*, Belief Percentile, and their interactions in column (2), and both sets of variables in column (3). Fixed effects for treatment and menu order are included. Standard errors clustered at the participant level in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2: Role of time preferences and beliefs about chooser's time preferences

First, we consider how social proximity affects the CA's tendency to project their own preferences onto the Chooser, so *preference-responsive paternalism*. We observe that the CA's patience is a strong predictor of the type of restrictions they impose, even if social proximity is low ($p < 0.001$; Column 1, Table 2). More patient CAs impose more patience on the Chooser. This correlation between the CA's preferences

[9] This is the type of paternalistic intervention that Ambuehl et al. (2021) coin as 'ideals-projective paternalism' (positive correlation) or 'mistakes-projective paternalism' (negative correlation).

[10] Table C4 in Appendix C shows that our results in this subsection are, if anything, stronger when excluding the set of participants who we classify as libertarian.

and the patience they impose is significantly stronger if social proximity is high, with the correlation between Patience Percentile and MaxEarly increasing by 42% in the high proximity treatment ($p = 0.040$; Column 1, Table 2). Thus, the social proximity between the CA and the Chooser appears at first to increase the extent to which the CAs impose their preferences on the Chooser; Choice restrictions are more in line with the CA's preferences when social proximity is high. However, this conclusion would neglect the role that the CA's beliefs about the Chooser's own preferences play.

As with their own preferences, we find that the CA's beliefs about the Chooser's preferences are also strongly correlated with the degree of patience they impose on the Chooser ($p < 0.001$; Column 2, Table 2). Again, this correlation is significantly stronger if social proximity is high ($p < 0.001$; Column 2, Table 2). In fact, the correlation increases by 70% in the high proximity treatment, indicating that CAs respond more strongly to their beliefs about the Chooser's preferences if the similarity based on the chosen characteristics is high. So choice restrictions are more in line with the CA's beliefs about the Chooser's preferences when social proximity is high.

The two measures we consider here, Patience Percentile and Belief Percentile, are related. Table D5 in Appendix D documents the correlation between the two variables and how this differs by treatment. A CA who is relatively patient may plausibly also hold beliefs that others are relatively patient as well. As expected, Patience Percentile and Belief Percentile are strongly and positively correlated ($p < 0.001$; Column 1, Table D5). On average, a one-decile increase in a CA's relative patience corresponds to about a half-decile increase in the CA's relative belief about the chooser's patience. More importantly, the correlation between these two measures differs by treatment. Patience Percentile and Belief Percentile correlate more strongly in *HighProx* than in *LowProx* ($p < 0.001$; Column 2, Table D5 and Figure D6).

This intuitively suggests that CAs paired with a Chooser similar to them consider their own preferences a more informative signal of the Chooser's preferences. This belief is surprisingly accurate. While there is a negative correlation between the CAs' preferences and the preferences of the Chooser in *LowProx* ($p = 0.005$; Column 3, Table D5), this flips in *HighProx*, so CA's and Chooser's relative preferences are indeed closer when social proximity is high ($p < 0.001$; Column 3, Table D5). Our treatment manipulates how closely time preferences between CA and Chooser align. Comparing the treatment difference in the correlation between the CAs' preferences and their beliefs about the preferences of the Chooser to the correlation between the CAs' preferences and the actual preferences of the Chooser, there is no significant difference

($p = 0.389$; comparing coefficients between Columns 2 and 3, Table D5). This hints at no substantial overestimation of how much the CA's own preferences provide a stronger signal of the Chooser's preferences when social proximity changes.

Given this treatment difference in the association between Patience Percentile and Belief Percentile, we now separate the effects of social proximity on how preferences and beliefs about Chooser preferences are associated with the imposed level of patience.[11]

Overall, CAs respond strongly to their beliefs about the Chooser's preferences ($p < 0.001$; Column 3, Table 2), moderately to their own preferences ($p = 0.059$; Column 3, Table 2). Social proximity increases restrictions in line with CAs' beliefs about the Chooser's preferences, ($p < 0.001$; Column 3, Table 2), while low social proximity increases the tendency to restrict Choosers in line with the CA's own preferences ($p = 0.003$; Column 3, Table 2). That is, individuals engage in more *belief-responsive paternalism* when social proximity is high than if it is low, and in more *preference-responsive paternalism* if it is low.

Result 2. *Controlling for the interaction of CA's preferences and their beliefs about the Chooser's preferences, choice restrictions respond more to CA's preferences when proximity is low than if proximity is high, and more to CA's beliefs about the Chooser's preferences if proximity is high.*

This pattern suggests that if social proximity is low, CAs rely less on their beliefs about the Chooser's preferences but instead impose their own preferences. In particular, if there is little (believed) correlation between the preferences of Chooser and CA, so in *LowProx*, the CA prefers projecting their own preferences. When CA and Chooser are more similar and so are their preferences, the CA rather relies on their beliefs about the Chooser's preferences. Hence, there seems to be a preference for imposing own preferences on others when individuals are different, rather than when they are similar.

Interestingly, the change in the type of choice restrictions coincides with a change in whether choice restrictions are considered welfare improving. When proximity is high, the CA is 4.62% more likely to evaluate the restricted choice set as an improvement for the Chooser ($p = 0.010$; Column 4, Table 1).

[11] This regression was not pre-registered. However, we believe it to be important due to the high correlation between beliefs and preferences and therefore include this specification in our main analysis.

Result 3. *Choice restrictions are less likely to be deemed welfare improving when social proximity is low.*

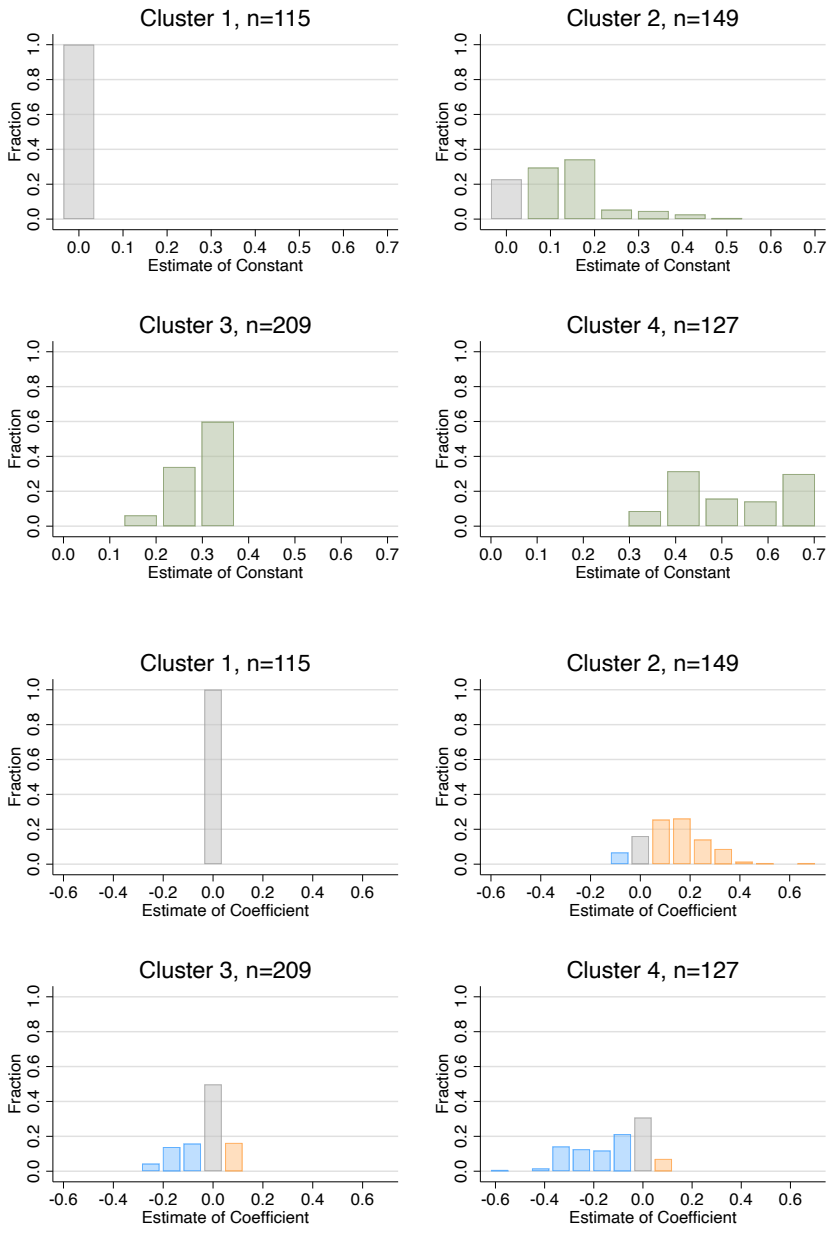
3.3 Explaining heterogeneity in the response to social proximity

As Result 1 highlights, there are no detectable effects of social distance on the overall levels of choice restrictions. While Section 3.2 shows that this masks differences in the type of response to social proximity, another reason for the lack of an overall effect may be that distinct types of individuals respond differently to social proximity.

To study the presence of such heterogeneity in the response to social distance, we conduct a pre-registered clustering analysis that also sheds light on whether certain demographic characteristics predict distinct responses to social proximity. For this, we first regress the fraction of unavailable choices on social proximity, as in Column 1 of Table 1 for each CA separately. The constant and coefficient are the input for our clustering analysis. We employ the Ward's linkage method (Ward, 1963), a form of hierarchical clustering that minimizes the within-cluster variance. We use the Euclidean distance measure. To determine the number of clusters in our data, we consider the Duda–Hart Je(2)/Je(1) Index (Hart et al., 2001), defined as the ratio of the distance within and between clusters, yielding three clusters as the optimal number of clusters. Since the clustering analysis with four clusters yields an additional libertarian cluster, we will report results for four clusters, see Figure 2.

Clusters vary in size between 115 (Cluster 1) and 209 (Cluster 3) members. Figure 2 shows the distributions of the constant and coefficient of social proximity by cluster. Members of Cluster 1 show libertarian behavior – they do not impose any restrictions if social proximity is low or high. Others do respond to social proximity. On the one hand, members of Cluster 2 show a low fraction of restrictions if proximity is low (13% on average), and restrict substantially more if proximity is high (26% on average). On the other hand, both members of Clusters 3 and 4 restrict a higher fraction of choices when proximity is low (29% and 52% on average, respectively) than if proximity is high (26% and 40% on average, respectively). Thus, members of different clusters show distinct behavioral patterns.

Additionally, we consider whether certain demographic characteristics predict distinct responses to social proximity. Table D6 reports z-tests of proportions comparing the proportions of members of the clusters with certain demographic characteris-



Notes. Distributions of estimates from regressing the fraction of unavailable options on a constant and the treatment indicator for each participant. The top four graphs give the distributions of the estimated constant, i.e. the fraction of unavailable options in *Low Prox*. The bottom four graphs give the distributions of the estimated coefficient of *High Prox*.

Figure 2: Distribution of estimated constant and coefficient by cluster

tics to the proportion of non-members of the cluster sharing these characteristics.[12] Given the high number of comparisons, we employ Bonferroni corrections. Of the characteristics tested, religion and political affiliation are predictive of cluster membership. Specifically, Cluster 1, the libertarian cluster, is characterized by a lower proportion of Christians ($p < 0.001$) and Republicans ($p = 0.014$) and a higher proportion of Independents ($p = 0.002$) and non-religious individuals ($p < 0.001$). The counterpart is Cluster 4, the cluster with the highest level of overall choice restrictions and the cluster that most strongly increases their level of paternalism when facing individuals with low proximity relative to high proximity. Cluster 4 has a higher proportion of Christians ($p = 0.004$) and Republicans ($p = 0.057$), and a lower proportion of non-religious individuals ($p = 0.059$). Result 4 summarizes these patterns.

Result 4. *Non-religious individuals and independents are more likely to be libertarian; Christians and Republicans are more likely to restrict when social proximity is low.*

Hence, there are characteristics that predict the tendency not to intervene and the tendency to intervene more if fewer characteristics are shared. This is not the case for the tendency to intervene more for those who share more characteristics with the paternalist. We do not find any statistically significant over-representation of any of the observed demographic characteristics in Cluster 2, the cluster that increases their level of paternalism when facing individuals with high proximity.

4 Conclusion

Policymakers and institutional leaders routinely restrict others' choices under the justification of improving outcomes. However, these paternalistic interventions often occur across significant social distances. As social distance increases, paternalistic interventions may change as the paternalists are less certain about what is best for the person they are restricting, or tendencies to impose own rather than respect others' preferences change.

We examine how social proximity influences paternalistic interventions, in particular the extent to which they reflect the paternalist's own preferences or their beliefs about the target's preferences. In our experiment, participants acting as Choice

[12] We conduct z-tests of proportions for the demographic characteristics measured in Phase 1 with no more than three categorical values that are well represented, namely religion, gender, political affiliation, sexual orientation, and immigration background. For a graphical representation, see the radar chart in Figure D7.

Architects (CAs) could restrict Choosers' options across several choice sets involving trade-offs between immediate and delayed payments. We distinguished between two types of paternalistic interventions; (i) *preference-responsive paternalism*, where more patient CAs impose restrictions favoring patient choices, in line with their own preferences, and (ii) *belief-responsive paternalism*, where CAs allow more patient choices when they believe the Chooser to be patient.

Our findings reveal that while social proximity does not influence the overall extent of choice restrictions, it shapes the type of paternalism that people express. When social proximity is low, CAs' restrictions align more closely with their own preferences. In contrast, when proximity is high, CAs' choices rely more on their beliefs about the Chooser. There is substantial heterogeneity in how social proximity affects the extent of choice restrictions.

Our study adds to the existing literature that the relationship between the paternalist and those affected by their restrictions is crucial in shaping paternalistic interventions. We show how individuals with different characteristics, particularly political orientation and religion, respond differently to social proximity. Republicans and Christians are more likely to impose restrictions on those very different from them. While we focus on the intervener's characteristics, this has direct implications for who faces interventions. Those sharing fewer characteristics with Republicans and Christians are more likely to be restricted. At the same time, they are less likely to restrict those different from them. Thus, observed heterogeneity in responses to social proximity can lead to asymmetry in who faces choice restrictions versus who imposes them.

As paternalistic interventions are ubiquitous in policymaking, our results have clear implications for diversity among policymakers. In line with Clement and Krueger (2002), social projection varies with social distance. If policymakers exhibit high social distance from those they restrict, they may be less likely to rely on beliefs about what restricted individuals prefer, instead imposing their own views about what is preferable. Our study suggests they may even be more likely to impose interventions they do not deem welfare-improving. With little diversity among policymakers, only parts of society will be represented by those with low social distance. The well-represented will therefore face different restrictions than those with little representation. This supports proponents of descriptive representation (e.g., Wängnerud, 2009; Lowande et al., 2019), who argue politicians should not only represent issues important to their constituency (substantive representation), but should also share their socio-demographic characteristics (descriptive representation).

Our study also speaks to the ongoing debate about partisan polarization. Across partisan boundaries, US voters agree on not sharing core values (Jones, 2024), and partisan polarization and hostility increase (Pew Research Center, 2022). This aligns with CAs believing their preferences better predict preferences of similar individuals. We see that categorization into groups of varying social distance generates varying benevolence patterns.

Future studies could explore how these social proximity patterns translate to other decision domains. With repugnant transactions particularly, social proximity may influence how inclined individuals are to impose their views on people with different moral beliefs. Additionally, future research may explore whether treatment differences in restriction types reflect differences in normative judgments about what is right for different groups, or result from whether normative judgments are imposed at all. Furthermore, a crucial policy implication is how panel or group diversity affects the degree and type of restrictions imposed on others. Would increased diversity among policymakers result in more similar restrictions across society? Experiments with groups of varying diversity, rather than individual CAs, could address this.

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Supplemental Appendix

Appendix A Pre-test of social proximity manipulation

Prior to launching the main experiment (phases 1 to 3), we conducted a pre-test to ensure that our treatment manipulation is successful in changing the perceived closeness of the participants. We invited 80 participants to take part in a simple experiment. Participants respond to eight demographic questions and identify the four elements they consider most central to their social identity, as explained in Section 2.2.1. They are then randomly assigned to one of the treatment conditions (*HighProx* or *LowProx*) in a between-subject design, seeing the treatment visualized as in Figure 1.

We elicit two measures of closeness: Participants indicate the extent to which (i) the term "we" characterizes themselves and the other participant they have been matched with, using a 7-point scale ranging from *1-not at all* to *7-very much so* (Figure A1), and (ii) they feel close to the participant they have been matched with by selecting the pair of overlapping circles that best represent their perceived closeness (Figure A2). The two measures follow the Oneness elicitation using the We-Scale and the 'inclusion of the other in the self' Scale introduced by Cialdini et al. (1997) and validated in Gächter et al. (2015).

Our results show that the distributions of answers on the "We Scale" and the "Inclusion of Other in the Self (IOS)-circle" differ significantly between the two treatment conditions, as illustrated in Figures A3 and A4. On average, participants exposed to the *HighProx* condition identify with the term "we" significantly more than those in the *LowProx* condition and include the other more in the self scale than participants subject to the *LowProx* condition, as measured by the IOS scale. The *HighProx* treatment increases the response on the 7-point scale by approximately one point ($p = 0.028$; Column 1, Table A1), and shifts the average circles that individuals feel represented by towards more overlapping circles by more than two ($p < 0.001$; Column 2, Table A1).

Please, select the appropriate number below to indicate to what extent you would use the term **"WE"** to characterize you and the person you are matched with.

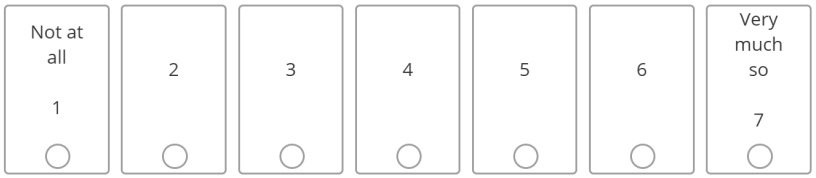


Figure A1: Pre-test - We Scale interface

Please, look at the circles diagram provided below. Then, consider which of these pairs of circles represents your connection with the person you have been matched with, indicated by other. By selecting the appropriate letter bellow, please indicated to what extend you feel close to that other person.

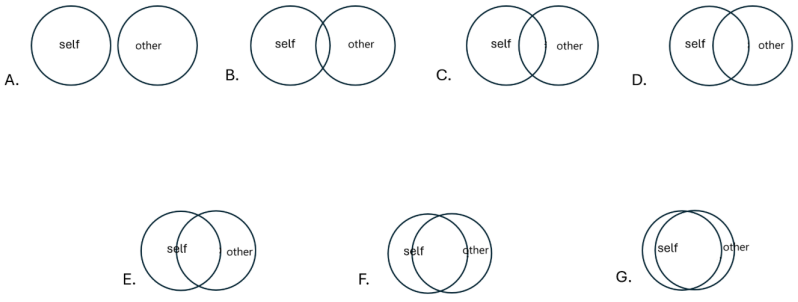
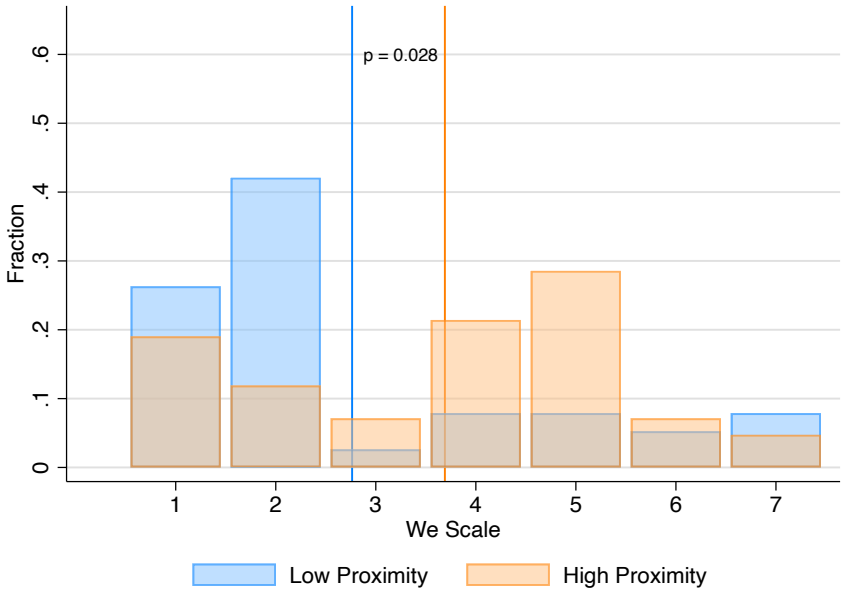
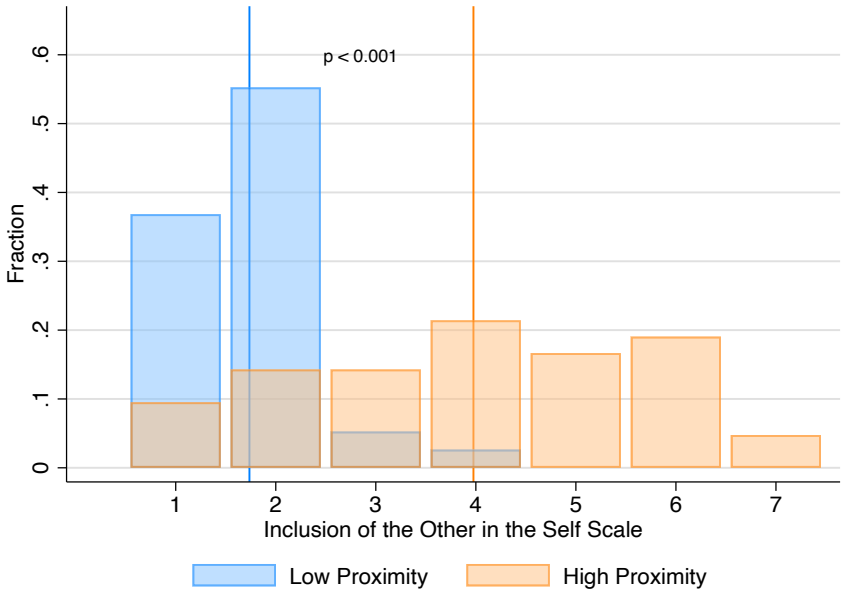


Figure A2: Pre-test - ‘Inclusion of the other in the self’ Scale



Notes. Distributions of answers indicating the extent to which the term "we" characterizes themselves and the other participant they have been matched with on a 7-point scale ranging from *1-not at all* to *7-very much so*. Vertical lines indicate means by treatment.

Figure A3: We Scale by treatment



Notes. Distributions of answers indicating the extent to which they feel close to the participant they have been matched with by selecting the pair of overlapping circles that best represents their perceived closeness on a 7-point scale, with higher values indicating higher overlap. Vertical lines indicate means by treatment.

Figure A4: IOS-circle Scale by treatment

	(1) We-Scale	(2) IOS Scale
High Proximity	0.927**	2.239***
	(0.415)	(0.300)
Constant	2.763***	1.737***
	(0.301)	(0.218)
Observations	80	80
Clusters	80	80
R-squared	0.060	0.416

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes. Linear regression of the chosen answer on the We-Scale (column (1)) and IOS Scale (column (2)) on the treatment indicator *HighProx*.

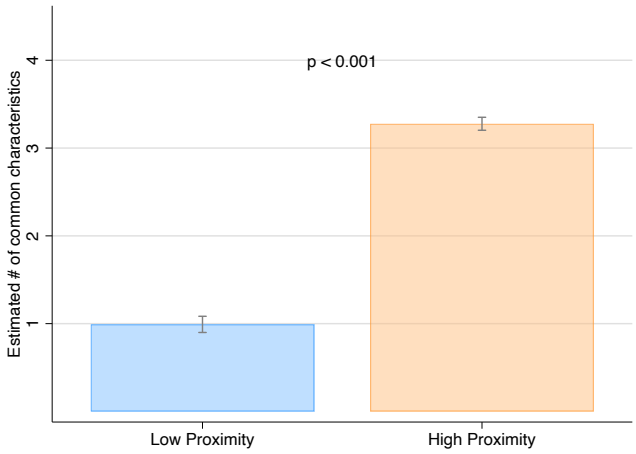
Table A1: Treatment effect on We-Scale and IOS Scale.

Appendix B Summary statistics

Variable	Category	Frequency	Percent
Gender	Female	307	51.17%
	Male	291	48.50%
	Other	2	00.34%
Religion	Christian	391	65.17%
	None	165	27.50%
	Other	44	07.34%
Education Level	At most high school degree	117	19.50%
	Undergraduate degree	281	46.83%
	Graduate degree	202	33.67%
Age Bracket	18–29	114	19.00%
	30–49	225	37.50%
	50–69	235	39.17%
	70+	26	04.33%
Nationality	US American	551	91.83%
	Other	49	08.17%
Immigration Background	Yes	110	18.33%
	No	490	81.67%
Sexual Orientation	Heterosexual	494	82.33%
	LGBTQ+	106	17.67%
Political Affiliation	Democrat	218	36.33%
	Republican	204	34.00%
	Independent/Other	178	29.67%

Notes. Summary statistics of the demographics of CAs. Frequency and percentage share of main categories for the eight characteristics that CAs and Choosers can be matched on.

Table B2: Overview of demographics of CAs



Notes. Estimated number of shared characteristics (0-4) in *LowProx* treatment (left) and in *HighProx* treatment (right). Error bars indicate 95% confidence intervals.

Figure B5: Estimated number of shared characteristics by treatment

Appendix C Robustness checks

	(1) Fraction Discouraged	(2) Fraction Unavailable	(3) Option 3 unavailable	(4) Option 1 unavailable
High Proximity	0.00597	-0.00412	0.0247	-0.0216
	(0.00555)	(0.00697)	(0.0163)	(0.0149)
Constant	0.203***	0.322***	0.401***	0.346***
	(0.0127)	(0.0109)	(0.0245)	(0.0244)
Observations	4800	3880	3880	3880
Clusters	600	485	485	485
R-squared	0.001	0.004	0.001	0.003

Notes. Linear regressions of the fraction of options discouraged (column 1), the fraction of options made unavailable (column (2)), an indicator of the third, least patient, option made unavailable (column (3)), and an indicator of the first, most patient, option made unavailable (column (4)) on the treatment indicator *High Prox*. Columns (2)-(4) exclude participants classified as libertarians, i.e. those who never impose any choice restrictions. Fixed effects for treatment and menu order are included. Standard errors clustered at the participant level in parentheses.
$^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$

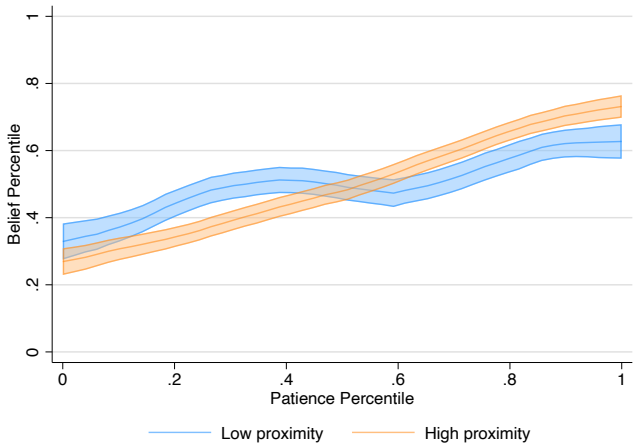
Table C3: Robustness of treatment effects on choice restrictions

	(1) MaxEarly	(2) MaxEarly	(3) MaxEarly
High Proximity	0.0441	0.198***	0.0906**
	(0.0384)	(0.0458)	(0.0451)
Patience Percentile	-0.477***		-0.337***
	(0.0947)		(0.100)
High Proximity × Patience Percentile	-0.164**		0.295***
	(0.0768)		(0.0974)
Belief Percentile		-0.599***	-0.498***
		(0.0852)	(0.0928)
High Proximity × Belief Percentile		-0.489***	-0.564***
		(0.0877)	(0.105)
Constant	2.080***	2.148***	2.263***
	(0.0593)	(0.0498)	(0.0566)
Observations	3880	3880	3880
Clusters	485	485	485
R-squared	0.045	0.099	0.106

Notes. Linear regression of MaxEarly, i.e., the maximum amount a chooser can receive on the day of the experiment given the choice restrictions, on the treatment indicator *High Prox*, Patience Percentile, and their interactions in column (1), the treatment indicator *High Prox*, Belief Percentile, and their interactions in column (2), and both sets of variables in column (3). Excludes participants classified as libertarians, i.e. those who never impose any choice restrictions. Fixed effects for treatment and menu order are included. Standard errors clustered at the participant level in parentheses.
$^{*}\ p < 0.1$, $^{**}\ p < 0.05$, $^{***}\ p < 0.01$

Table C4: Role of time preferences and beliefs excluding libertarians

Appendix D Additional results



Notes. Local polynomial mean smooth of Belief Percentile on Patience Percentile by treatment using the Epanechnikov kernel. Shaded regions indicate 95% confidence intervals.

Figure D6: Association of Patience Percentile and Belief Percentile by treatment

	(1) Patience Percentile	(2) Patience Percentile	(3) Patience Percentile
Belief Percentile	0.474***	0.323***	
	(0.0339)	(0.0426)	
High Proximity		-0.151***	-0.115***
		(0.0216)	(0.0375)
High Proximity × Belief Percentile		0.302***	
		(0.0406)	
Patience Percentile Chooser			-0.124***
			(0.0436)
High Proximity × Patience Percentile Chooser			0.230***
			(0.0749)
Constant	0.264***	0.339***	0.563***
	(0.0222)	(0.0266)	(0.0290)
Observations	1200	1200	1200
Clusters	600	600	600
R-squared	0.196	0.216	0.013

Notes. Linear regression of Patience Percentile on Belief Percentile in column (1), the treatment indicator *High Prox*, Belief Percentile, and their interactions in column (2), and the treatment indicator *High Prox*, the Patience Percentile of the Chooser and their interactions in column (3). Fixed effects for treatment and menu order are included. Standard errors clustered at the participant level in parentheses.

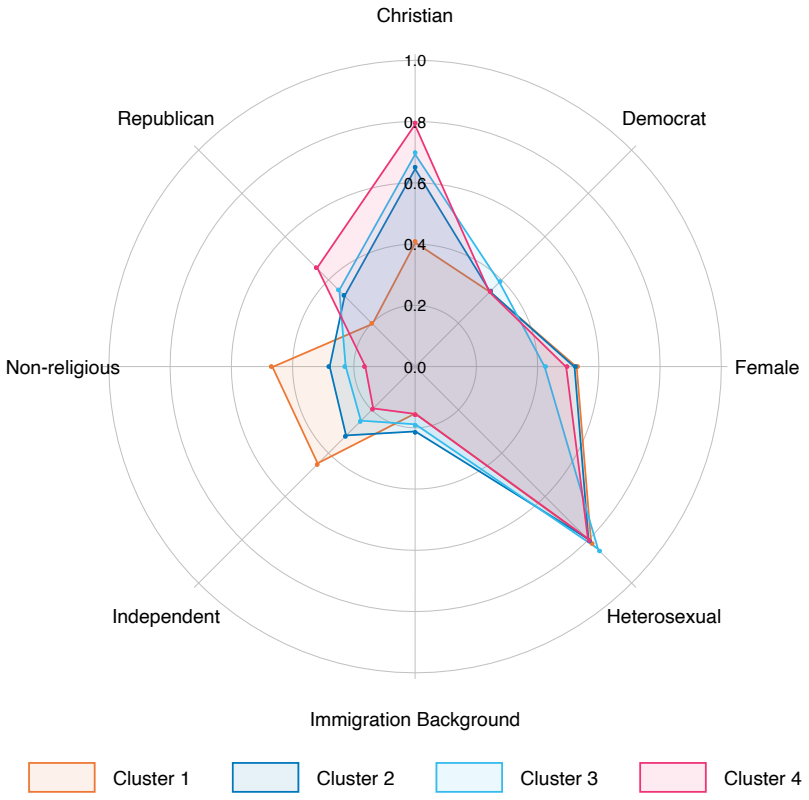
$^{*}\ p < 0.1, ^{**}\ p < 0.05, ^{***}\ p < 0.01$

Table D5: Treatment differences in the correlation of beliefs, CA preferences, and Chooser preferences

Characteristic	Cluster	Prop. (Cluster)	Prop. (rest)	p-value	adj. p-value
Christian	1	0.4087	0.7093	<0.001	<0.001
	2	0.6510	0.6519	0.984	1
	3	0.6986	0.6266	0.078	1
	4	0.7953	0.6131	<0.001	0.004
Non-religious	1	0.4695	0.2289	<0.001	<0.001
	2	0.2819	0.2727	0.929	1
	3	0.2297	0.2992	0.069	1
	4	0.1654	0.3044	0.002	0.059
Female	1	0.5304	0.4742	0.278	1
	2	0.5235	0.4723	0.278	1
	3	0.4258	0.5166	0.034	1
	4	0.4961	0.4820	0.779	1
Democrat	1	0.3478	0.3670	0.7006	1
	2	0.3490	0.3681	0.6746	1
	3	0.3923	0.3478	0.2800	1
	4	0.3465	0.3679	0.6560	1
Independent	1	0.4522	0.2598	<0.001	0.002
	2	0.3221	0.2882	0.432	1
	3	0.2536	0.3197	0.091	1
	4	0.1969	0.3235	0.006	0.177
Republican	1	0.2000	0.3732	<0.001	0.014
	2	0.3289	0.3437	0.741	1
	3	0.3541	0.3325	0.595	1
	4	0.4567	0.3087	0.002	0.057
Heterosexual	1	0.8174	0.8247	0.853	1
	2	0.8054	0.8293	0.507	1
	3	0.8517	0.8082	0.183	1
	4	0.8031	0.8288	0.501	1
Immigration background	1	0.1565	0.1897	0.408	1
	2	0.2148	0.1729	0.253	1
	3	0.1914	0.1790	0.709	1
	4	0.1575	0.1903	0.396	1

Notes. Two-sample tests of proportions comparing the share of individuals in a specific Cluster with a certain characteristic (Prop. (Cluster)) to the share of individuals outside of the cluster with that characteristic (Prop. (rest)). The last column gives adjusted p-values using Bonferroni-corrections.

Table D6: Two-sample tests of proportions across clusters



Notes. Radar chart plotting share of individuals with certain attribute for eight demographic characteristics, separately by cluster.

Figure D7: Radar chart of demographic characteristics across clusters

Appendix E Instructions

Parts

Welcome to this experiment and thank you for participating.

This experiment consists of a questionnaire and three parts. You will receive the instructions for each part just before the corresponding part begins. The whole study will take about 50 minutes.

Payment

The payment for your participation in this study consists of two parts:

Base payments: 6 Pounds (for the completion of the experiment)

Bonus payment: Between 0 Pounds and 15 Pounds.

You will receive your base payment as soon as you have completed the experiment.

The exact amount of your bonus payment, as well as the time at which you will receive it, depends on your decisions, as well as on chance.

Questionnaire

Please answer the following questions. Your answers in this part will not affect your payment.

What is your gender?

What is your religion?

What is your education level?

What is your age bracket?

What is your nationality?

Do you have an immigration background?

What is your sexual orientation?

What is your political affiliation ?

- Democrat
- Republican
- Other

Choice of characteristics

We asked you about several characteristics. Out of those, select the 4 characteristics that you think are **most relevant to your identity**.

- [ ] Your gender
- [ ] Your religion
- [ ] Your education level
- [ ] Your age
- [ ] Your nationality
- [ ] Your immigration background
- [ ] Your sexual orientation
- [ ] Your political affiliation

General instructions

Please read carefully. This study contains multiple comprehension tests that you need to pass. For simplicity, this study uses they/them pronouns throughout.

Affecting your own payment

There are three parts in this experiment. At the end of the experiment, the computer will randomly select a part and a decision you made in that part. This decision will be the only one that determines your bonus payment.

So you should make every decision as if it's the one that counts - because it may be!

Affecting the payment of the future experiment participant

Part of this study consists of decisions that can affect another experiment participant you will be matched with. This future participant will take part in a future session of the experiment.

If the computer randomly selects a decision that affects the future participant's payoff, the future experiment participant's options for the bonus payment are determined entirely by that single decision of yours.

This future participant will not make decisions that affect others; all their decisions will only affect themself.

IMPORTANT: There is NO DECEPTION in this study. We will conduct the partner studies with the future participants within the next 30 days and your decisions will affect future participants exactly as outlined.

Parts

Welcome to this experiment and thank you for participating.

This experiment consists of a questionnaire and three parts. You will receive the instructions for each part just before the corresponding part begins. The whole study will take about 50 minutes.

Payment

The payment for your participation in this study consists of two parts:

Base payments: 6 Pounds (for the completion of the experiment)

Bonus payment: Between 0 Pounds and 15 Pounds.

You will receive your base payment as soon as you have completed the experiment.

The exact amount of your bonus payment, as well as the time at which you will receive it, depends on your decisions, as well as on chance.

General instructions

Money at different points in time

Some parts are about money that you or the future participant can receive at different times. In every decision concerning money at different points in time, the following choice will be made available:

Standard option:

Receive a bonus of £0 today and £15 in 6 months.

Alternative options such as the following will also be available (X and Y will be replaced by concrete amounts)**:**

Receive a bonus of £X today and £Y in 6 months.

We guarantee that if a participant chooses such an option, we will transfer exactly the specified amount at the specified time.

To ensure that you have understood these elements of the study correctly, please click on all true statements (and only those):

- [ ] My bonus payment is determined by only up to one decision from one part of the study.
- [ ] I will make decisions that can affect a future participant.
- [ ] All the decisions I make in the study cannot affect anyone else, but only determine my own payment.

Part I

We are now starting Part 1 of the experiment. This is the longest part of the study.

If this part is randomly selected for payment, the decisions you make in this part can affect the options of a future participant you will be matched with.

How this part affects your own bonus payment

It is in your own interest to be attentive. At the end of this part there will be questions related to this part. It is possible that your bonus payment for this study will be determined entirely by your performance on this test.

This part has **2 sections that will follow the same structure.** Each section has **4 rounds**. Each round has **two halves**. We will now explain how each round within a section looks like.

First half of each round - instructions

Available and unavailable choice options

A future participant will be able to choose their bonus payment from a set of options as follows:

(X1, X2, X3, Y1, Y2, Y3 will be replaced by concrete payments.)

You decide whether all options should be available to the participant you have been matched with or whether one or more of them will be unavailable (you must make at least one option available in each round).

We ask you to make these decisions with care. There are no right or wrong decisions. These decisions do not affect your own bonus payment.

Why such decisions?

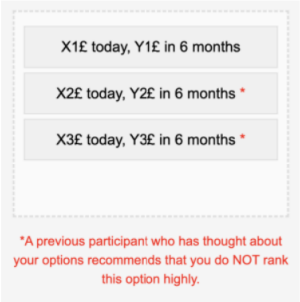
People have different views about influencing other people's choices and decisions. There are no right or wrong answers. We ask you to make exactly those decisions that reflect your genuine views.

Messages to the participant you have been matched with:

In addition to making options available or unavailable, you will be able to send messages to the future participant if you wish. There are two types of messages in this study.

Click messages

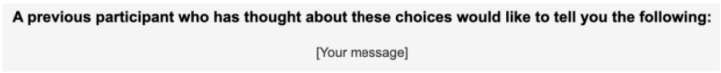
You will be able to click a button to advise the future participant not to rank an option highly. If you do, the future participant will see the following when making decisions about their options:



(X1, X2, X3, Y1, Y2, and Y3 will be replaced by concrete amounts)

Free-form messages

If you wish, you can also send a freely formulated message to the future participant you have been matched with. In this case, the future participant will see the following when deciding between their options:

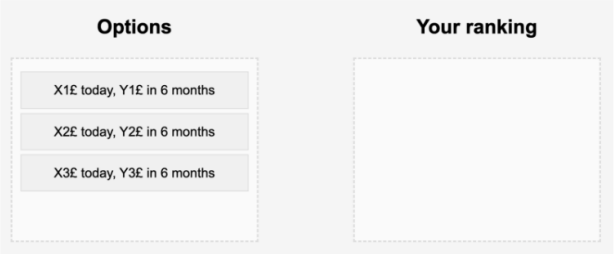


How the future experiment participant will choose

The future participant will see all options and rank them according to their preference. The future participant then receives the *available* option that they have ranked the highest.

The future participant will know that not all options may be available, and that they will receive the option they have ranked the highest among those options that are available.

Here you can see how the future participant can rank their options. We will ask them to put the option they most want first and the option they least want third.



Example

Suppose there are three options, A, B and C. Also suppose you make option A unavailable for the future participant. For example, the future participant might rank A first, then B, and C last.

In this case, the future participant will receive B. The reason is that A is not available, and the participant ranks B higher than C.

To ensure that you understand how your decisions affect the future participant, please answer the following questions. Each question concerns three options, A, B and C.

Assume that the future participant ranks B at the top, followed by C, and that they rank A lowest.

If all options are available, which will the future participant receive?

- Option A ◯
- Option B ◯
- Option C ◯

If Option A is not available, which option will the future participant receive?

- Option A
- Option B
- Option C

If Option B is not available, which option will the future participant receive?

- Option A
- Option B
- Option C

If Option B and C are not available, which option will the future participant receive?

- Option A
- Option B
- Option C

Second half of each round - instructions

In the second half of each round you will see two choice sets according to which the choices of future participants could be determined, such as in the following example.

Choice set left
X1£ today, Y1£ in 6 months
X2£ today, Y2£ in 6 months
X3£ today, Y3£ in 6 months

Choice set right
X1£ today, Y1£ in 6 months
~~X2£ today, Y2£ in 6 months~~
X3£ today, Y3£ in 6 months

In this example, all options are available in the choice set on the left. The second option is not available in the choice set on the right.

In **your opinion**, which choice set is better for the future participants' own good? This question refers to **your opinion** about which choice set is better for the future participant's own good – **regardless of whether the future participant would agree with you or not!**

To ensure that you have understood these elements of the study correctly, please click on all true statements (and only those).

- [ ] I can make some options available and others not, if I think that is right.
- [ ] I can make all the options available if I think that is right.
- [ ] I can make all but one option unavailable if I think that's right.
- [ ] There are NO right or wrong decisions, I can make available or unavailable whatever I think is right (as long as at least one option is available for the future participant).
- [ ] The future participant I am matched with will rank all options. They will not know which ones are available or unavailable. Their bonus payment is based on the option they have ranked most highly amongst those that are available.

Matching

You will decide which options are available in two separate sections. The two sections differ in who you are matched with. We will now tell you more about who these future participants are.

In both sections, the matching is based on how similar you and the future participants are.

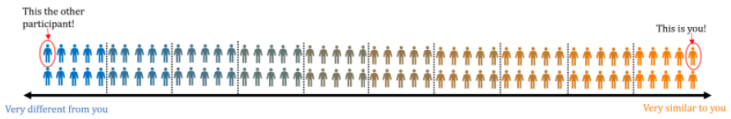
Similarity

In the initial questionnaire, you selected four characteristics that are the most important for your identity. We use these four characteristics to determine your similarity to the future participant. **To determine the similarity, we count the number of characteristics out of those four that you share with the future participants.** We are ordering all participants in the experiment based on their similarity to you, so based on how many of the four characteristics they share.

Section 1

Low Similarity

First, you will be matched with **a future participant among the 10% least similar to you. See an illustration of this below.** On the left, you see the 10% of participants who are least similar to you, on the right the 10% who are most similar to you. You are matched with someone on the left, so someone among the 10% least similar to you. This means **that you are matched with someone from the 10% of future participants sharing the fewest of the four selected characteristics with you.**



Example

Imagine there are 10 future participants. Out of the four characteristics you selected, imagine 1 of the future participants shares one characteristic with you, 4 of them share two characteristics with you, 4 of them share three characteristics with you, and 1 of them shares all four characteristics with you. **In this example, you would be matched with the future participant sharing none of the four characteristics with you**.

Control question

The future participant you are matched with is

- a participant among the 10% least similar to you. ○
- a participant among the 10% most similar to you. ○
- randomly chosen. ○

Your decisions in this part may influence the payment and options available to the future participant.

- True ○
- False ○

First half of round 1

Your task is now to decide which options you want to make available to the future participant who is among the 10% least similar to you.

Which of the choice options do you want to make available to the future participant you will be matched with who is **among the 10% least similar to you**? (You must leave at least one option available.)

	Available	Unavailable	Recommend against
0£ today, 15£ in 6 months	○	○	☐
3£ today, 10£ in 6 months	○	○	☐
5£ today, 1£ in 6 months	○	○	☐

If you have a message for the future participant, enter it here:

Second half of round 1

This round concern the future participant you have been matched with who is among the 10% least similar to you:

Choice set left
0£ today, 15£ in 6 months
3£ today, 10£ in 6 months
5£ today, 1£ in 6 months

Choice set right
0£ today, 15£ in 6 months
3£ today, 10£ in 6 months
~~5£ today, 1£ in 6 months~~

Which choice set is better for the future participant's own good?

Choice set left	Both equal	Choice set right
○	○	○

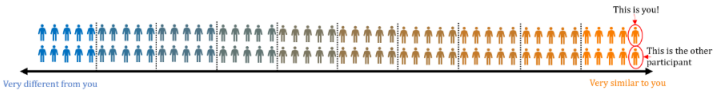
You were matched with another participant who among the 10% least similar to you. How many of the four characteristics you selected as most important for your identity do you think you share with that participant?

Section 2

You are now matched with a second other future participant.

High Similarity

You will now be matched with **a future participant among the 10% most similar to you. See an illustration of this below.** On the left, you see the 10% of participants who are least similar to you, on the right the 10% who are most similar to you. You are matched with someone on the right, so someone among the 10% most similar to you. This means **that you are matched with someone from the 10% of future participants sharing the most of the four selected characteristics with you.**



Example

Imagine there are 10 future participants. Out of the four characteristics you selected, imagine 1 of the future participants shares one characteristic with you, 4 of them share two characteristics with you, 4 of them share three characteristics with you, and 1 of them shares all four characteristics with you. **In this example, you would be matched with the future participant sharing all four characteristics with you.**

Control question

The future participant you are matched with is

- a participant among the 10% least similar to you. ○
- a participant among the 10% most similar to you. ○
- randomly chosen. ○

Your decisions in this part may influence the payment and options available to the future participant.

- True ○
- False ○

First half of round 1

Your task is now to decide which options you want to make available to the future experiment participant who is among the 10% most similar to you.

Which of the choice options do you want to make available to the future participant you will be matched with who is **among the 10% most similar to you**? (You must leave at least one option available.)

	Available	Unavailable	Recommend against
0£ today, 15£ in 6 months	○	○	☐
3£ today, 10£ in 6 months	○	○	☐
5£ today, 1£ in 6 months	○	○	☐

If you have a message for the future participant, enter it here:

Second half of round 1

This round concern the future participant you have been matched with who is among the 10% most similar to you:

Choice set left
0£ today, 15£ in 6 months
3£ today, 10£ in 6 months
5£ today, 1£ in 6 months

Choice set right
0£ today, 15£ in 6 months
3£ today, 10£ in 6 months
~~5£ today, 1£ in 6 months~~

Which choice set is better for the future participant's own good?

Choice set left ○ | Both equal ○ | Choice set right ○

You were matched with another participant who among the 10% most similar to you. How many of the four characteristics you selected as most important for your identity do you think you share with that participant?

Please answer all the questions about this part.

If the computer selects this part to determine your payment, your bonus is calculated as follows: your receive 0.5£ for each correct answer, and 0£ for each incorrect answer.

	True	False
In this part, I could remove options, but I could never add options for the future participant.	○	○
For all options which the future participant could receive, the early payment will always be on the day of the experiment.	○	○
For some options that the future participant could have received, the late payment will occur up to 7 months after the day of the study.	○	○
In some rounds, I had to make only a single option available to future participant, I could not make multiple options available, even if I wanted to.	○	○
If I made some options unavailable, this means that the future participant cannot see that option, and therefore does not need to think about these options.	○	○

We are now starting part II of the experiment.

Part II

This part has again 2 Sections. Each Section has 4 rounds. Each round follows the same structure. The future experiment participants you have been matched with will rank the three different options, as described.

Choice set X

(X1, X2, X3, Y1, Y2, Y3 will be replaced by concrete payments.)

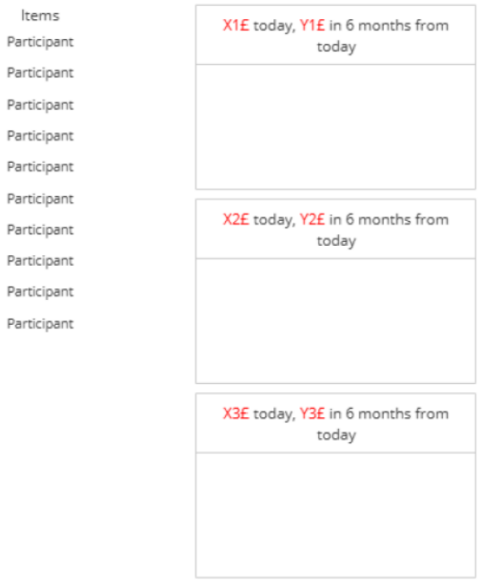
Your task is to estimate which option the future experiment participant will rank the highest, so as their most preferred option.

You will make these estimates as follows:

On the left side of the graph below you see “Participant” written 10 times. **Each represents one of the 10 future experiment participants.**

You can move them using Drag & Drop. On the right side you see three fields. Each of them is a choice option. Your task is to sort each of the 10 experiment participants on the left into one of the boxes on the right, depending on your estimate of how many future experiment participants will rank each options as their most preferred option.

Example: If you estimate that 3 of the future participants rank the first option highest, that 6 rank the second option highest, and that 1 ranks the third option highest, place 3 of the “Participants” in the top container, 6 of the “Participants” in the middle container, and 1 of the “Participants” in the bottom container.



How your estimate will affect your bonus payment

Your payment from this study could be determined solely by this part of the study! If so, the computer randomly draws a round from this part. We will have data on how 10 future participants rank these options. We compare your estimate with what the future participants actually rank highest.

If your estimate for the selected round is correct, your bonus payment will be **5 Pounds**, which you will receive within one week.

If your estimate is incorrect, the following will happen. Suppose you have assigned too many future participants to one option and too few to another option (compared to what the future participants actually rank highest). We then take one of the fields "future participant" from one of the containers that has too many fields "future participant", and place it in one of the containers that has too few.

We will do this until there are exactly as many "future participants" fields in each container as we actually observe with the 10 future participants. For each "future participant" field that we put in a different container in this way, we will deduct 0.5 Pounds from the 5 Pounds that you would receive if you perfectly estimated the decisions of the future participants. Therefore, you can expect that you will earn the most with this study if you think carefully about how the future participants actually decide and place the future participants in the containers accordingly.

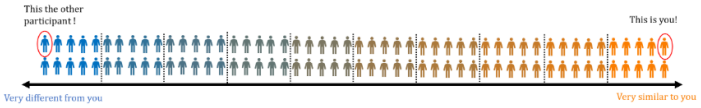
Please select the true statements. You can continue as soon as you have classified all statements correctly.

- [ ] I will always make the most money in this part if I put all the future participants in the same container.
- [ ] I will always make the most money in this part if I put the same number of future participants in each container.
- [ ] I can expect to make the most money in this part by placing the future participants in the containers, according to my best estimate of what the future participants actually will actually rank highest.
- [ ] My answers in this section will never affect my payment.
- [ ] My payment from this study could be determined solely by this part of the study.

Section 1

Your is to estimate which option the future participant will rank the highest, so as their most preferred option. **This first concerns the future participant who is among the 10% least similar to you.**

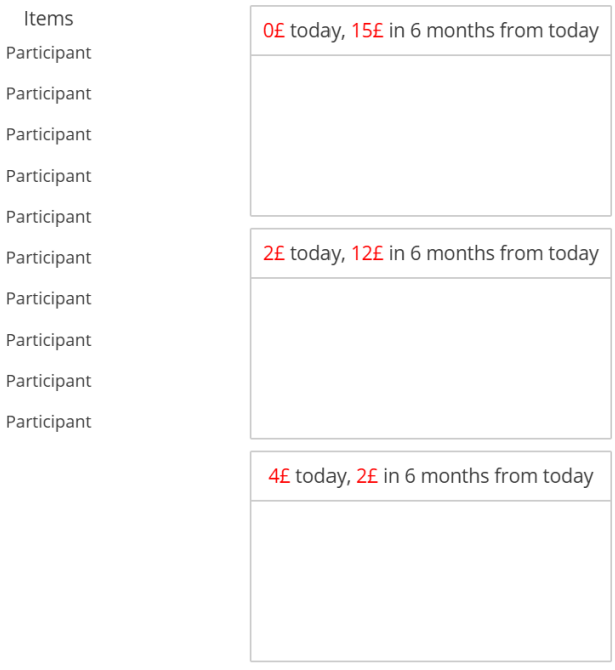
Reminder: You are matched with someone among the 10% least similar to you, based on the four characteristics you identified as most important to your identity. **This participant is among the 10% of future participants who share the least of the four characteristics that you selected as most important.** See an illustration below:



Part II - Section 1 - Round 1

On the left side of the graph below you see “Participant” written 10 times. **Each represents one of the 10 future participants who are among the 10% least similar to you.**

Your task is to sort each of the 10 future participants on the left into one of the boxes on the right, depending on your estimate of how many future participants among the 10% least similar to you actually rank this option highest.



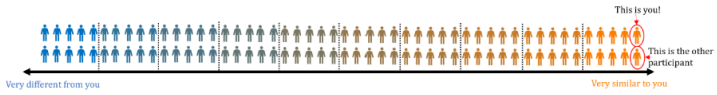
Part II - Section 2

You now have to conduct the same task as before but concerning the future participants who is **among the 10% most similar to you.**

Section 2

Your task is to estimate which option the future participant will rank the highest, so as their most preferred option. **This concerns the future participant who is among the 10% most similar to you.**

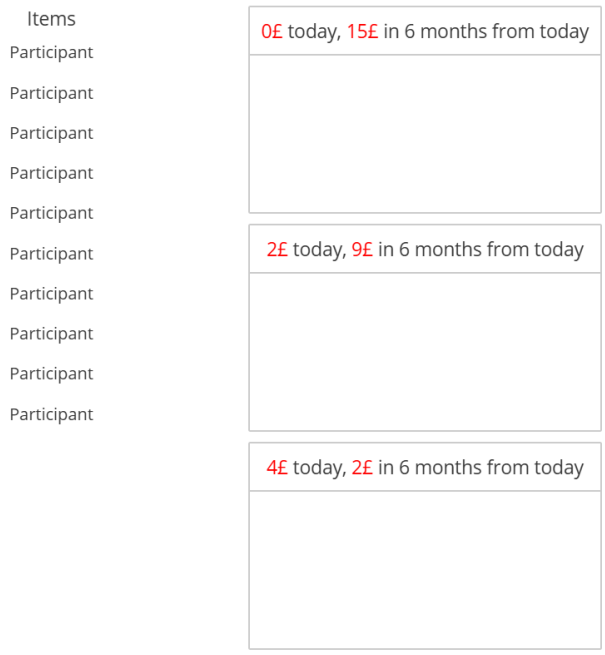
Reminder: You are matched with someone among the 10% most similar to you, based on the four characteristics you identified as most important to your identity. **This participant is among the 10% of future participants who share the most of the four characteristics that you selected as most important.** See an illustration below:



Part II - Section 2 - Round 1

Your task is to sort each of the 10 future participants on the left into one of the boxes on the right, depending on your estimate of how many future participants among the 10% most similar to you actually rank this option highest.

On the left side of the graph below you see “Participant” written 10 times. **Each represents one of the 10 future participants who are among the 10% most similar to you**.



We are now starting Part III of the experiment.

Part III

In this part of the study you will participate in 4 decision rounds. In each round you will see a list of six decisions, for example as follows:

Option A1	☐ ☐	Option B1
Option A2	☐ ☐	Option B2
Option A3	☐ ☐	Option B3
Option A4	☐ ☐	Option B4
Option A5	☐ ☐	Option B5
Option A6	☐ ☐	Option B6

These options will be replaced by specific amounts of money.

Your task is to select the option you truly prefer on each line. On the left, you will see the option of a smaller amount today. On the right, the option will be a larger amount of money to be paid at a specified point in time in the future.

If this part is randomly selected for payment, your total bonus payment will be determined by a single decision in one such list. In this case you will receive exactly what you have chosen on the corresponding line. (Which list and which decision this will be will be randomly decided by the computer at the end of this study.)

You should make every decision as if it were the one that counts - because it might be.

Round 1

Please select an option on each line according to your real preference. If you select a smaller amount today rather than a larger amount at a certain time in the future, all options below will be pre-selected for you.

I would rather have...

2£ on the day of the experiment	○ ○	15£ in 1 month after the experiment
2£ on the day of the experiment	○ ○	15£ in 2 months after the experiment
2£ on the day of the experiment	○ ○	15£ in 3 months after the experiment
2£ on the day of the experiment	○ ○	15£ in 4 months after the experiment
2£ on the day of the experiment	○ ○	15£ in 5 months after the experiment
2£ on the day of the experiment	○ ○	15£ in 6 months after the experiment

Your payment

You have now completed the three parts of the experiment.

You will receive your base payment of 6£. You will also receive a bonus payment depending on the decisions you have made in the study.

The computer has randomly determined that your bonus payment is determined by Part 1. This part will also be selected for the future participant you have been matched with. Section 2 of this Part has been randomly selected for the future participant.

Given the numbers of questions you answered correctly in this part, your bonus payment is: 0£.

Thank you for your participation! On the next page, you will be redirected to Prolific.