# A. Experimental Materials

## A.1. Like- and Mixed-Mindedness in Deliberation and Voting: Study Instructions (English Version)

This study consists of three rounds. In each round, you will make a decision. Each decision is payment-relevant.

**Round 1: Individual Decision**

You will receive 10 points, where 1 point equals €0.50. Your task is to decide how to split these points between yourself and the nonprofit organization *Lernfreunde Haus* in Karlsruhe, which provides school supplies and tutoring to children of refugees. You must choose a whole number between 0 and 10, which represents the number of points you wish to keep for yourself.

**Round 2: Group Decision with Deliberation**

You will form a group with four other participants. Each of you again receives 10 points, with 1 point equaling €0.50. Your task is to vote on how to split the points between yourself and *Lernfreunde Haus*. You can deliberate about your preferences — that is, how many of your 10 points you want to keep — using the chat function. You will have 15 minutes for this deliberation.

Below the chat window, you will find a voting panel. The voting rule is stated on the printed sheet in front of you.

If no vote is cast after 15 minutes — for example, if at least one group member abstains — no one receives any payout, and all points from this round go back to the experimenter. That means neither you nor *Lernfreunde Haus* receives any points for Round 2.

**Round 3: Individual Decision (Again)**

This round is identical to Round 1. You decide alone how many of the 10 points you wish to keep for yourself.

**Additional Notes:**

**Waiting Times:** Please be aware that you may experience waiting periods, as all participants act simultaneously.

**Questionnaires:** After the main part of the study, you will be asked to complete some questionnaires about yourself.

**Questions:** If you have questions for the experimenters, please open your booth door. A staff member will come to assist you.

**Voluntary Participation and Data Protection:**

Participation in the study is voluntary. The survey is anonymous. The collection of demographic data, such as gender, is solely to analyze group-level differences. No attempt will be made to identify you personally based on your responses.

The results will only be published in anonymous form (tables and graphs), so that no conclusions about individuals are possible.

Please do not enter any personal data into free-text fields. This includes information about yourself or others.

According to Article 4, paragraph 1 of the General Data Protection Regulation (GDPR), personal data refers to any information relating to an identified or identifiable natural person. A person is considered identifiable if they can be identified directly or indirectly, in particular by reference to a name, identification number, location data, online identifier, or one or more characteristics expressing the identity of that person.

### A.2. Like- and Mixed-Mindedness in Deliberation and Voting: Group Voting Rules (English Version)

Depending on the experimental condition assigned to your group, one of the following decision rules applies:

**Median Rule**

The group decision is made using the median rule. This means that after all members have voted, the votes are arranged in ascending order, and the middle value is taken as the group outcome. In a group of three, this is the second-highest vote.

Please note that your vote is binding. As soon as all three group members have submitted a vote, the median is automatically counted as the group decision.

**Unanimity Rule**

The group decision is made using the unanimity rule. This means that the group only decides if all three members vote for the same value.

Please note that your vote is binding. As soon as all three members have voted identically, that value becomes the group result. If the group fails to reach unanimity, no decision is made, and the points go back to the experimenter.

## B. Variable Overview

| Variable | Description |
|---|---|
| `snes_mean` | Social-norm espousal (mean score) |
| `incom_mean` | Social comparison orientation (mean score) |
| `ra_mean` | Refugee and immigration attitudes (mean score) |

Table B.1: Overview of scale variables used in Chapter 2

### B.1. Social-Norm Espousal Scale (SNES)

The Social-Norm Espousal Scale (SNES) was used to assess participants' general endorsement of social rules and expectations. The items were adapted from Bizer et al. (2014). Participants responded on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

**German instruction:** Bitte geben Sie an, wie sehr Sie den folgenden Aussagen zustimmen (1 = stimme überhaupt nicht zu, 5 = stimme voll und ganz zu).

| German Item (Beispiel) | English Translation (Example) |
|---|---|
| Menschen sollten sich an Regeln halten, auch wenn niemand hinsieht. | People should follow the rules even when no one is watching. |
| Es ist wichtig, sich an die Erwartungen der Gruppe anzupassen. | It is important to go along with what the group expects. |

Table B.2: Example items from the Social-Norm Espousal Scale (SNES)

Only selected items are shown here due to copyright. Full content is available in the cited source. Responses were averaged to compute the variable `snes_mean`.

## B.2. Social Comparison Orientation (INCOM)

Social comparison orientation was measured using 11 items adapted from Schneider and Schupp (2011), based on the original INCOM by Gibbons and Buunk. The scale captures the tendency to compare one's abilities, opinions, and status with others. Participants rated each item on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

**German instruction:** Bitte beantworten Sie die folgenden Aussagen auf einer Skala von 1 (stimme überhaupt nicht zu) bis 5 (stimme voll und ganz zu). Mit den Werten zwischen 1 und 5 können Sie Ihre Meinung abstufen.

Responses were averaged to form the composite variable `incom_mean`. Items 5 and 11 were reverse-coded.

## B.3. Refugee and Immigration Attitudes Scale (RA)

To assess attitudes toward refugees, we used six items adapted from Kotzur et al. (2022). The scale included cognitive, affective, and behavioral components. Participants rated each item on a 5-point Likert scale.

**German instruction:** Bitte geben Sie an, wie sehr Sie den folgenden Aussagen zustimmen (1 = stimme überhaupt nicht zu, 5 = stimme voll und ganz zu).

| German Item (Beispiel) | English Translation (Example) |
|---|---|
| Deutschland hat eine humanitäre Verpflichtung, Geflüchtete zu unterstützen. | Germany has a humanitarian responsibility to support refugees. |
| Geflüchtete stellen eine unzumutbare Belastung für den Sozialstaat dar. *(Reverse)* | Refugees place an unreasonable burden on the welfare state. *(Reverse)* |

Table B.4: Example items from the Refugee Attitudes Scale (RA)

Only selected items are shown here to comply with publication rights. Responses were

| # | German Item | English Translation |
|---|---|---|
| 1 | Ich vergleiche häufig das Wohlergehen meiner Angehörigen (Partner, Familienangehörige, etc.) mit dem von anderen. | I frequently compare the well-being of my close ones (partner, family members, etc.) with that of others. |
| 2 | Ich achte immer sehr stark darauf, wie ich Dinge im Vergleich zu anderen mache. | I always pay close attention to how I do things compared to others. |
| 3 | Wenn ich herausfinden möchte, wie gut ich etwas erledigt oder gemacht habe, dann vergleiche ich mein Ergebnis mit dem anderer Personen. | When I want to assess how well I've done something, I compare my result with that of others. |
| 4 | Ich vergleiche häufig meine sozialen Fähigkeiten und meine Beliebtheit mit denen anderer Personen. | I often compare my social skills and popularity with those of other people. |
| 5 | Ich bin nicht der Typ Mensch, der sich oft mit anderen vergleicht. *(Reverse)* | I'm not the type of person who compares with others often. *(Reverse)* |
| 6 | Ich vergleiche mich häufig selbst mit anderen in Bezug auf das, was ich im Leben (bislang) erreicht habe. | I often compare myself with others regarding what I have achieved in life so far. |
| 7 | Ich tausche mich gerne häufig mit anderen über Meinungen und Erfahrungen aus. | I frequently exchange opinions and experiences with others. |
| 8 | Ich versuche häufig herauszufinden, was andere denken, die mit ähnlichen Problemen konfrontiert sind wie ich. | I often try to find out what others think who are facing similar problems as I am. |
| 9 | Ich möchte immer gerne wissen, wie sich andere in einer ähnlichen Situation verhalten würden. | I always like to know how others would behave in a similar situation. |
| 10 | Wenn ich über etwas mehr erfahren möchte, versuche ich herauszufinden, was andere darüber denken oder wissen. | When I want to learn more about something, I try to find out what others think or know about it. |
| 11 | Ich bewerte meine Lebenssituation niemals im Vergleich zu der anderer Personen. *(Reverse)* | I never evaluate my life situation by comparing it to that of others. *(Reverse)* |

Table B.3: Bilingual item list: Social Comparison Orientation (adapted INCOM)

averaged to form the composite variable `ra_mean`, where higher values indicate more favorable refugee attitudes.

# C. Additional Calculations

## C.1. Correlations Between Individual (R1) Decisions and Attitudinal Measures

Table C.1: Pearson correlations between Round 1 decisions and attitudinal measures

| **Variable** | $r$ | $p$ |
|---|---|---|
| Social Comparison (corrected mean) | .15 | .029 |
| Refugee Attitudes – Cognitive | -.03 | .669 |
| Refugee Attitudes – Affective | -.08 | .240 |
| Refugee Attitudes – Behavioral | -.17 | .010 |

## C.2. Robustness Check: Attitudinal Scale Means

Table C.2: Pearson correlations between Round 1 allocation and attitudinal scale means (robustness check)

| | Refugee Attitudes ($RA_{mean}$) | Social Comparison ($SC_{mean}$) | Social Norms ($SN_{mean}$) |
|---|---|---|---|
| Allocation | −0.125 | 0.080 | 0.079 |

*Note.* The Social Norms scale was included as a robustness check. While correlations with allocation showed a pattern similar to Social Comparison, associations were weaker and conceptually overlapping. For clarity and model parsimony, the scale was not included in the main analysis.

## C.3. Wilcoxon Signed-Rank and Rank-Sum Test Results (Exact p-values)

Table C.3: Wilcoxon Signed-Rank and Rank-Sum Test Results (Exact p-values)

| **Comparison** | **Group/Type** | **Rounds** | **Exact p-value** |
|---|---|---|---|
| Median vs. Unanimity | All groups | R2 | 0.553 |
| | LM generous | R2 | 0.652 |
| | LM selfish | R2 | **0.026** |
| | Mixed-minded | R2 | 0.436 |
| 3*Within LM selfish | | R1 vs R2 | $<$ **0.001 (1.30e-05)** |
| | | R3 vs R2 | $<$ **0.001 (6.75e-05)** |
| | | R3 vs R1 | 0.312 |
| 3*Within LM generous | | R1 vs R2 | 0.243 |
| | | R3 vs R2 | 0.145 |
| | | R3 vs R1 | 0.451 |
| 3*MM overall | | R1 vs R2 | **0.009** |
| | | R3 vs R2 | **0.013** |
| | | R3 vs R1 | 0.618 |
| 3*Within MM generous | | R1 vs R2 | **0.044** |
| | | R3 vs R2 | 0.055 |
| | | R3 vs R1 | 0.974 |
| 3*Within MM selfish | | R1 vs R2 | $<$ **0.001 (5.73e-08)** |
| | | R3 vs R2 | $<$ **0.001 (7.95e-07)** |
| | | R3 vs R1 | 0.157 |
| 3*Within MM fair | | R1 vs R2 | 0.221 |
| | | R3 vs R2 | 0.623 |
| | | R3 vs R1 | 0.445 |

*Note.* The table reports exact $p$-values from Wilcoxon signed-rank and rank-sum tests comparing allocation behavior across decision rounds and voting rules. Significant differences are observed in selfish groups under both like-minded and mixed-minded conditions, especially between individual and group decisions (R1 vs R2 and R3 vs R2).

## C.4. Post-hoc Power Analysis

Table C.4: Post-hoc Power Analysis for Predictors across Models

| Model | Predictor | N | Coef. | SE | t | $f^2$ | Power |
|---|---|---|---|---|---|---|---|
| Vote (with controls) | selfish | 132 | 0.522 | 0.480 | 1.088 | 0.010 | 0.098 |
| | generous | 132 | -2.166 | 0.549 | -3.947 | 0.126 | 0.840 |
| | female | 132 | -1.081 | 0.436 | -2.479 | 0.050 | 0.390 |
| | bachelor | 132 | -0.469 | 0.434 | -1.081 | 0.009 | 0.098 |
| | RA_mean | 132 | -0.649 | 0.373 | -1.739 | 0.024 | 0.195 |
| | SN_mean | 132 | 0.701 | 0.765 | 0.917 | 0.007 | 0.083 |
| | SC_mean | 132 | 0.702 | 0.522 | 1.345 | 0.015 | 0.129 |
| Outcome (with controls) | selfish | 132 | 0.509 | 0.490 | 1.040 | 0.009 | 0.094 |
| | generous | 132 | -2.200 | 0.560 | -3.928 | 0.124 | 0.836 |
| | female | 132 | -1.072 | 0.445 | -2.411 | 0.047 | 0.369 |
| | bachelor | 132 | -0.535 | 0.443 | -1.206 | 0.012 | 0.111 |
| | RA_mean | 132 | -0.589 | 0.381 | -1.547 | 0.019 | 0.160 |
| | SN_mean | 132 | 0.716 | 0.781 | 0.917 | 0.007 | 0.083 |
| | SC_mean | 132 | 0.631 | 0.533 | 1.185 | 0.011 | 0.109 |
| Vote (no controls) | selfish | 132 | 0.885 | 0.482 | 1.836 | 0.026 | 0.357 |
| | generous | 132 | -2.268 | 0.557 | -4.074 | 0.129 | 0.963 |
| Outcome (no controls) | selfish | 132 | 0.868 | 0.490 | 1.772 | 0.024 | 0.335 |
| | generous | 132 | -2.272 | 0.566 | -4.013 | 0.125 | 0.958 |
| Vote: Selfish × Like-minded | selfish | 216 | 1.896 | 0.447 | 4.244 | 0.085 | 0.970 |
| | like.minded | 216 | -1.533 | 0.526 | -2.916 | 0.040 | 0.802 |
| | selfish:like.minded | 216 | 2.186 | 0.723 | 3.025 | 0.043 | 0.838 |
| Outcome: Selfish × Like-minded | selfish | 216 | 1.882 | 0.457 | 4.118 | 0.080 | 0.959 |
| | like.minded | 216 | -1.330 | 0.537 | -2.477 | 0.029 | 0.679 |
| | selfish:like.minded | 216 | 1.857 | 0.739 | 2.514 | 0.030 | 0.692 |
| Vote: Selfish × Mixed-minded | selfish | 132 | 4.082 | 0.569 | 7.180 | 0.403 | 1.000 |
| | mixed.minded | 132 | 1.533 | 0.526 | 2.916 | 0.066 | 0.777 |
| | selfish:mixed.minded | 132 | -2.186 | 0.723 | -3.025 | 0.071 | 0.791 |
| Outcome: Selfish × Mixed-minded | selfish | 132 | 3.739 | 0.581 | 6.439 | 0.324 | 1.000 |
| | mixed.minded | 132 | 1.330 | 0.537 | 2.477 | 0.048 | 0.729 |
| | selfish:mixed.minded | 132 | -1.857 | 0.739 | -2.514 | 0.049 | 0.738 |
| Vote: Generous × Like-minded | generous | 216 | -2.811 | 0.436 | -6.448 | 0.196 | 1.000 |
| | like.minded | 216 | 0.656 | 0.438 | 1.495 | 0.011 | 0.236 |
| | generous:like.minded | 216 | -1.248 | 0.693 | -1.800 | 0.015 | 0.306 |
| Outcome: Generous × Like-minded | generous | 216 | -2.869 | 0.445 | -6.447 | 0.196 | 1.000 |
| | like.minded | 216 | 0.502 | 0.448 | 1.122 | 0.006 | 0.149 |
| | generous:like.minded | 216 | -0.850 | 0.707 | -1.203 | 0.007 | 0.174 |
| Vote: Generous × Mixed-minded | generous | 132 | -4.059 | 0.540 | -7.522 | 0.442 | 1.000 |
| | mixed.minded | 132 | -0.656 | 0.438 | -1.495 | 0.017 | 0.188 |
| | generous:mixed.minded | 132 | 1.248 | 0.693 | 1.800 | 0.025 | 0.292 |
| Outcome: Generous × Mixed-minded | generous | 132 | -3.719 | 0.550 | -6.766 | 0.358 | 1.000 |
| | mixed.minded | 132 | -0.502 | 0.448 | -1.122 | 0.010 | 0.120 |
| | generous:mixed.minded | 132 | 0.850 | 0.707 | 1.203 | 0.011 | 0.132 |

## C.5. Key Coefficients and Confidence Intervals

Table C.5: Key Coefficients with 95% Confidence Intervals

| **Predictor** | **Estimate** | **95% CI** | **Model** |
|---|---|---|---|
| Selfish | $0.88^{\dagger}$ | [–0.06, 1.83] | Vote, Mixed-Minded (No Ctrl) |
| Generous | $-2.27^{***}$ | [–3.36, –1.18] | Vote, Mixed-Minded (No Ctrl) |
| Selfish × Like-minded | $2.19^{**}$ | [0.77, 3.60] | Vote |
| Selfish × Mixed-minded | $-2.19^{**}$ | [–3.60, –0.77] | Vote |
| Generous × Mixed-minded | $1.25^{\dagger}$ | [–0.11, 2.61] | Vote |
| Female | $-1.08^{*}$ | [–1.93, –0.23] | Vote, With Controls |

**Note.** Estimates are derived from censored regression models (Tobit). Confidence intervals are based on normal approximation (Wald method).
$^{\dagger}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

## C.6. Robustness Check: Cluster-Robust Standard Errors

Table C.6: Robustness Check: Cluster-Robust Standard Errors for Main Models

| **Model** | **Coefficient** | **Cluster-Robust SE** | ***p*-value** |
|---|---|---|---|
| Vote (w/ controls): Generous | –3.00 | 0.37 | $< .001$ |
| Outcome (w/ controls): Generous | –3.04 | 0.25 | $< .001$ |
| Vote (no controls): Generous | –3.05 | 0.27 | $< .001$ |
| Outcome (no controls): Generous | –3.08 | 0.16 | $< .001$ |
| Vote: Selfish × Like-minded | 2.19 | 0.01 | $< .001$ |
| Outcome: Selfish × Like-minded | 1.86 | 0.01 | $< .001$ |
| Vote: Selfish × Mixed-minded | –2.19 | 0.01 | $< .001$ |
| Outcome: Selfish × Mixed-minded | –1.86 | 0.01 | $< .001$ |
| Vote: Generous × Like-minded | –1.25 | 0.01 | $< .001$ |
| Outcome: Generous × Like-minded | –0.85 | 0.01 | $< .001$ |
| Vote: Generous × Mixed-minded | 1.25 | 0.01 | $< .001$ |
| Outcome: Generous × Mixed-minded | 0.85 | 0.01 | $< .001$ |

**Note.** All models were estimated using Tobit regression with cluster-robust standard errors at the group level. Only relevant coefficients shown; full output available upon request.