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# Wisdom and Prosocial Behavior

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# Wisdom and Prosocial Behavior

## Abstract

*Prosocial behavior is crucial for tackling global challenges such as climate change, poverty, and conflict, yet people often prioritize personal benefits over the common good. A classic philosophical proposition is that prosocial behavior benefits from psychological wisdom – a concept characterized by cognitive and behavioral scientists by expression of intellectual humility, open-mindedness towards different ways in which events may unfold, as well as consideration and integration of diverse viewpoints. We investigate the relationship between these features of wisdom and prosocial behavior in an incentivized donation experiment, as well as self-reported real-world behaviors such as blood and charity donations across 13,500 households in nine European countries. Our findings reveal that greater expression of wisdom was systematically aligned with contributions to climate change mitigation, donating blood and money to charitable causes, compliance with rules and behaviors to contain the spread of the COVID-19 virus, voting in parliamentary elections, volunteering and being a member of an environmental group. These results were robust across experimental conditions varying vantage point (self-focused or other-focused), when examining wisdom in reflections specific to climate donation decisions, or reflections on one's personal life experiences, or when accounting for effect socioeconomic characteristics, personality, and values of prosocial behavior. Finally, the association was observed in each of the country samples, albeit with varying strengths.*

*JEL-Codes: D83, D91, Z13*

*Keywords: Wise reasoning; prosocial behavior; field experiment; survey; epistemic cognition*

*January 2024*

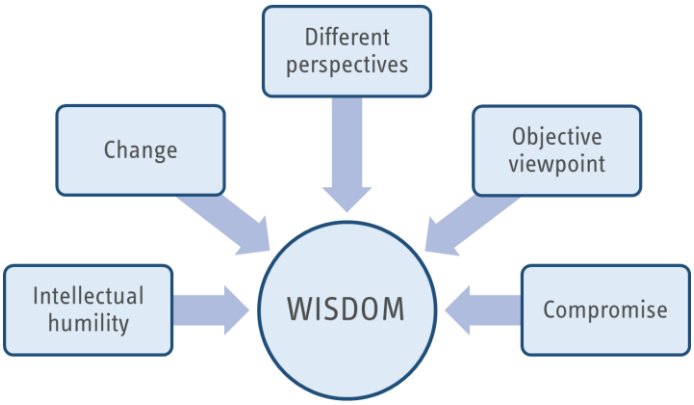
*1 Mark A. Andor, RWI; Igor Grossmann, University of Waterloo; Nils Christian Hoenow, RWI; Lukas Tomberg, RWI.* *– We are grateful for comments and suggestions by participants of the first Global Scientific Conference on Human Flourishing, the SABE-IAREP 47th annual Conference 2023 in Nice as well as the Workshop on Recent Advances in the Economics of Philanthropy 2023 at the WZB Berlin Social Science Center. Furthermore, we thank Eva Huemmecke and Kim Micke for research assistance. We gratefully acknowledge funding from the European Commission under the Horizon 2020 research and innovation program, Grant agreement number 837752 (M.A.), John Templeton Foundation grant 62260 (I.G.), and Social Sciences and Humanities Research Council of Canada Insight Grant 435-2014-0685 (I.G.). This study was pre-registered with the AEA RCT Registry as trial AEARCTR-0008488.* *– All correspondence to: Mark A. Andor, RWI, Hohenzollernstr. 1-3, 45128 Essen, Germany, e-mail: mark.andor@rwi-essen.de*

## Introduction

While prosocial behavior plays a key role in human interaction and its relevance for the most pressing global challenges – such as climate change mitigation, poverty alleviation and the prevention of armed conflicts – is undeniable, people often favor personal benefits over the common good and short-term gains over long-term goals. A substantial body of research therefore aims to uncover determinants of prosocial behavior, including its socio-cultural, affective, and regulatory constraints (e.g., Bierhoff 2007; Bekkers & Wiepking 2011; Andreoni et al. 2017; Andor et al. 2022; Adena et al. 2023). One understudied area in this burgeoning literature is the relationship between prosocial behavior and wisdom – a concept long theorized to provide societal benefits (Erikson 1950; Baltes & Staudinger 2000; Carstensen & Löckenhoff 2003) by promoting the common good (e.g., Sternberg 1998). Here, we contribute to this literature by systematically testing the relationship between a wide range of markers of prosocial behavior and wisdom.

Wisdom, a concept discussed for centuries in philosophy (e.g., Plato's Socratic Dialogues, Aristotle's Nicomachean Ethics, Confucianism or Buddhism) and religion (Brown 2000), has recently gained empirical attention in behavioral and cognitive sciences. Scholars established that most attempts to quantify a person's wisdom converge on a metacognitive regulation of thoughts, affect, and actions, as indexed by expression of intellectual humility, open-mindedness to change, willingness to consider and integrate different perspectives, taking an objective viewpoint and willingness to search for compromise (see Figure 1, adapted from Brienza et al. 2018). These characteristics only partially overlap with established personality traits and domain-general intelligence (Staudinger et al. 1998; Grossmann et al. 2013; Grossmann et al. 2016) and vary across social contexts (Grossmann & Kross 2014, Grossmann et al. 2016; Grossmann 2017) and cultures (Grossmann et al. 2012).

*Figure 1: Five facets of wisdom*




Building on philosophical scholarship, behavioral and social scientists postulate a positive association between wisdom and prosocial behavior (Sternberg 1998; Darnell et al. 2019; see

Grossmann et al. 2020 for a review). As a metacognitive construct, wisdom is not a form of altruism, and we would for example not necessarily expect wise people to give more in a context-free dictator game. Yet, when a decision on prosocial behavior is made in social context, the metacognitive processes of wisdom come into play and enable a form of "bigger picture" thinking (Grossmann et al. 2017). This bigger picture thinking can lead people to abstract from personal short-term gains and their own partial viewpoint and can, for example, induce reciprocity norms in repeated interactions as people recognize that today's cooperation can trigger others' cooperation in the future (Bicchieri 1990; Rand et al. 2014); it can trigger a stronger desire to behave consistently in line with one's prosocial values to maintain a positive self-image; or it can lead people to acknowledge the broader benefits of their donations.

Existing empirical evidence on the relation between wisdom and prosocial behavior has been limited to attitudes (Kross & Grossmann 2012; Brienza et al. 2018; Brienza et al. 2021; Kappes et al. 2018; Peetz & Grossmann 2021), with only one study testing how wisdom relates to cooperation in public good games (Grossmann et al. 2017). In turn, this study was limited to college students and convenience samples of Americans, raising questions about the robustness of the association across societies varying in cultural values such as individualism or economic prosperity. Moreover, it is questionable whether the results also apply to other prosocial behaviors, especially those that can be observed in the real world.

To fill this research gap, in this pre-registered study (trial AEARCTR-0008488 at the AEA RCT Registry), we investigated the relationship between wisdom and prosocial behavior from 13,500 households across nine European countries. Our study examined results across several levels of analysis, using distinct markers of prosocial behavior in an incentivized donation experiment and surveyed indicators of self-reported real-world behaviors, such as charitable and blood donations, compliance with rules to contain the spread of COVID-19, voting in parliamentary elections, regularly doing volunteer work, and membership in environmental groups.

First, we showed that greater wisdom in reflections is robustly associated with all markers of prosocial behavior. This association held true when we assess wisdom in reflection on autobiographical events that are different from the prosocial behavior context, underscoring the trait-level association of wisdom and prosocial behavior – i.e., enduring qualities that persist across different situations (Fleeson & Jayawickreme 2021).

Second, we introduced a state-level measure of wisdom tailored for an economic decision-making context, namely a modified dictator game involving a charity as the recipient. We experimentally vary the participants' vantage point in the modified dictator game (from self-focused to others-focused).

Providing further support for trait-level association between wisdom and prosocial behavior, the change in vantage point did not significantly influence the positive association between economic wisdom and donation behaviors, thus suggesting that our findings are generalizable to other contexts.

Finally, we explored how the strength of the wisdom-prosocial behavior relationship varies across societies. At each level of analysis, and for most measures of prosocial behavior we observed a systematic positive association to wisdom, both in the context of decision and in the context of reflections on life matters, albeit with varying degrees of strength. Taken together, these results provide strong support for an ecologically generalizable wisdom-prosociality link.

## Method

We analyze data from a population survey among 13,500 respondents across nine European countries (France, Germany, Italy, the Netherlands, Poland, Slovenia, Spain, Sweden, and the United Kingdom). Part of the survey was an incentivized donation experiment, in which participants were asked to decide how much of a given €100 budget they want to donate to *atmosfair*, an NGO that funds projects worldwide to reduce greenhouse gas emissions. To ensure that decisions were consequential, the decisions of a random 1% of the sample were implemented, i.e., the chosen amount was donated to *atmosfair* and the rest was paid out to the participants as a voucher for one of several online stores of their choice (see Supplementary Materials 1.1 for verbatim instructions).

The *atmosfair* project presented to the participants involved the promotion of microgrids for electricity distribution in regions that do not have access to electricity transmission networks. These microgrids are considered to be an important factor in achieving the Sustainable Development Goal of universal access to affordable clean energy, thus raising the standard of living and mitigating greenhouse gas emissions, as electricity supply from renewable energies can substitute the burning of biomass for energy generation.

Besides the donations in the experiment, participants self-reported different types of prosocial behavior: donations to charity in the preceding year, blood donations in the past, compliance with rules and behaviors to prevent the spread of COVID-19, participation in elections, regularly doing volunteer work, and membership in environmental groups or organizations.

We assessed respondents' wisdom in two ways. First, we used an abridged version of the situated wise reasoning scale (see Supplementary Materials 1.3 for verbatim instructions) – a psychometrically validated situational instrument of capturing wisdom in reflections on a difficult autobiographic experience via an event-reconstruction protocol (Kahneman et al. 2004; Schwarz et al. 2009; Brienza et al. 2018), with subsequent questions about the respondents' thoughts and considerations during this situation. The 10 statements capturing the different thoughts and considerations refer, two each,

to the five different facets of wisdom consisting of the acknowledgment of intellectual humility, the consideration of change and of multiple ways a situation may unfold, recognition of different perspectives, the willingness to compromise and search for resolutions, and self-transcendence. Participants were asked to rate their agreement with each item on a 5-point rating scale ranging from "not at all" to "very much". We consider this the more general measure of wisdom as it is unrelated to the decision situation analyzed in our experiment. Thus, if there was a relation between wisdom and giving in our experiment, we expect this to be due to the trait-level association with wisdom, i.e., the individual tendency across contexts and situations. Two-stage factor analyses confirmed the reliability, model fit, and cross-sample measurement invariance of the construct out of the five facets and two items per facet with factor loadings ranging close to one for all items and facets (see Supplementary Materials Figure A1). Following our pre-registration, for our main analysis we therefore calculate an "autobiographic wisdom" index (AW) by computing each respondent's mean response to the 10 items of this measure.

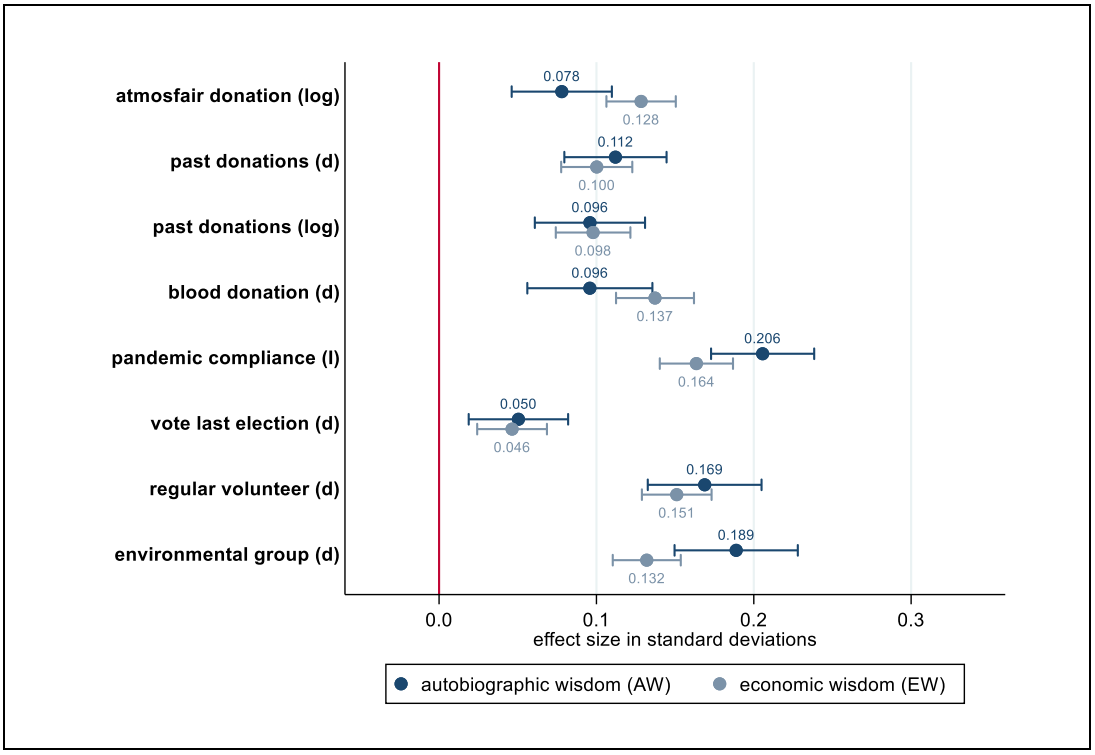
Second, we developed a situated measure of wisdom in reflections on the economic decision context in which we also sampled prosocial behavior – i.e., a context-specific measure (see Supplementary Materials 1.2 for items). Specifically, we asked participants directly after making their donation decision in the experiment about their thoughts and considerations while making their donation decision. This was done using 15 statements starting with "while making my donation decision, I did the following..." that could also be rated on a 5-point rating scale. These statements refer to the same facets of wisdom as in the autobiographic measure above, this time with three items per facet (an extra item per facet was added to provide more robust evaluation of each facet of the novel scale). For our analysis, we followed the pre-registered plan and calculated an "economic wisdom" index (EW), again computing each respondent's mean response on the 15 items of this measure after confirming the construct with two-stage factor analyses (see Supplementary Materials Figure A2). Both wisdom constructs are similar across all nine countries (see Supplementary Materials Table A1 and A2).

Three-fifths of each country's sample answered the EW scale ($n$ = 8,004), and another three-fifths answered the AW scale (randomly assigned). For the AW scale, a proportion of participants responded that they did not recall a recent interpersonal conflict in their lives (the study was conducted during various stages of country-specific post-pandemic re-emergence from lockdowns, with varied degrees of interpersonal contact frequencies), resulting in a subset of observations for measuring AW ($n$ = 3,527). Some of our participants (one-fifth) answered both scales ($n$ = 1,271). For the analysis, we standardized all dependent and independent variables on country level; that is, the individual values of wisdom and four socioeconomic characteristics (gender, age, education, and income) were

standardized differences to the respective country means. Regression models also included country mean variables for wisdom as well as socioeconomics, which were also standardized through division by their country-specific standard deviation. Figure A3 in the Supplementary Materials shows the distribution of the autobiographic and economic wisdom indices in raw and in standardized form.

## Results on the relation between wisdom and prosocial behavior

*Figure 2: Greater wisdom in autobiographical reflections (AW) as well as economic wisdom (EW) systematically associated with the different indicators of prosocial behavior*




*95% Confidence Intervals. Coefficients from mixed linear models controlling for gender, age, education, and income are plotted. All variables were standardized at the country level. See Table A3 - Table A6 in the Supplementary Materials for details on the regression results.*

Examining the two measures of wisdom and the different indicators of prosocial behavior, we observed a consistent and statistically significant positive relation of substantial magnitude between wisdom and each of the prosocial behavior indicators (Figure 2). This relationship ranged from a 5% of a standard deviation increase in the probability of having voted in the last national election associated with a one standard deviation increase in the AW to a 20% of one standard deviation increase in the index of compliance with rules and behaviors to prevent the spread of COVID-19. EW in reflection on donation decision yields similar results, with an expectedly stronger association between EW and giving in a donation experiment (12.8% of a SD vs. 7.8% for AW). Providing further support for cross-context associations, EW was also positively associated with other seven measurements of self-reported prosocial behaviors. Taken together, strikingly similar patterns of results emerge across

different – AW vs. EW – measures of wisdom, and largely distinct samples, underlining the robust association of wisdom and prosocial behavior.[1]

### Explanatory power

Either measure of wisdom was, for most models, more strongly associated with the respective prosocial behavior outcome than the socioeconomic factors we assessed, including age, gender, education, and income (Table A3 to Table A6 in the Supplementary Materials). Further, inspecting the coefficients of partial determination revealed the contribution of wisdom to prosocial behavior to be equal to the four socioeconomic variables combined (Table 1). In more than half of the prosocial indicators, wisdom in fact contributed more than the tested socioeconomic variables combined.

*Table 1: Coefficients of partial determination from regressions for both wisdom indices across all prosocial behavior outcomes*

| Dependent variable | AW | gender + age + education + income | EW | gender + age + education + income |
|---|---|---|---|---|
| Atmosfair donations (log) | .006 | .010 | .016 | .013 |
| Past donations (d) | .013 | .023 | .010 | .043 |
| Past donations (log) | .009 | .053 | .009 | .073 |
| Blood donation (d) | .008 | .035 | .019 | .018 |
| Pandemic compliance (I) | .045 | .014 | .026 | .026 |
| Vote last election (d) | .003 | .051 | .002 | .048 |
| Regular volunteer (d) | .023 | .008 | .022 | .008 |
| Environmental group (d) | .025 | .015 | .018 | .010 |

*Coefficients of partial determination reveal the share of variation that cannot be explained by the other variables included in a regression model. We compared the coefficients of partial determination of both wisdom indices from each model to the coefficients of partial determination of a combination of the four socioeconomic variables: gender, age, education, and income.*

## Robustness checks and further analyses

### Incorporating potentially confounding psychological characteristics

As a check for the robustness of the associations, we included measures of generalized trust (Richter et al. 2017), individualism, collectivism (Triandis & Gelfand 1998), long-term orientation (Bearden et al. 2006), sense of connectedness to friends and family (Aron et al. 1992) or society, as well as locus of control (Pearlin & Schooler 1978; Cobb-Clark & Schurer 2013) into the regression models (Table A7 to Table A10 in the Supplementary Materials, see Supplementary Materials 1.5 for details about assessment of psychological characteristics). Patterns of psychological characteristics and prosocial

[1] The robustness of the associations was further tested by two variations in the model specification: Using factor scores obtained through our confirmatory factor analyses instead of unweighted means as wisdom indices as well as running univariate regressions using the same models as for Figure 2 without socioeconomic variables, still yields positive and significant associations between both measurements of wisdom and all markers of prosocial behavior (Supplementary Materials Figure A4 and Figure A5). Non-parametric regressions presented in Figure A6 in the Supplementary Materials further revealed that the associations between AW and the different measures of prosocial behavior were positive and approximately linear. For EW, these associations looked largely similar with one exception: In the case of experimentally elicited *atmosfair* donations, a more concave relationship emerged with a steep positive correlation at lower values of EW and a flat curve at higher values of EW.

behavior were consistent with prior research (see the second column of Table 2), demonstrating a positive association of prosocial behavior with trust propensity and collectivism and a negative association with individualism (consistent with the meta-analysis by Thielmann et al. 2020), a positive association with long-term/future orientation (see the review by Van Lange et al. 2013) and a positive association with locus of control (see Andor et al. 2022). Critically, after including these covariates in the regression models, the association between both wisdom indices and all measures of prosocial behavior remained positive and significant, with one exception: The association between AW and voting behavior was no longer significant at the 5 percent level when controlling for collectivism. Nevertheless, this association remained positive and significant at the 10 percent level. Taken together, the robustness against the inclusion of other personality-related measurements further fortifies wisdom as a distinct, relevant characteristic.

*Table 2: Overview of the results on potentially confounding psychological characteristics*

| | Association with prosocial behavior (without wisdom in the model) | Association between wisdom (AW and EW) and prosocial behavior remains robust when controlling for the respective characteristic |
|---|---|---|
| Trust | 0.087 | ✓ |
| Horizontal individualism | -0.006 | ✓ |
| Horizontal collectivism | 0.142 | ✓ (except for voting) |
| Long-term orientation: Tradition | 0.064 | ✓ |
| Long-term orientation: Planning | 0.094 | ✓ |
| Connectedness to friends and family | 0.071 | ✓ |
| Connectedness to society | 0.071 | ✓ |
| Locus of control | 0.037 | ✓ |
| All characteristics | n/a | ✓ (except for voting) |

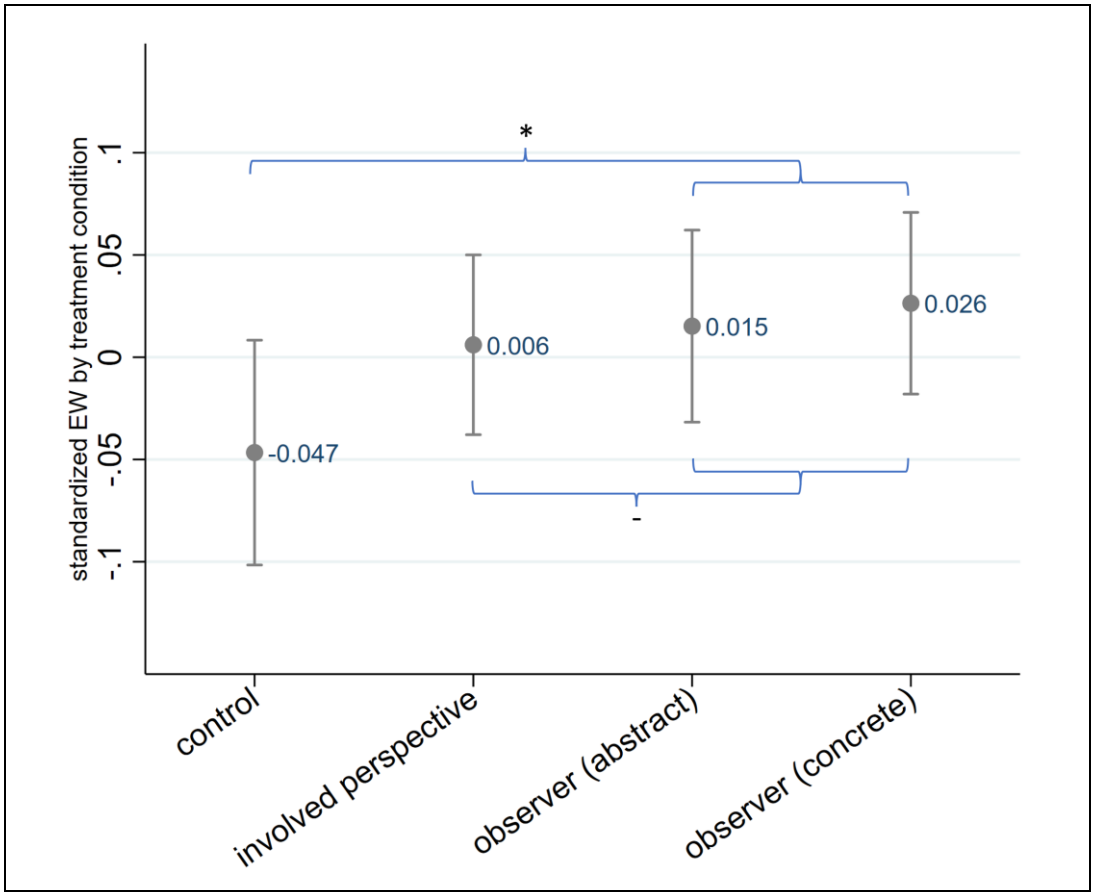
*Association with prosocial behavior measured as the mean of coefficients across all prosocial behavior outcomes using linear mixed models.*

**Varying the vantage point does not affect wisdom-prosociality association**

To further explore the robustness of the association between wisdom and prosocial behavior across different states, we experimentally varied the vantage point in the decision situation from self-focused to others-focused in the donation situation. Specifically, we presented each participant right before making their donation decision with a statement that systematically varied the viewpoint from the observed to the involved perspective and varying the observer type (abstract vs. concrete; see Supplementary Materials 1.1 for verbatim instructions), resulting in four experimental groups: Control group, involved participant, abstract observer, and concrete observer. We hypothesized that these differences in perspective - especially the observer perspectives - should influence the degree of wisdom in reasoning about the donation decision, as measured by EW. Specifically, following prior research (Kross & Grossmann 2012; Grossmann & Kross 2014; Grossmann et al. 2021) we expected

greater wisdom in the observer rather than the control or the involved participant perspectives.[2] We did not have clear hypotheses concerning differences between abstract and concrete observers (Grossmann et al. 2023).

*Figure 3: Effect of varying the vantage point on EW*



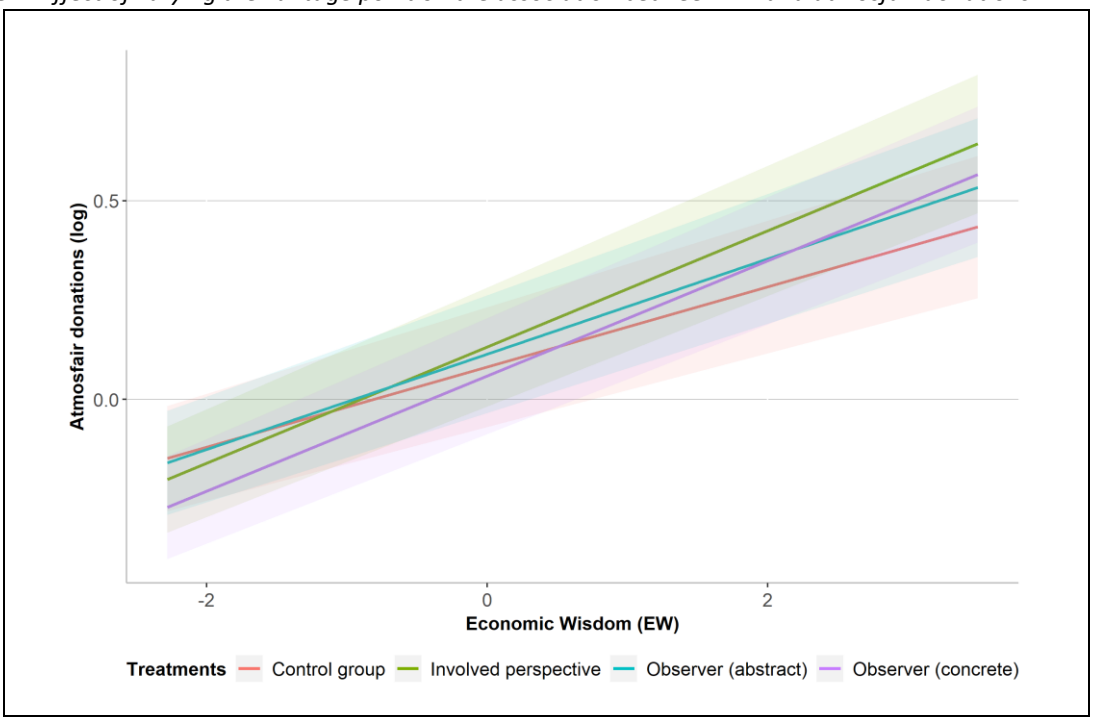

*EW standardized at the country level. The regression underlying the figure did not include socioeconomic variables. Top brackets show a significant difference at the 5% level in a joint test of both observer perspectives against the control group. The bottom bracket shows no significant difference when testing both observer perspectives jointly against the involved perspective.*

The planned contrast between the control and observer groups yields a significant difference at the 5% level, $t = 2.498$, $p = 0.013$, but the difference between involved participant and observer groups is not significant, $t = 0.531$, $p = 0.596$ (Figure 3). Post-hoc tests further find no difference between involved participant and the control group, $t = 1.695$, $p = 0.090$, nor did the two observer groups differ from each other, $t = 0.367$, $p = 0.714$ (see Supplementary Materials Table A11 for more details). Critically, despite state-level differences in wisdom we introduced, the associations between wisdom and donations remained highly similar across experimental groups (Figure 4, also see Table A12 in the

[2] We note that this prediction was not explicitly specified in our pre-analysis plan, in which we did not outline the direction of differences between experimental groups. However, our prediction directly follows from theory and prior research (Grossmann & Kross 2014; Grossmann et al. 2021; Kross & Grossmann 2012), which showed that a distanced perspective ("imagine the events unfolding as if you were a distant observer" – akin to our observer perspectives) fosters higher wisdom than an immersed perspective ("imagine the events unfolding before your own eyes as if you were right there" – akin to our involved perspective).

Supplement). These results suggest the association between wisdom in reflections on economic decisions and prosocial behavior is robust to state-level variations in wisdom. The relationship between wisdom and prosocial behavior appears to chiefly manifest on the trait-level and does not seem to vary by experimental treatments via brief instructions.[3]

*Figure 4: Effect of varying the vantage point on the association between EW and atmosfair donations*




*Coefficients from mixed linear models controlling for gender, age, education, and income are plotted. All variables were standardized at the country level. The regression underlying the figure included an interaction term between EW and the experimental groups, i.e., it was tested whether varying the vantage point moderated the association between EW and donations.*

**Country-specific investigation of wisdom and prosocial behavior**

Finally, we probed the associations between wisdom (AW and EW) and measures of prosocial behavior within each of the nine sampled countries (see Figure A7 and Figure A8 in the Supplementary Materials). Country-specific patterns were highly consistent and did not systematically deviate from the previously presented results. In line with results from the overall sample, the strongest associations with both indices for wisdom were found for the COVID-19 containment behavior and for doing volunteer work, and weakest for voting in national elections.

**Analysis of subindices ('facets')**

To find out more about which components ('facets') of wisdom, according to our construct, contribute most to the association with prosocial behaviors, we estimated separate regression models examining

[3] In our pre-analysis plan, we pre-specified to use an instrumental variable approach to investigate how the experimentally induced variation in wisdom causally influences donations. However, since the association between donations and wisdom hardly differs between the experimental groups, this approach does not provide any added value.

the relation between the single facets of wisdom with the different prosocial behaviors. All five facets of wisdom were positively correlated with the different indicators of prosocial behavior and were largely consistent in effect sizes across facets (Table A13 in the Supplementary Materials).

## Discussion

### Summary

We have investigated the association between wisdom and several prosocial behaviors, including donations, blood donations, volunteering, individual behavior during the COVID-19 pandemic, voting, and engagement in pro-environmental groups, establishing a strong cross-situationally robust positive association between wisdom in reflections on autobiographical or economic decisions and prosocial behavior. This association was robust when controlling for a wide range of other psychological constructs, such as individualistic or collectivistic values, generalized trust, generalized control beliefs, cognitive abilities proxied by educational attainments, and the subjective closeness to other members of one's society. Moreover, these results were consistent across each of the sampled nine European countries.

Our study involved two measures of wisdom: Autobiographic wisdom (AW) measuring thoughts and considerations in reflections on difficult autobiographic experiences (adopted from Brienza et al. 2018) and a novel, psychometrically validated measure of economic wisdom (EW), assessing thoughts and considerations during an incentivized donation decision experiment. Both measures were associated with monetary donations and with markers of prosocial behaviors from participants' past. Because our wisdom measures captured reflections on different contexts and the associations were robust across a wide range of prosocial markers, we suggest that the observed association to prosocial behavior is primarily due to the trait dimension of wisdom.

Furthermore, even when encouraging people to adopt an observer- (rather than habitually self-focused) vantage point to experimentally increase wisdom, neither the magnitude of association to donation changed, nor did this experimental variation result in higher donations (see Supplementary Materials Table A14 and Figure A9). This finding suggests that the wisdom-prosociality association is primarily due to a stable trait-level association that is unchangeable due to state-level variation in wisdom. In turn, this inference raises questions whether brief prompts and similar nudges that aim to increase wisdom can be effective to induce prosocial behavior. For instance, the trait-level association to prosocial behavior implies that one may rather consider ways to encourage people to use their trait-

level skills (akin to the notion of *boosting*, Hertwig & Grüne-Yanoff 2017) and build teams that include people who may be habitually more likely to spontaneously apply wise reasoning in their reflections.[4]

In the realm of economic literature, our findings represent a pioneering avenue for further research. We have demonstrated that wisdom plays a predictive role in prosocial behavior, thereby prompting inquiries into its potential influence on various other behavioral aspects and its utility as a conceptual framework to understand economic decision-making. The observation of a robust association between wisdom and prosocial behavior is especially pertinent given the expanding body of research delving into the impact of personality traits and cognitive abilities on a spectrum of economically relevant outcomes. For instance, previous studies have explored the relationship between personality attributes and cognitive aptitude and various economic dimensions, such as cooperative behavior (Proto et al. 2019), worker productivity (Cubel et al. 2016), responses to incentives (Donato et al. 2017), and partner selection in marriage markets (Dupuy & Galichon 2014).

Our research posits that wisdom, an uncharted territory in economic research due to the challenge of quantification, might exert substantial influence on diverse aspects of economic decision-making. Notably, we provide compelling evidence by demonstrating the robust explanatory power of two wisdom measures for understanding prosocial behavior. This insight beckons further investigation into whether wisdom could similarly impact other economic domains. Subsequent research could investigate its role in other areas of economic behavior under complex conditions where metacognitive processes could play an important role: For example, in job search or other labor market behavior, financial decisions, and environmental behavior. Our findings lay the foundation for an exciting new frontier in economic research, one that promises to enrich our understanding of the intricate interplay between wisdom and economic decision-making.

**Caveats and future research**

Our study has some limitations that could be considered in future work. First, most of our results are self-reported behaviors that may be susceptible to response biases such as social desirability or consistency biases. However, our population survey was anonymous. Moreover, part of our study involved an incentivized experiment with concrete monetary donations, producing similar results. Thus, it is unlikely that our results are solely a result of response biases. In addition, several of our self-reported outcome variables relate to memorable one-time or infrequent actions, such as donating

[4] It is noteworthy that encouraging people to take an involved perspective (i.e., the perspective of someone who benefits from the donations) resulted in slightly higher donations compared to an observer perspective (see Supplementary Materials Table A14 and Figure A7). Consistent with previous literature, this suggests that interventions that shift a person's perspective to that of the beneficiary can promote prosocial behavior (Sassenrath et al. 2022, for a review). From a theoretical perspective, however, such interventions would be expected to operate through other psychological channels such as heightened self-interest, rather than psychological features of wisdom explored here.

blood or voting, which are easily retrievable (Schwarz & Oyserman 2001). Answering such questions in a non-truthful manner requires respondents to lie, as there is not much leeway in recalling their behavior.

Furthermore, our data is based on a sample drawn from an opt-in panel of survey participants. Thus, some characteristics relevant to our research question may also have influenced the likelihood of survey participation, and therefore our results may not be representative. For example, within the US, political engagement is positively and being part of an ethnic minority is negatively related to participation in opt-in panels (Hopkins & Gorton 2023). However, this is a risk with most survey-based research and beyond, and we have attempted to mitigate it to some extent by using quota sampling by age, gender, education level, and household income. Additionally, our survey was conducted in nine European countries, and thus we do not know if our results will generalize to countries on other continents, particularly in the countries of the Global South. However, as our results appear robust across countries that differ substantially in terms of economic conditions and political structure, it may well be that our results could extend to other samples that share linguistic, socio-political, or economic similarities to these countries, too.

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# Supplementary Materials

## 1. Wording of the survey

### 1.1 Donation Experiment

**Screen 1:**

In the following, we give you the possibility to win 100 €. In addition, you have the option to donate part of this potential win.

**Screen 2:**

Many **people in developing countries** have **no access to electricity** because their countries cannot afford to expand the expensive power grid. As a result, electricity is often supplied only to densely populated areas, while rural regions have no access.

Instead of electricity, **people use** for example **firewood** from the rainforests for cooking. The resulting **decline in the forest** has a negative **impact on the global climate**.

So-called **Micro-Grids** are intended to change this: Instead of waiting for rural regions to be connected to the central power grid, communities can use **decentralized power grids**. These consist, for example, of a **solar panel for electricity generation**, a battery for electricity storage and a system of transmission cables that gives all the inhabitants of a village **access to the electricity** generated. By establishing its **own energy** supply, the village thus becomes an **autonomous "energy community".**

**Screen 3:**

Since financial resources are needed to build such Micro-Grids, organizations like the non-profit atmosfair collect donations to support such projects (here you can find information about an example project in Madagascar: https://www.atmosfair.de/en/climate-protection-projects/solar-energy/madagascar-solar-powered-rural-electrification-program).

On the next screen you have a chance to support such projects by donating to atmosfair.**, Every 100$^{th}$ respondent will win 100€, paid out in form of […] mingle points. You can decide how much of this possible win should be donated to atmosfair.**

If you win, we will donate your chosen amount to atmosfair and transfer mingle points worth the remaining amount to you.

**Screen 4:**

**Control (Shown randomly to 1/4 of the respondents):** Before you decide, please reflect on the scenario you read above and consider the role of Micro-Grids for electrification in developing countries.

**Abstract observer perspective (Shown randomly to 1/4 of the respondents):** Before you decide, please imagine a village without power supply. How will the availability of power supply through such a Micro-Grid change the lives of the people living there?

**Concrete observer perspective (Shown randomly to 1/4 of respondents):** Before you decide, please imagine living in a village without power supply. How will the availability of power supply through such a Micro-Grid change the lives of the people living there?

**Involved perspective (Shown randomly to 1/4 of the respondents):** Before you decide, please imagine living in a village without power supply. How will the availability of power supply through such a Micro-Grid change your own life?

Please, spend a few moments reflecting on this question. When you are ready to proceed, click "next".

**Screen 5:**

How much of 100 € would you like to donate to atmosfair? (Info: For every 100$^{th}$ person, we will donate the selected amount to atmosfair— an NGO that carries out projects to electrify villages. If you are selected, the rest of the amount will be paid to you in form of mingle points. We guarantee that your decision does not influence your chances to win.)

[_____] € [allow all numbers from 0 to 100]

The remaining amount is then [100 - donation] €, which will be paid out to you in form of [Insert the mingle points equivalent of [100 – donation] € here] mingle points if you have been among the selected respondents.

**1.2 Elicitation of EW**

**Screen 1:**

As you were thinking about your decision, what thoughts and emotions came to your mind? Please describe them in the space provided.

**Screen 2:**

We would like you to continue to think about your donation decision. None of the statements listed below are supposed to be "good" or "bad". We are simply interested in how people approach difficult situations. Therefore, it is very important to us that you answer as accurately as possible - your honesty is appreciated. Please select the extent to which you engaged in the following thoughts and behaviors:

"While making my donation decision, I did the following..."

[The ordering of subsections and the ordering of items within subsections were randomized. The subtitles were not shown. Each subsection was presented on one screen. All statements were rated on a 5-point rating scale with the following options “Not at all”, “A bit”, “Some”, “Much”, “Very much”.]

Intellectual humility

- considered that I do not really know whether the project is worth contributing to
- reflected on whether my initial decision was correct
- reflected on whether my own judgement of different possible decisions is correct

Change

- thought about what else I could do with the money
- thought about taking the money and donating it to a different charitable organization
- thought about possible negative consequences of my donation

Different perspectives

- tried to adopt the perspective of other people benefiting from the project
- considered how other participants in this survey might behave
- considered what people living in this village would do in this situation

Compromise

- tried to find a balance between my financial self-interest and my desire to “do good”
- thought about how I will feel about my decision after I completed the survey
- have weighed my own problems and the problems of those close to me with global challenges, such as climate change and poverty

Objective viewpoint

- thought about the broad impact of my donation
- tried to reflect on the decision from the view of an uninvolved person
- asked myself how a person whose opinion is important to me would think about my decision

**1.3 Elicitation of AW**

*[This approach follows Brienza et al. (2021)]*

**Screen 1:**

Energy communities can sometimes involve conflicts between members. As a final topic, we are interested in how you *generally* navigate and deal with challenging interpersonal situations such as differences in opinion, disagreements, or conflicts. It would be great, if you could share your experiences with us on the next few pages.

**Screen 2:**

Please think about the most recent difficult situation that has happened to you with one of your friends or family members (for example, a disagreement about COVID policies or risk factors). This should be a situation that you yourself were involved in, whether or not you were the person who initiated the situation.

Have you experienced such a situation in the last six months?

- Yes, I remember such a situation
- No, I have not experienced or do not remember experiencing such a situation

**Screen 3:**

We would like you to take a moment to recall this situation and visualize the events in your mind's eye; consider who was involved and what happened, what you thought and how you felt.

When did this situation first begin?

- This week
- Within the last month
- Within the last 6 months

What day of the week was it?

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday
- Don't remember

What time of day was it?

- Morning
- Afternoon
- Evening
- Don't remember

**Screen 4:**

Where were you when the situation happened?

**Screen 5:**

As you were thinking about this situation, what thoughts and emotions came to your mind? Please describe them in the space provided.

**Screen 6:**

We would like you to continue to think about the situation you called to mind in the previous section and recall *what you actually did as the situation unfolded*. None of the 10 statements listed below and on the next screen are supposed to be "good" or "bad". We are simply interested in how people approach difficult situations. Therefore, it is very important to us that you answer as accurately as possible - your honesty is appreciated.

Please select the extent to which you engaged in the following thoughts and behaviors:

"While this situation was unfolding, I did the following..."

[The ordering was randomized. All statements were rated on a 5-point rating scale ranging from “Not at all” to “Very much”.]

- Considered the perspective of the other person(s) involved in the situation
- Took time to consider what opinions the other person might have before coming to a conclusion
- Thought the situation could unfold in many different ways
- Looked for different solutions as the situation evolved
- Double-checked whether my opinion on the situation might be incorrect
- Looked for alternative explanations before forming my opinion
- Considered first whether a compromise was possible in resolving the situation
- Tried my best to find a way to accommodate the viewpoints of all people involved
- Tried to see the problem from the view of an uninvolved person
- Thought about whether an outside person might have a different opinion from me about the situation

**1.4 Elicitation of prosocial behavior**

**Screen 1:**

In the following, we have some questions about your behaviors and habits.

**Screen 2 (adopted from the German Socio-Economic Panel 2010, see TNS Infratest Sozialforschung 2012):**

We now have a question about your past donations. By donations we mean the giving of money for social, religious, cultural, non-profit and charitable purposes without receiving any direct consideration. These can be larger amounts, but also smaller ones, which one puts for example into a collection box. We also include the collections in church.

Did you donate money last year, that is in 2020 - not counting membership fees?

- Yes
- No
- Prefer not to say
- I don't know

**Screen 3 (adopted from the German Socio-Economic Panel 2010, see TNS Infratest Sozialforschung 2012):**

What was the total amount you donated last year? If you do not know it exactly, please estimate the total amount you donated last year _____ €

- Prefer not to say
- I don't know

**Screen 4 (adopted from the German Socio-Economic Panel 2010, see TNS Infratest Sozialforschung 2012):**

There are donations that are not financial, for example blood donations. Have you ever donated blood in the past 10 years?

- Yes
- No
- I cannot donate blood for medical reasons
- Prefer not to say

**Screen 5:**

Do you regularly do volunteer work for charities or community organizations?

- Yes
- No
- Prefer not to say

**Screen 6:**

Are you a member of a group or organization that works to preserve and protect the environment and nature?

- Yes
- No
- Prefer not to say

**Screen 7 (Adopted from the COVID-19 Snapshot Monitoring - COSMO Germany, see Betsch et al. 2020)**

How often have you followed the following rules during the peak times of the coronavirus pandemic to prevent the spread and infection with the coronavirus?

[All statements were rated on a rating scale with the following options “Never”, “Rarely”, “Sometimes”, “Often”, “Always”, “Does not apply”.]

- Wearing a mask
- Avoiding meetings with other people
- Abstaining from private journeys
- Testing for the Coronavirus before close contact with other people

**Screen 8 (adapted from the German Socio-Economic Panel 2010, see TNS Infratest Sozialforschung 2012):**

Did you vote in the last election on the national level?

- Yes
- No
- Prefer not to say
- I am not able/allowed to vote

## 1.5 Elicitation of further psychological characteristics

*[Some of the following scales measure multiple facets of a characteristic. We distinguish these facets here for presentation with explanatory subtitles that were not shown to respondents. We also align the order of the items according to these facets. The order displayed in the survey may have been different. (r) indicates that the item was reversed before we calculated the index for the corresponding characteristic.]*

Energy communities bring together people with different views, values and mindsets. Therefore, in the following sections, we would like to ask you a few more general questions that refer to your beliefs, values, and attitudes towards other people in different life situations.

**Trust (adopted from the German Socio-Economic Panel, see Richter et al. 2017):**

To what extent do you agree or disagree with the following three statements? [Rating scale with the following items "Not at all", "Rather Disagree", "Rather Agree", "Fully Agree"]

- In general, you can trust people
- Nowadays you cannot rely on anyone (r)
- When dealing with strangers, it is better to be careful before you trust them (r)

**Items on horizontal individualism and horizontal collectivism from Triandis & Gelfand (1998):**

What is your opinion on the following statements? [9-point rating scale ranging from "Do not agree at all" to "Do fully agree". The subtitles were not shown.]

Horizontal individualism:

- I'd rather depend on myself than others.
- I rely on myself most of the time, I rarely rely on others.
- I often do my own thing.
- My personal identity, independent of others, is very important to me.

Horizontal collectivism:

- If a co-worker gets a prize, I would feel proud.
- The well-being of my coworkers is important to me.
- To me, pleasure is spending time with others.
- I feel good when I cooperate with others.

**Long-term orientation from Bearden et al. (2006):**

What is your opinion on the following statements? [9-point rating scale ranging from "Do not agree at all" to "Do fully agree".]

Tradition

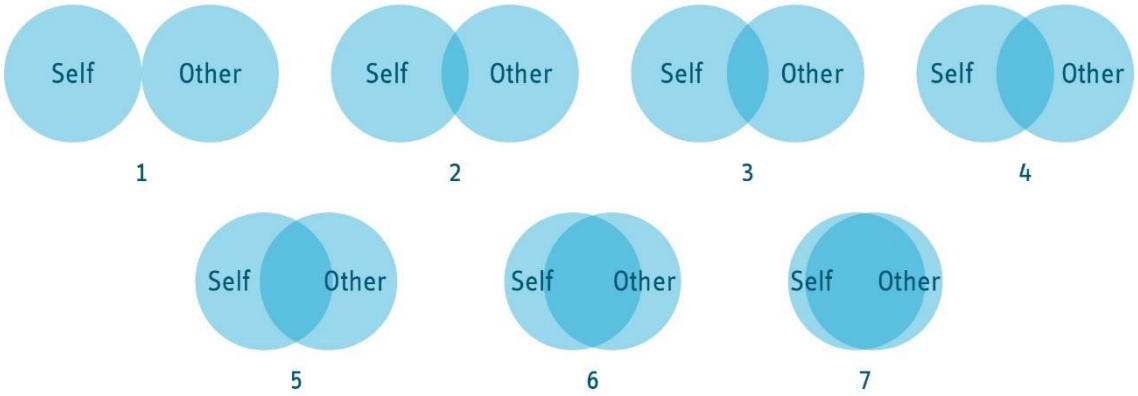
- Respect for tradition is important to me.
- Family heritage is important to me.
- I value a strong link to my past.
- Traditional values are important to me.

Planning

- I plan for the long term.
- I work hard for success in the future.
- I don't mind giving up today's fun for success in the future.
- Persistence is important to me.

**Inclusion of others in self (adapted from Aron et al. 1992)**

We are interested in the degree to which you feel personally connected to other people. Below are seven diagrams that express varying degrees of relatedness or connectedness with some other person or thing. For each of the people listed below, indicate which diagram best expresses your relationship with that person. For example, Diagram 1 indicates no relationship or connectedness, Diagram 4 indicates a moderate degree of connectedness, and Diagram 7 indicates complete connectedness.




Connectedness to friends and family

- _____ The connection between you and the person with whom you feel closest
- _____ The connection between you and your best friend
- _____ The connection between you and members of your family

Connectedness to society

- _____ The connection between you and a stranger on a street
- _____ The connection between you and others in general

**Locus of Control (Mastery Module by Pearlin & Schooler 1978, used to measure Locus of Control, e.g., in Cobb-Clark & Schurer 2013)**

What is your opinion on the following statements?

- I have little control over the things that happen to me. (r)
- There is really no way I can solve some of the problems I have. (r)
- There is little I can do to change many of the important things in my life. (r)
- I often feel helpless in dealing with the problems of life. (r)
- Sometimes I feel that I'm being pushed around in life. (r)
- What happens to me in the future mostly depends on me.
- I can do just about anything I really set my mind to do.

## 2. Tables

### Table A1: Autobiographic Wisdom (AW) configural measurement invariance across countries

| LHS | Operator | RHS | DE | FR | IT | ES | UK | SE | PL | NL | SI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AUTOB. WISDOM | loading | F1_Humility | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| AUTOB. WISDOM | loading | F2_Change | 0.656 | 0.882 | 0.884 | 0.679 | 0.758 | 0.819 | 1.105 | 0.836 | 0.808 |
| AUTOB. WISDOM | loading | F3_Perspective | 0.973 | 1.152 | 1.003 | 0.822 | 1.183 | 0.900 | 1.169 | 0.978 | 0.828 |
| AUTOB. WISDOM | loading | F4_Viewpoint | 0.985 | 1.047 | 0.985 | 0.831 | 1.345 | 0.864 | 1.267 | 0.890 | 0.996 |
| AUTOB. WISDOM | loading | F5_Compromise | 1.068 | 0.954 | 1.048 | 0.974 | 1.330 | 0.950 | 1.275 | 0.976 | 1.032 |
| F1_Humility | loading | EW_Humility_1a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F1_Humility | loading | EW_Humility_1b | 1.086 | 1.178 | 1.116 | 0.978 | 1.434 | 0.879 | 1.098 | 0.954 | 1.110 |
| F2_Change | loading | EW_Change_2a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F2_Change | loading | EW_Change_2b | 1.549 | 1.270 | 1.218 | 1.436 | 1.626 | 1.146 | 1.159 | 1.172 | 1.136 |
| F3_Perspective | loading | EW_Perspective_3a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F3_Perspective | loading | EW_Perspective_3b | 0.976 | 1.112 | 1.049 | 0.936 | 1.048 | 1.109 | 1.066 | 1.036 | 1.269 |
| F4_Viewpoint | loading | EW_Viewpoint_4a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F4_Viewpoint | loading | EW_Viewpoint_4b | 0.851 | 0.874 | 0.835 | 0.938 | 0.787 | 0.946 | 1.020 | 0.832 | 1.004 |
| F5_Compromise | loading | EW_Compromise_5a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F5_Compromise | loading | EW_Compromise_5b | 0.975 | 1.258 | 0.997 | 1.087 | 0.952 | 0.897 | 0.934 | 0.982 | 0.989 |
| AUTOB. WISDOM | variance | AUTOB. WISDOM | 0.699 | 0.574 | 0.542 | 0.640 | 0.389 | 0.853 | 0.354 | 0.542 | 0.638 |
| F1_Humility* | variance | F1_Humility* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F2_Change | variance | F2_Change | 0.040 | 0.194 | 0.045 | 0.056 | 0.078 | 0.057 | 0.081 | 0.052 | 0.270 |
| F3_Perspective | variance | F3_Perspective | 0.181 | 0.052 | 0.197 | 0.280 | 0.260 | 0.137 | 0.089 | 0.118 | 0.122 |
| F4_Viewpoint | variance | F4_Viewpoint | 0.262 | 0.463 | 0.475 | 0.196 | 0.452 | 0.178 | 0.086 | 0.299 | 0.228 |
| F5_Compromise | variance | F5_Compromise | 0.066 | 0.062 | 0.154 | 0.040 | 0.127 | 0.208 | 0.042 | 0.123 | 0.072 |
| EW_Humility_1a | variance | EW_Humility_1a | 1.141 | 1.076 | 1.050 | 0.776 | 1.386 | 0.938 | 0.849 | 1.127 | 1.059 |
| EW_Humility_1b | variance | EW_Humility_1b | 0.793 | 0.715 | 0.496 | 0.678 | 0.751 | 0.857 | 0.692 | 0.747 | 0.807 |
| EW_Change_2a | variance | EW_Change_2a | 1.151 | 0.829 | 0.969 | 0.691 | 1.067 | 0.741 | 0.708 | 0.694 | 0.761 |
| EW_Change_2b | variance | EW_Change_2b | 0.644 | 0.505 | 0.593 | 0.338 | 0.648 | 0.691 | 0.431 | 0.628 | 0.397 |
| EW_Perspective_3a | variance | EW_Perspective_3a | 0.567 | 0.801 | 0.427 | 0.432 | 0.405 | 0.592 | 0.607 | 0.535 | 0.623 |
| EW_Perspective_3b | variance | EW_Perspective_3b | 0.609 | 0.549 | 0.635 | 0.424 | 0.357 | 0.464 | 0.538 | 0.446 | 0.446 |
| EW_Viewpoint_4a | variance | EW_Viewpoint_4a | 0.752 | 0.705 | 0.523 | 0.732 | 0.627 | 0.855 | 0.701 | 0.490 | 0.723 |
| EW_Viewpoint_4b | variance | EW_Viewpoint_4b | 1.060 | 0.902 | 0.932 | 0.813 | 0.865 | 0.887 | 0.566 | 0.889 | 0.852 |
| EW_Compromise_5a | variance | EW_Compromise_5a | 0.922 | 1.134 | 0.620 | 0.617 | 0.778 | 0.780 | 0.635 | 0.608 | 0.733 |
| EW_Compromise_5b | variance | EW_Compromise_5b | 0.647 | 0.679 | 0.539 | 0.334 | 0.552 | 0.672 | 0.457 | 0.630 | 0.707 |
| AUTOB. WISDOM | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F1_Humility | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F2_Change | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F3_Perspective | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F4_Viewpoint | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F5_Compromise | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EW_Humility_1a | intercept | | 3.106 | 3.220 | 3.268 | 3.433 | 3.316 | 3.041 | 3.655 | 2.942 | 3.311 |
| EW_Humility_1b | intercept | | 3.173 | 3.315 | 3.674 | 3.483 | 3.339 | 3.079 | 3.672 | 3.177 | 3.375 |
| EW_Change_2a | intercept | | 3.421 | 3.422 | 3.507 | 3.613 | 3.330 | 3.271 | 3.669 | 3.297 | 3.577 |
| EW_Change_2b | intercept | | 3.395 | 3.417 | 3.684 | 3.607 | 3.443 | 3.350 | 3.791 | 3.263 | 3.666 |
| EW_Perspective_3a | intercept | | 3.449 | 3.422 | 3.756 | 3.563 | 3.707 | 3.320 | 3.590 | 3.407 | 3.682 |
| EW_Perspective_3b | intercept | | 3.468 | 3.524 | 3.490 | 3.526 | 3.606 | 3.254 | 3.627 | 3.416 | 3.529 |
| EW_Viewpoint_4a | intercept | | 3.054 | 2.868 | 3.461 | 3.276 | 3.307 | 3.008 | 3.593 | 3.373 | 3.444 |
| EW_Viewpoint_4b | intercept | | 2.991 | 3.022 | 3.428 | 3.300 | 3.322 | 3.026 | 3.556 | 3.177 | 3.265 |
| EW_Compromise_5a | intercept | | 3.232 | 3.210 | 3.674 | 3.619 | 3.345 | 3.055 | 3.797 | 3.159 | 3.606 |
| EW_Compromise_5b | intercept | | 3.232 | 3.030 | 3.693 | 3.579 | 3.588 | 3.305 | 3.836 | 3.382 | 3.561 |

Note: DE = Germany, FR = France, IT = Italy, ES = Spain, UK = United Kingdom, SE = Sweden, PL = Poland, NL = Netherlands, SI = Slovenia

* The residual variance of facet 1 (intellectual humility) was set to zero in order to allow identification

## Table A2: Economic Wisdom (EW) configural measurement invariance across countries

| LHS | Operator | RHS | DE | FR | IT | ES | UK | SE | PL | NL | SI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ECONOMIC WISDOM | loading | F1_Humility | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| ECONOMIC WISDOM | loading | F2_Change | 1.225 | 0.937 | 2.344 | 0.857 | 1.139 | 1.075 | 1.375 | 1.005 | 1.303 |
| ECONOMIC WISDOM | loading | F3_Perspective | 1.763 | 1.770 | 3.855 | 1.147 | 1.584 | 1.110 | 1.423 | 0.884 | 1.380 |
| ECONOMIC WISDOM | loading | F4_Viewpoint | 1.916 | 1.682 | 4.180 | 1.304 | 1.568 | 1.171 | 1.439 | 0.984 | 1.387 |
| ECONOMIC WISDOM | loading | F5_Compromise | 1.695 | 1.687 | 3.665 | 1.210 | 1.452 | 1.253 | 1.313 | 0.915 | 1.280 |
| F1_Humility | loading | EW_Humility_1a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F1_Humility | loading | EW_Humility_1b | 1.854 | 1.694 | 3.609 | 1.263 | 1.716 | 1.417 | 1.452 | 1.278 | 1.541 |
| F1_Humility | loading | EW_Humility_1c | 1.684 | 1.685 | 3.661 | 1.261 | 1.855 | 1.480 | 1.461 | 1.259 | 1.548 |
| F2_Change | loading | EW_Change_2a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F2_Change | loading | EW_Change_2b | 0.964 | 1.188 | 0.889 | 0.912 | 1.091 | 1.062 | 0.924 | 1.117 | 0.783 |
| F2_Change | loading | EW_Change_2c | 0.962 | 1.198 | 0.859 | 0.977 | 1.162 | 1.022 | 0.875 | 1.028 | 0.885 |
| F3_Perspective | loading | EW_Perspective_3a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F3_Perspective | loading | EW_Perspective_3b | 0.888 | 0.979 | 0.469 | 0.715 | 0.927 | 0.980 | 1.046 | 1.426 | 0.907 |
| F3_Perspective | loading | EW_Perspective_3c | 1.140 | 0.700 | 0.980 | 1.080 | 1.103 | 1.223 | 1.053 | 1.323 | 1.124 |
| F4_Viewpoint | loading | EW_Viewpoint_4a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F4_Viewpoint | loading | EW_Viewpoint_4b | 1.039 | 0.930 | 0.959 | 0.983 | 1.188 | 1.214 | 1.032 | 1.250 | 1.086 |
| F4_Viewpoint | loading | EW_Viewpoint_4c | 1.017 | 0.941 | 0.963 | 0.993 | 1.260 | 1.176 | 1.150 | 1.353 | 1.231 |
| F5_Compromise | loading | EW_Compromise_5a | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| F5_Compromise | loading | EW_Compromise_5b | 1.263 | 0.998 | 1.194 | 1.128 | 1.227 | 1.169 | 1.209 | 1.342 | 1.289 |
| F5_Compromise | loading | EW_Compromise_5c | 1.018 | 1.012 | 1.052 | 1.018 | 1.088 | 0.993 | 1.004 | 1.099 | 1.220 |
| ECONOMIC WISDOM | variance | ECONOMIC WISDOM | 0.185 | 0.218 | 0.035 | 0.423 | 0.245 | 0.344 | 0.317 | 0.528 | 0.256 |
| F1_Humility | variance | F1_Humility | 0.129 | 0.130 | 0.030 | 0.247 | 0.135 | 0.173 | 0.154 | 0.213 | 0.188 |
| F2_Change | variance | F2_Change | 0.269 | 0.172 | 0.435 | 0.511 | 0.299 | 0.223 | 0.271 | 0.257 | 0.302 |
| F3_Perspective | variance | F3_Perspective | 0.195 | 0.266 | 0.400 | 0.280 | 0.097 | 0.139 | 0.183 | 0.047 | 0.252 |
| F4_Viewpoint | variance | F4_Viewpoint | 0.067 | 0.132 | 0.077 | 0.045 | 0.036 | 0.095 | 0.136 | 0.058 | 0.093 |
| F5_Compromise | variance | F5_Compromise | 0.114 | 0.201 | 0.146 | 0.120 | 0.185 | 0.236 | 0.185 | 0.198 | 0.195 |
| EW_Humility_1a | variance | EW_Humility_1a | 1.275 | 1.071 | 1.244 | 0.942 | 1.311 | 1.096 | 1.136 | 0.836 | 1.112 |
| EW_Humility_1b | variance | EW_Humility_1b | 0.680 | 0.474 | 0.540 | 0.496 | 0.662 | 0.498 | 0.765 | 0.389 | 0.620 |
| EW_Humility_1c | variance | EW_Humility_1c | 0.533 | 0.358 | 0.369 | 0.361 | 0.272 | 0.345 | 0.480 | 0.372 | 0.416 |
| EW_Change_2a | variance | EW_Change_2a | 1.277 | 1.372 | 0.919 | 0.792 | 1.225 | 0.996 | 0.724 | 0.875 | 0.856 |
| EW_Change_2b | variance | EW_Change_2b | 0.762 | 0.829 | 0.981 | 0.747 | 0.845 | 0.888 | 0.907 | 0.596 | 0.856 |
| EW_Change_2c | variance | EW_Change_2c | 0.770 | 0.823 | 0.881 | 0.729 | 0.841 | 0.684 | 0.839 | 0.656 | 0.810 |
| EW_Perspective_3a | variance | EW_Perspective_3a | 1.137 | 0.687 | 0.634 | 0.644 | 1.156 | 1.090 | 0.775 | 1.155 | 0.960 |
| EW_Perspective_3b | variance | EW_Perspective_3b | 0.966 | 0.830 | 1.139 | 1.152 | 0.924 | 0.807 | 0.817 | 0.561 | 0.775 |
| EW_Perspective_3c | variance | EW_Perspective_3c | 0.913 | 0.807 | 0.667 | 0.674 | 1.226 | 0.850 | 0.595 | 0.816 | 0.824 |
| EW_Viewpoint_4a | variance | EW_Viewpoint_4a | 1.036 | 0.932 | 0.749 | 0.737 | 1.055 | 0.972 | 0.643 | 1.015 | 0.993 |
| EW_Viewpoint_4b | variance | EW_Viewpoint_4b | 0.843 | 0.769 | 0.885 | 0.745 | 0.852 | 0.630 | 0.767 | 0.607 | 0.890 |
| EW_Viewpoint_4c | variance | EW_Viewpoint_4c | 0.665 | 0.723 | 0.843 | 0.874 | 0.664 | 0.603 | 0.611 | 0.462 | 0.699 |
| EW_Compromise_5a | variance | EW_Compromise_5a | 1.331 | 0.985 | 0.954 | 0.875 | 1.119 | 1.081 | 0.730 | 0.985 | 1.019 |
| EW_Compromise_5b | variance | EW_Compromise_5b | 0.712 | 0.798 | 0.790 | 0.635 | 0.798 | 0.589 | 0.659 | 0.529 | 0.732 |
| EW_Compromise_5c | variance | EW_Compromise_5c | 1.110 | 0.940 | 0.787 | 0.772 | 0.940 | 1.049 | 0.641 | 0.884 | 0.841 |
| ECONOMIC WISDOM | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F1_Humility | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F2_Change | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F3_Perspective | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F4_Viewpoint | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F5_Compromise | intercept | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| EW_Humility_1a | intercept | | 2.116 | 2.156 | 1.945 | 2.850 | 2.253 | 2.295 | 2.339 | 2.307 | 2.271 |
| EW_Humility_1b | intercept | | 2.408 | 2.615 | 2.989 | 2.879 | 2.588 | 2.362 | 2.761 | 2.417 | 2.421 |
| EW_Humility_1c | intercept | | 2.449 | 2.476 | 2.859 | 2.937 | 2.508 | 2.473 | 2.942 | 2.386 | 2.515 |
| EW_Change_2a | intercept | | 2.309 | 2.373 | 2.274 | 2.469 | 2.515 | 2.389 | 2.818 | 2.418 | 2.458 |
| EW_Change_2b | intercept | | 1.727 | 1.954 | 1.991 | 1.943 | 1.929 | 2.016 | 2.249 | 2.063 | 1.854 |
| EW_Change_2c | intercept | | 1.739 | 1.832 | 1.824 | 2.095 | 1.991 | 1.881 | 2.061 | 2.001 | 1.899 |
| EW_Perspective_3a | intercept | | 2.861 | 2.572 | 3.018 | 3.119 | 3.100 | 3.056 | 3.086 | 2.883 | 2.728 |
| EW_Perspective_3b | intercept | | 2.048 | 2.561 | 1.910 | 2.227 | 1.992 | 1.911 | 2.558 | 2.049 | 1.976 |
| EW_Perspective_3c | intercept | | 2.636 | 1.822 | 3.240 | 3.036 | 2.799 | 2.576 | 2.990 | 2.429 | 2.549 |
| EW_Viewpoint_4a | intercept | | 2.739 | 2.726 | 3.001 | 2.897 | 3.055 | 2.689 | 3.044 | 2.731 | 2.823 |
| EW_Viewpoint_4b | intercept | | 2.223 | 2.142 | 2.404 | 2.648 | 2.297 | 2.217 | 2.741 | 2.291 | 2.364 |
| EW_Viewpoint_4c | intercept | | 1.954 | 1.888 | 2.158 | 2.321 | 2.150 | 1.941 | 2.516 | 2.038 | 2.212 |
| EW_Compromise_5a | intercept | | 3.244 | 2.919 | 3.281 | 3.136 | 3.189 | 2.991 | 3.314 | 2.845 | 3.195 |
| EW_Compromise_5b | intercept | | 2.333 | 2.248 | 2.655 | 2.832 | 2.544 | 2.345 | 2.864 | 2.445 | 2.375 |
| EW_Compromise_5c | intercept | | 2.694 | 2.709 | 3.193 | 3.021 | 2.939 | 2.616 | 3.324 | 2.645 | 2.809 |

*DE = Germany, FR = France, IT = Italy, ES = Spain, UK = United Kingdom, SE = Sweden, PL = Poland, NL = Netherlands, SI = Slovenia*

**Table A3: Mixed linear model AW – Donations**

| | atmosfair don.<br>*coefficient*<br>*(p-value)* | real don. (d)<br>*coefficient*<br>*(p-value)* | real don. (log)<br>*coefficient*<br>*(p-value)* | blood don.<br>*coefficient*<br>*(p-value)* |
|---|---|---|---|---|
| Autobiographic wisdom | 0.078*** | 0.112*** | 0.096*** | 0.096*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Female | 0.044** | 0.035* | 0.014 | -0.072*** |
| | (0.009) | (0.041) | (0.439) | (0.001) |
| Age | 0.089*** | 0.043* | 0.079*** | -0.138*** |
| | (0.000) | (0.013) | (0.000) | (0.000) |
| Education | 0.022 | 0.083*** | 0.114*** | 0.097*** |
| | (0.185) | (0.000) | (0.000) | (0.000) |
| Income | 0.029 | 0.092*** | 0.153*** | 0.053* |
| | (0.079) | (0.000) | (0.000) | (0.011) |
| Autobiographic wisdom (CM) | 0.124 | 0.037 | -0.018 | -0.040 |
| | (0.155) | (0.677) | (0.847) | (0.713) |
| Female (CM) | 0.863 | 0.272 | -0.939 | -2.541 |
| | (0.431) | (0.808) | (0.431) | (0.066) |
| Age (CM) | -0.026 | -0.105 | -0.198 | -0.513* |
| | (0.888) | (0.572) | (0.324) | (0.023) |
| Education (CM) | 0.112 | 0.045 | -0.023 | -0.114 |
| | (0.164) | (0.589) | (0.794) | (0.260) |
| Income (CM) | 0.158 | 0.111 | 0.002 | -0.144 |
| | (0.239) | (0.421) | (0.989) | (0.387) |
| Constant | -1.809 | -0.231 | 1.879 | 5.022* |
| | (0.361) | (0.909) | (0.384) | (0.044) |
| *N* | 3,527 | 3,304 | 2,890 | 2,593 |

*p-values in parentheses*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A4: Mixed linear model AW – other prosocial behavior variables**

| | pandemic comp. | voting | volunteer work | environ. group |
|---|---|---|---|---|
| | *coefficient* | *coefficient* | *coefficient* | *coefficient* |
| | *(p-value)* | *(p-value)* | *(p-value)* | *(p-value)* |
| Autobiographic wisdom | 0.206*** | 0.050** | 0.169*** | 0.189*** |
| | (0.000) | (0.002) | (0.000) | (0.000) |
| Female | 0.112*** | -0.027 | -0.019 | -0.080*** |
| | (0.000) | (0.107) | (0.328) | (0.000) |
| Age | 0.032 | 0.138*** | -0.075*** | -0.134*** |
| | (0.064) | (0.000) | (0.000) | (0.000) |
| Education | 0.010 | 0.132*** | 0.055** | 0.040 |
| | (0.574) | (0.000) | (0.004) | (0.055) |
| Income | 0.042* | 0.070*** | -0.011 | -0.026 |
| | (0.014) | (0.000) | (0.566) | (0.199) |
| Autobiographic wisdom (CM) | 0.079 | 0.017 | 0.020 | 0.141 |
| | (0.380) | (0.841) | (0.840) | (0.190) |
| Female (CM) | 1.541 | -1.563 | -1.018 | 0.154 |
| | (0.167) | (0.151) | (0.415) | (0.910) |
| Age (CM) | -0.114 | -0.050 | -0.366 | -0.441* |
| | (0.542) | (0.780) | (0.077) | (0.049) |
| Education (CM) | 0.069 | -0.064 | -0.128 | -0.032 |
| | (0.405) | (0.423) | (0.165) | (0.750) |
| Income (CM) | 0.022 | 0.006 | -0.073 | 0.100 |
| | (0.874) | (0.961) | (0.634) | (0.546) |
| Constant | -1.655 | 1.869 | 2.711 | 0.728 |
| | (0.413) | (0.342) | (0.231) | (0.766) |
| *N* | 3,133 | 3,360 | 3,437 | 3,469 |

*p-values in parentheses*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A5: Mixed linear model EW – Donations**

| | atmosfair don.<br>*coefficient*<br>*(p-value)* | real don. (d)<br>*coefficient*<br>*(p-value)* | real don. (log)<br>*coefficient*<br>*(p-value)* | blood don.<br>*coefficient*<br>*(p-value)* |
|---|---|---|---|---|
| Economic wisdom | 0.128*** | 0.100*** | 0.098*** | 0.137*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Female | 0.037** | 0.032** | 0.004 | -0.047*** |
| | (0.001) | (0.006) | (0.713) | (0.000) |
| Age | 0.095*** | 0.074*** | 0.108*** | -0.057*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Education | 0.051*** | 0.129*** | 0.153*** | 0.078*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Income | 0.049*** | 0.121*** | 0.167*** | 0.055*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Economic wisdom (CM) | 0.020 | -0.099 | -0.114 | -0.029 |
| | (0.838) | (0.317) | (0.269) | (0.793) |
| Female (CM) | 0.260 | 0.309 | 0.563 | 0.491 |
| | (0.732) | (0.690) | (0.489) | (0.581) |
| Age (CM) | 0.044 | 0.132 | 0.184 | -0.084 |
| | (0.824) | (0.519) | (0.388) | (0.719) |
| Education (CM) | -0.013 | -0.042 | -0.044 | -0.012 |
| | (0.755) | (0.316) | (0.316) | (0.793) |
| Income (CM) | 0.100 | -0.067 | -0.054 | 0.049 |
| | (0.193) | (0.392) | (0.507) | (0.588) |
| Constant | -0.623 | -0.198 | -0.591 | -0.209 |
| | (0.564) | (0.858) | (0.612) | (0.869) |
| *N* | 8,006 | 7,464 | 6,552 | 5,941 |

*p-values in parentheses*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A6: Mixed linear model EW – other prosocial behavior variables**

| | pandemic comp. | voting | volunteer work | environ. group |
|---|---|---|---|---|
| | *coefficient* | *coefficient* | *coefficient* | *coefficient* |
| | *(p-value)* | *(p-value)* | *(p-value)* | *(p-value)* |
| Economic wisdom | 0.164*** | 0.046*** | 0.151*** | 0.132*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Female | 0.151*** | -0.015 | -0.005 | -0.055*** |
| | (0.000) | (0.194) | (0.683) | (0.000) |
| Age | 0.094*** | 0.160*** | -0.026* | -0.038*** |
| | (0.000) | (0.000) | (0.026) | (0.001) |
| Education | 0.036** | 0.127*** | 0.079*** | 0.079*** |
| | (0.004) | (0.000) | (0.000) | (0.000) |
| Income | 0.009 | 0.081*** | 0.016 | -0.017 |
| | (0.448) | (0.000) | (0.167) | (0.145) |
| Economic wisdom (CM) | -0.033 | -0.119 | -0.054 | -0.089 |
| | (0.745) | (0.221) | (0.579) | (0.349) |
| Female (CM) | -0.194 | 0.944 | 0.512 | 1.066 |
| | (0.811) | (0.216) | (0.499) | (0.151) |
| Age (CM) | -0.095 | 0.174 | 0.109 | 0.160 |
| | (0.654) | (0.387) | (0.586) | (0.414) |
| Education (CM) | -0.013 | 0.009 | 0.011 | 0.042 |
| | (0.750) | (0.828) | (0.789) | (0.290) |
| Income (CM) | 0.033 | -0.043 | -0.023 | -0.047 |
| | (0.684) | (0.575) | (0.768) | (0.535) |
| Constant | 0.553 | -1.075 | -0.688 | -1.338 |
| | (0.631) | (0.322) | (0.525) | (0.206) |
| *N* | 6,945 | 7,665 | 7,792 | 7,867 |

*p-values in parentheses*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A7: Mixed linear model AW – Donations - including psychological measurements**

| | atmosfair don. | real don. (d) | real don. (log) | blood don. |
|---|---|---|---|---|
| | *coefficient* | *coefficient* | *coefficient* | *coefficient* |
| | *(p-value)* | *(p-value)* | *(p-value)* | *(p-value)* |
| Autobiographic | 0.049** | 0.068*** | 0.040* | 0.061** |
| wisdom | (0.005) | (0.000) | (0.039) | (0.006) |
| Female | 0.028 | 0.026 | 0.003 | -0.061** |
| | (0.100) | (0.140) | (0.857) | (0.004) |
| Age | 0.074*** | 0.024 | 0.061** | -0.141*** |
| | (0.000) | (0.184) | (0.001) | (0.000) |
| Education | 0.009 | 0.077*** | 0.104*** | 0.092*** |
| | (0.587) | (0.000) | (0.000) | (0.000) |
| Income | 0.002 | 0.066*** | 0.119*** | 0.057** |
| | (0.910) | (0.000) | (0.000) | (0.007) |
| Trust | 0.076*** | 0.054** | 0.075*** | 0.040 |
| | (0.000) | (0.005) | (0.000) | (0.092) |
| Individualism | 0.010 | -0.024 | -0.035 | -0.005 |
| | (0.593) | (0.207) | (0.083) | (0.837) |
| Collectivism | 0.100*** | 0.095*** | 0.079*** | 0.041 |
| | (0.000) | (0.000) | (0.000) | (0.113) |
| Longterm: Tradition | -0.038* | 0.008 | 0.006 | 0.010 |
| | (0.036) | (0.651) | (0.762) | (0.680) |
| Longterm: Planning | -0.012 | 0.002 | 0.041 | 0.016 |
| | (0.551) | (0.939) | (0.071) | (0.529) |
| Connectedness to | 0.038* | 0.026 | 0.054** | -0.043 |
| family and friends | (0.035) | (0.166) | (0.008) | (0.059) |
| Connectedness to | -0.000 | 0.035 | 0.033 | 0.069** |
| society | (0.978) | (0.055) | (0.095) | (0.001) |
| Locus of control | 0.031 | 0.020 | 0.022 | -0.026 |
| | (0.074) | (0.269) | (0.239) | (0.231) |
| Constant | 56.342 | -50.801 | -49.385 | -3.804 |
| | (0.360) | (0.423) | (0.476) | (0.961) |
| *N* | 3,527 | 3,304 | 2,890 | 2,593 |

*Variables for country means not shown in table, but included for adjustment*
*p-values in parentheses*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A8: Mixed linear model AW – other prosocial behavior variables – including psychological measurements**

| | pandemic comp. | voting | volunteer work | environ. group |
|---|---|---|---|---|
| | *coefficient* | *coefficient* | *coefficient* | *coefficient* |
| | *(p-value)* | *(p-value)* | *(p-value)* | *(p-value)* |
| Autobiographic | 0.110*** | 0.032 | 0.107*** | 0.132*** |
| wisdom | (0.000) | (0.067) | (0.000) | (0.000) |
| Female | 0.095*** | -0.041* | -0.002 | -0.047* |
| | (0.000) | (0.015) | (0.901) | (0.023) |
| Age | 0.029 | 0.130*** | -0.080*** | -0.129*** |
| | (0.091) | (0.000) | (0.000) | (0.000) |
| Education | 0.008 | 0.129*** | 0.060** | 0.047* |
| | (0.641) | (0.000) | (0.002) | (0.021) |
| Income | 0.016 | 0.054** | -0.008 | 0.001 |
| | (0.364) | (0.002) | (0.678) | (0.954) |
| Trust | 0.002 | 0.041* | 0.011 | 0.003 |
| | (0.919) | (0.032) | (0.600) | (0.908) |
| Individualism | -0.010 | -0.004 | -0.036 | 0.008 |
| | (0.602) | (0.829) | (0.080) | (0.732) |
| Collectivism | 0.142*** | 0.034 | 0.066** | 0.008 |
| | (0.000) | (0.102) | (0.005) | (0.760) |
| Longterm: Tradition | -0.014 | 0.002 | 0.031 | 0.037 |
| | (0.441) | (0.905) | (0.138) | (0.101) |
| Longterm: Planning | 0.155*** | 0.019 | 0.048* | 0.061* |
| | (0.000) | (0.360) | (0.039) | (0.014) |
| Connectedness to | 0.033 | 0.071*** | -0.077*** | -0.145*** |
| family and friends | (0.069) | (0.000) | (0.000) | (0.000) |
| Connectedness to | 0.016 | -0.039* | 0.150*** | 0.208*** |
| society | (0.372) | (0.026) | (0.000) | (0.000) |
| Locus of control | -0.023 | -0.017 | -0.025 | -0.050* |
| | (0.190) | (0.324) | (0.194) | (0.019) |
| Constant | -56.250 | 70.665 | -23.877 | -21.721 |
| | (0.363) | (0.256) | (0.733) | (0.773) |
| *N* | 3,133 | 3,360 | 3,437 | 3,469 |

*Variables for country means not shown in table, but included for adjustment*
*p-values in parentheses*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A9: Mixed linear model EW – Donations - including psychological measurements**

| | atmosfair don. | real don. (d) | real don. (log) | blood don. |
|---|---|---|---|---|
| | *coefficient* | *coefficient* | *coefficient* | *coefficient* |
| | *(p-value)* | *(p-value)* | *(p-value)* | *(p-value)* |
| Economic wisdom | 0.132*** | 0.079*** | 0.074*** | 0.111*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Female | 0.019 | 0.020 | -0.008 | -0.048*** |
| | (0.094) | (0.083) | (0.504) | (0.000) |
| Age | 0.080*** | 0.054*** | 0.089*** | -0.068*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Education | 0.024* | 0.105*** | 0.126*** | 0.066*** |
| | (0.041) | (0.000) | (0.000) | (0.000) |
| Income | 0.016 | 0.083*** | 0.125*** | 0.037** |
| | (0.167) | (0.000) | (0.000) | (0.007) |
| Trust | 0.109*** | 0.102*** | 0.096*** | 0.063*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Individualism | -0.011 | -0.026* | -0.022 | 0.010 |
| | (0.366) | (0.041) | (0.099) | (0.471) |
| Collectivism | 0.124*** | 0.101*** | 0.101*** | 0.048** |
| | (0.000) | (0.000) | (0.000) | (0.002) |
| Longterm: Tradition | -0.047*** | -0.001 | -0.015 | -0.012 |
| | (0.000) | (0.969) | (0.279) | (0.455) |
| Longterm: Planning | -0.022 | 0.024 | 0.035* | 0.028 |
| | (0.108) | (0.089) | (0.015) | (0.076) |
| Connectedness to | 0.062*** | 0.049*** | 0.059*** | 0.012 |
| family and friends | (0.000) | (0.000) | (0.000) | (0.399) |
| Connectedness to | -0.050*** | -0.011 | -0.008 | 0.054*** |
| society | (0.000) | (0.360) | (0.554) | (0.000) |
| Locus of control | 0.034** | 0.040*** | 0.052*** | 0.016 |
| | (0.005) | (0.001) | (0.000) | (0.268) |
| Constant | -1.792 | 0.225 | -0.360 | -0.366 |
| | (0.219) | (0.881) | (0.818) | (0.831) |
| *N* | 8,006 | 7,464 | 6,552 | 5,941 |

*Variables for country means not shown in table, but included for adjustment*
*p-values in parentheses*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A10: Mixed linear model EW – other prosocial behavior variables – including psychological measurements**

| | pandemic comp. | voting | volunteer work | environ. group |
|---|---|---|---|---|
| | *coefficient* | *coefficient* | *coefficient* | *coefficient* |
| | *(p-value)* | *(p-value)* | *(p-value)* | *(p-value)* |
| Economic wisdom | 0.104*** | 0.025* | 0.112*** | 0.107*** |
| | (0.000) | (0.035) | (0.000) | (0.000) |
| Female | 0.126*** | -0.027* | -0.002 | -0.047*** |
| | (0.000) | (0.019) | (0.835) | (0.000) |
| Age | 0.086*** | 0.146*** | -0.041*** | -0.043*** |
| | (0.000) | (0.000) | (0.001) | (0.000) |
| Education | 0.022 | 0.116*** | 0.069*** | 0.073*** |
| | (0.073) | (0.000) | (0.000) | (0.000) |
| Income | -0.020 | 0.055*** | 0.001 | -0.016 |
| | (0.096) | (0.000) | (0.950) | (0.172) |
| Trust | -0.020 | 0.037** | 0.061*** | 0.059*** |
| | 0.059*** | (0.004) | (0.000) | (0.000) |
| Individualism | -0.041** | -0.015 | -0.043*** | 0.002 |
| | (0.001) | (0.228) | (0.001) | (0.881) |
| Collectivism | 0.137*** | 0.057*** | 0.069*** | 0.013 |
| | (0.000) | (0.000) | (0.000) | (0.315) |
| Longterm: Tradition | -0.011 | 0.029* | 0.031* | 0.006 |
| | 0.006 | (0.028) | (0.021) | (0.624) |
| Longterm: Planning | 0.149*** | 0.037** | 0.031* | 0.022 |
| | (0.000) | (0.007) | (0.024) | (0.110) |
| Connectedness to | 0.066*** | 0.056*** | -0.029* | -0.048*** |
| family and friends | (0.000) | (0.000) | (0.017) | (0.000) |
| Connectedness to | -0.019 | -0.030* | 0.059*** | 0.061*** |
| society | (0.112) | (0.013) | (0.000) | (0.000) |
| Locus of control | -0.030* | 0.012 | 0.001 | -0.023 |
| | (0.016) | (0.314) | (0.962) | (0.058) |
| Constant | 0.445 | -0.586 | -0.178 | -1.444 |
| | (0.772) | (0.693) | (0.904) | (0.320) |
| *N* | 6,945 | 7,665 | 7,792 | 7,867 |

*Variables for country means not shown in table, but included for adjustment*
*p-values in parentheses*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

## Table A11: Average effect of the experimental conditions on standardized EW and contrasts

| emtrends | | | | | |
|---|---|---|---|---|---|
| Treatments | emmean | SE | df | lower.CL | upper.CL |
| 1 Control | -0.048 | 0.022 | 127 | -0.092 | -0.004 |
| 2 Involved observer | 0.006 | 0.023 | 130 | -0.038 | 0.050 |
| 3 Abstract observer | 0.015 | 0.022 | 125 | -0.029 | 0.059 |
| 4 Concrete observer | 0.026 | 0.022 | 123 | -0.017 | 0.070 |
| Degrees-of-freedom method: kenward-roger | | | | | |
| Confidence level used: 0.95 | | | | | |
| | | | | | |
| **contrasts** | | | | | |
| contrast | estimate | SE | df | t.ratio | p.value |
| | | | | | |
| 1 Control – 2 Involved observer | -0.054 | 0.032 | 8,002 | -1.695 | 0.090 |
| 1 Control – 3 Abstract observer | -0.063* | 0.032 | 8,002 | -1.979 | 0.048 |
| 1 Control – 4 Concrete observer | -0.074* | 0.031 | 8,001 | -2.351 | 0.019 |
| 2 Involved observer – 3 Abstract observer | -0.009 | 0.032 | 8,002 | -0.276 | 0.782 |
| 2 Involved observer – 4 Concrete observer | -0.020 | 0.032 | 7,998 | -0.643 | 0.520 |
| 3 Abstract observer – 4 Concrete observer | -0.012 | 0.031 | 8,002 | -0.367 | 0.714 |
| | | | | | |
| 1 Control – 3 Abstract Obsever & 4 Concrete Observer | -0.683* | 0.027 | 8,003 | -2.498 | 0.013 |
| 2 Involved observer – 3 Abstract Observer & 4 Concrete Observer | -0.146 | 0.028 | 8,003 | -0.531 | 0.596 |
| 1 Control & 2 Involved observer – 3 Abstract Observer & 4 Concrete Observer | -0.042 | 0.022 | 8,003 | -1.862 | 0.063 |
| 1 Control – 2 Involved observer & 3 Abstract Observer & 4 Concrete Observer | -0.064* | 0.026 | 8,004 | -2.461 | 0.014 |
| | | | | | |
| Degrees-of-freedom method: kenward-roger | | | | | |
| P value adjustment: none | | | | | |

*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A12: Estimated marginal means of linear trends for the experimental conditions and contrasts in associations between EW and atmosfair donations across conditions**

| **Emtrends** | | | | | |
|---|---|---|---|---|---|
| Treatments | EW trend | SE | Df | lower.CL | upper.CL |
| 1 Control | 0.101 | 0.0227 | 7,987 | 0.056 | 0.145 |
| 2 Involved observer | 0.146 | 0.0224 | 7,987 | 0.102 | 0.190 |
| 3 Abstract observer | 0.120 | 0.0222 | 7,988 | 0.077 | 0.163 |
| 4 Concrete observer | 0.144 | 0.0216 | 7,988 | 0.103 | 0.187 |
| Degrees-of-freedom method: kenward-roger | | | | | |
| Confidence level used: 0.95 | | | | | |
| | | | | | |
| **Contrasts** | | | | | |
| contrast | estimate | SE | df | t.ratio | p.value |
| | | | | | |
| 1 Control – 2 Involved observer | -0.045 | 0.032 | 7,988 | -1.427 | 0.154 |
| 1 Control – 3 Abstract observer | -0.019 | 0.032 | 7,988 | -0.606 | 0.545 |
| 1 Control – 4 Concrete observer | -0.044 | 0.031 | 7,988 | -1.415 | 0.157 |
| 2 Involved observer – 3 Abstract observer | -0.026 | 0.031 | 7,989 | -0.835 | 0.404 |
| 2 Involved observer – 4 Concrete observer | -0.001 | 0.031 | 7,989 | -0.038 | 0.970 |
| 3 Abstract observer – 4 Concrete observer | -0.025 | 0.031 | 7,988 | -0.813 | 0.416 |
| Degrees-of-freedom method: kenward-roger | | | | | |
| P value adjustment: none | | | | | |

*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A13: Association between autobiographic wisdom (AW) and prosocial behavior separately for each of the five facets of wisdom**

| | Facets: | | | | |
|---|---|---|---|---|---|
| | **Intellectual Humility** | **Open-mindedness to Change** | **Acknowledgment of different Perspective** | **Objective viewpoint** | **Willingness to consider a Compromise** |
| **Log atmosfair donation** | 0.056 *** | 0.063*** | 0.070 *** | 0.057 *** | 0.068 *** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Past donations** | 0.073*** | 0.095 *** | 0.070 *** | 0.106 *** | 0.103 *** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Log past donation amount** | 0.054 ** | 0.092 *** | 0.053 ** | 0.088 *** | 0.094 *** |
| | (0.000) | (0.000) | (0.003) | (0.000) | (0.000) |
| **COVID containment** | 0.170 *** | 0.185 *** | 0.153 *** | 0.149 *** | 0.167 *** |
| | (0.003) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Blood donation** | 0.076 *** | 0.082 *** | 0.064 ** | 0.101 *** | 0.062 ** |
| | (0.000) | (0.000) | (0.002) | (0.000) | (0.002) |
| **Environmental group** | 0.177 *** | 0.158 *** | 0.114 *** | 0.154 *** | 0.149 *** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Regular volunteer** | 0.134 *** | 0.143 *** | 0.096 *** | 0.163 *** | 0.137 *** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Vote last election** | 0.033 * | 0.035 * | 0.050 *** | 0.035 * | 0.049 *** |
| | (0.042) | (0.029) | (0.000) | (0.030) | (0.000) |

*p-values reported in parentheses.*
*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

**Table A14: Average effect of the experimental conditions on standardized atmosfair donations and contrasts**

| **emtrends** | | | | | |
|---|---|---|---|---|---|
| Treatments | emmean | SE | df | lower.CL | upper.CL |
| 1 Control | -0.019 | 0.023 | 91.2 | -0.065 | 0.027 |
| 2 Involved observer | 0.033 | 0.023 | 93.3 | -0.013 | 0.079 |
| 3 Abstract observer | 0.018 | 0.023 | 90.4 | -0.028 | 0.064 |
| 4 Concrete observer | -0.035 | 0.023 | 88.8 | -0.081 | 0.010 |
| Degrees-of-freedom method: kenward-roger | | | | | |
| Confidence level used: 0.95 | | | | | |
| | | | | | |
| **contrasts** | | | | | |
| contrast | estimate | SE | df | t.ratio | p.value |
| | | | | | |
| 1 Control – 2 Involved observer | -0.052 | 0.032 | 8,001 | -1.649 | 0.100 |
| 1 Control – 3 Abstract observer | -0.038 | 0.032 | 8,001 | -1.190 | 0.234 |
| 1 Control – 4 Concrete observer | 0.016 | 0.032 | 8,001 | 0.505 | 0.613 |
| 2 Involved observer – 3 Abstract observer | 0.015 | 0.032 | 8,001 | 0.464 | 0.643 |
| 2 Involved observer – 4 Concrete observer | 0.068 | 0.032 | 7,998 | 2.159 | 0.031 |
| 3 Abstract observer – 4 Concrete observer | 0.054 | 0.032 | 8,001 | 1.700 | 0.089 |
| | | | | | |
| 1 Control – 3 Abstract Obsever & 4 Concrete Observer | -0.011 | 0.027 | 8,002 | -0.391 | 0.696 |
| 2 Involved observer – 3 Abstract Observer & 4 Concrete Observer | 0.041 | 0.028 | 8,000 | 1.516 | 0.130 |
| 1 Control & 2 Involved observer – 3 Abstract Observer & 4 Concrete Observer | 0.015 | 0.022 | 8,002 | 0.685 | 0.493 |
| 1 Control – 2 Involved observer & 3 Abstract Observer & 4 Concrete Observer | -0.024 | 0.026 | 8,003 | -0.943 | 0.346 |
| | | | | | |
| Degrees-of-freedom method: kenward-roger | | | | | |
| P value adjustment: none | | | | | |

*Significance levels: * p<0.05, ** p<0.01, *** p<0.001*

## 3. Figures

**Figure A1: Confirmatory Factor Analysis (autobiographic wisdom)**

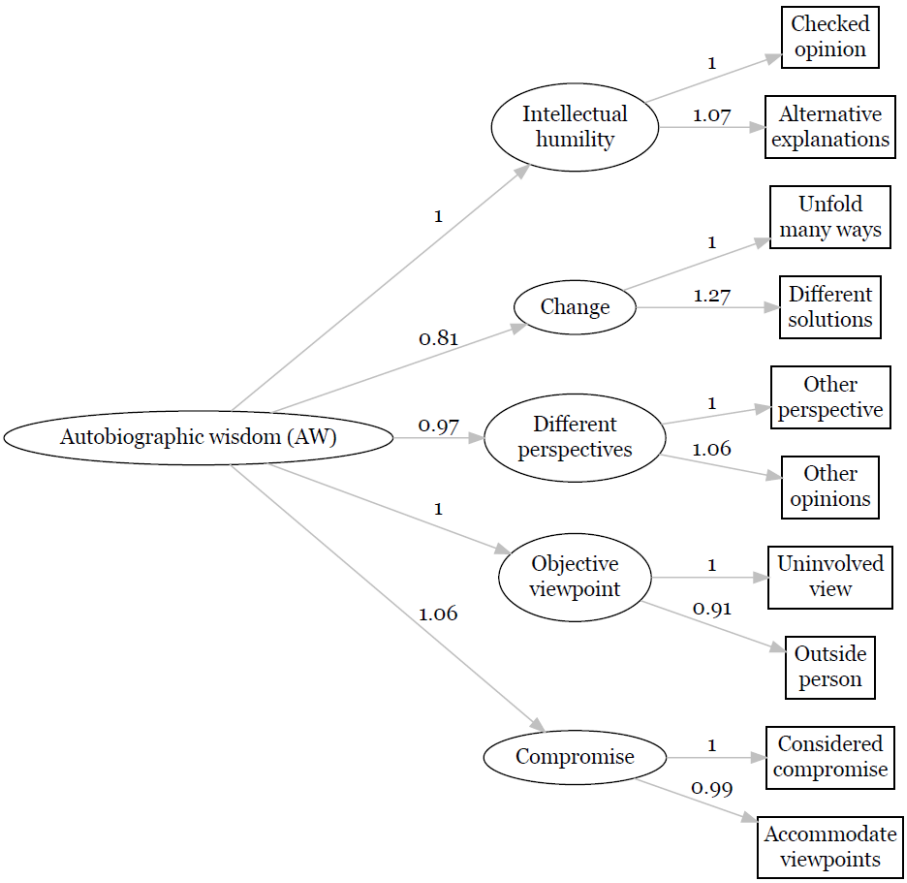


**Figure A2: Confirmatory Factor Analysis (economic wisdom)**

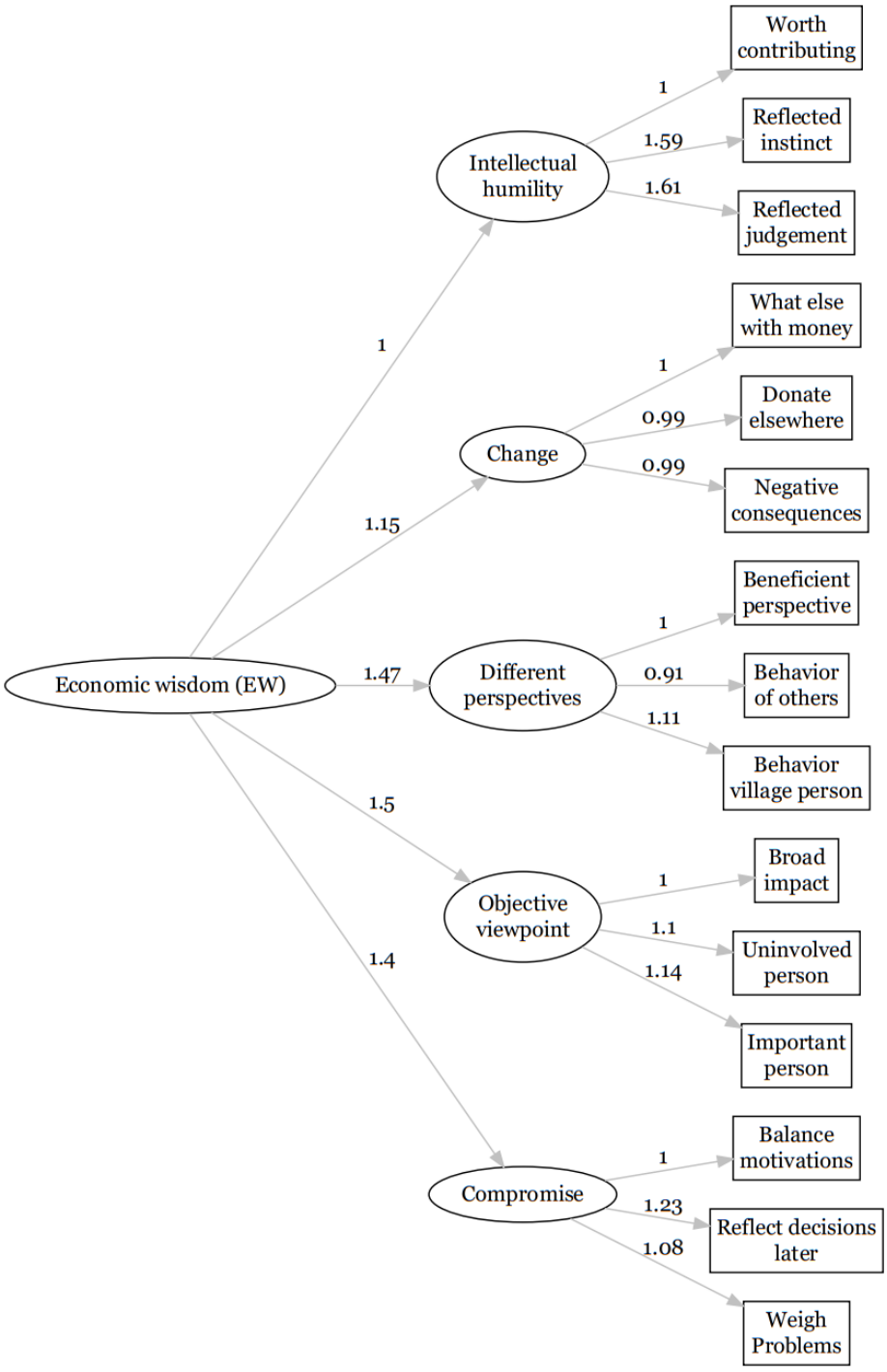
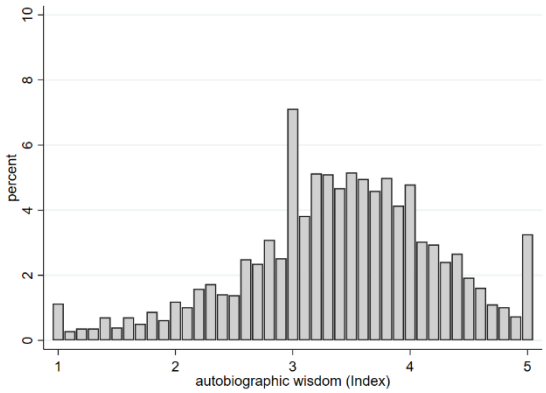
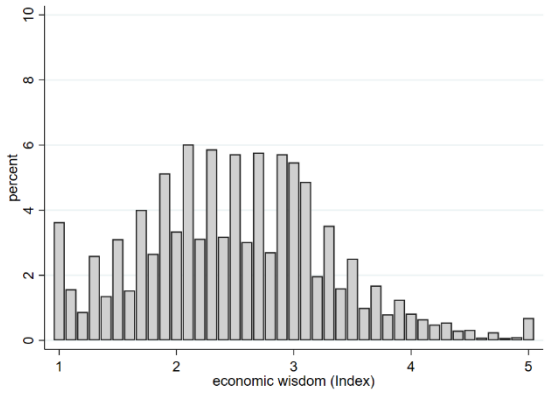


**Figure A3: Distribution of wisdom indices before and after standardization**

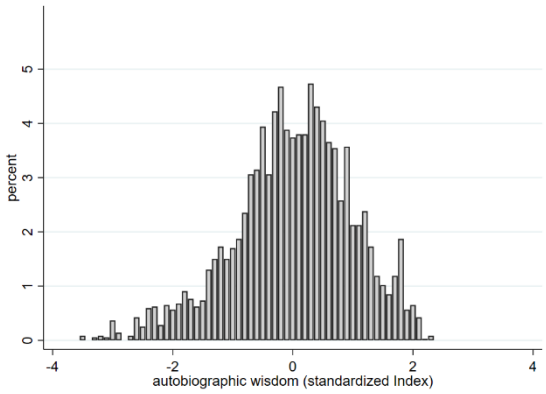
**Autobiographic wisdom (AW)**
*n* = 3,527
Distribution raw



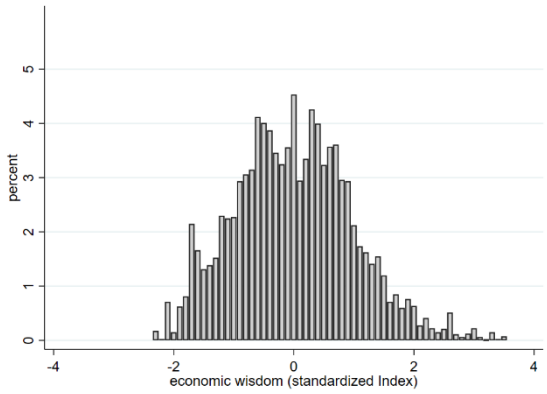

**Economic Wisdom (EW)**
*n* = 8,004
Distribution raw




Distribution after standardization




Distribution after standardization




*Indices rounded to one decimal place.*

**Figure A4: Associations of autobiographical reflections (AW) as well as economic wisdom (EW) with the different indicators of prosocial behavior (using factor scores for wisdom measurement instead of index)**

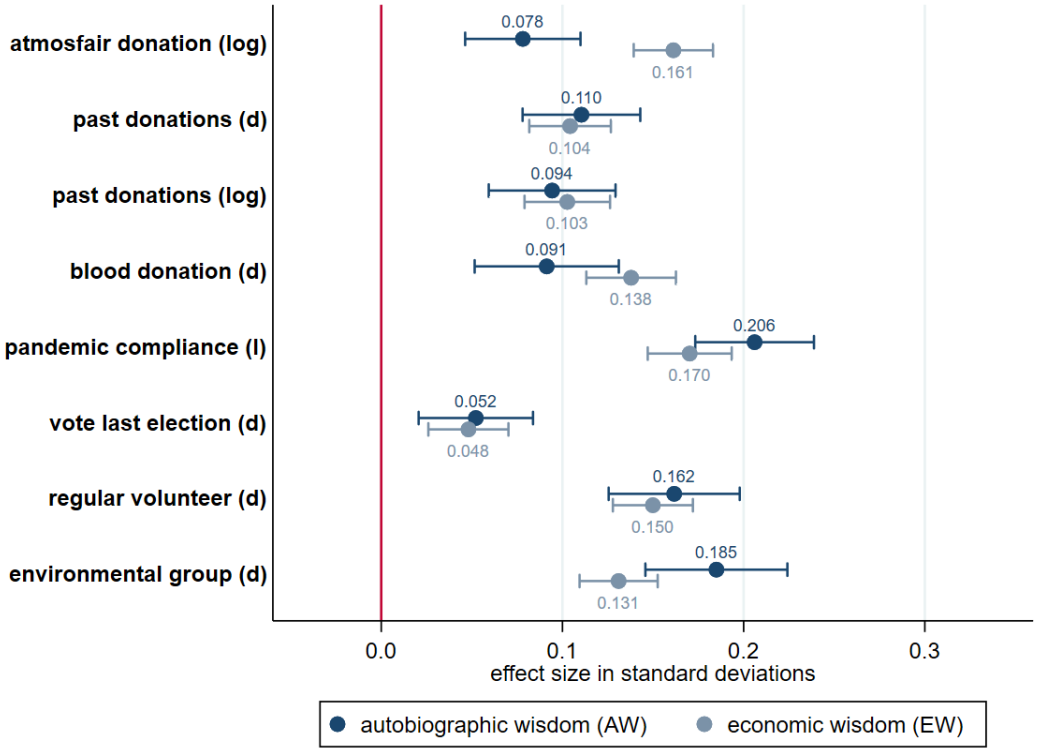


**Figure A5: Associations of autobiographical reflections (AW) as well as economic wisdom (EW) with the different indicators of prosocial behavior (using univariate regression analyses)**

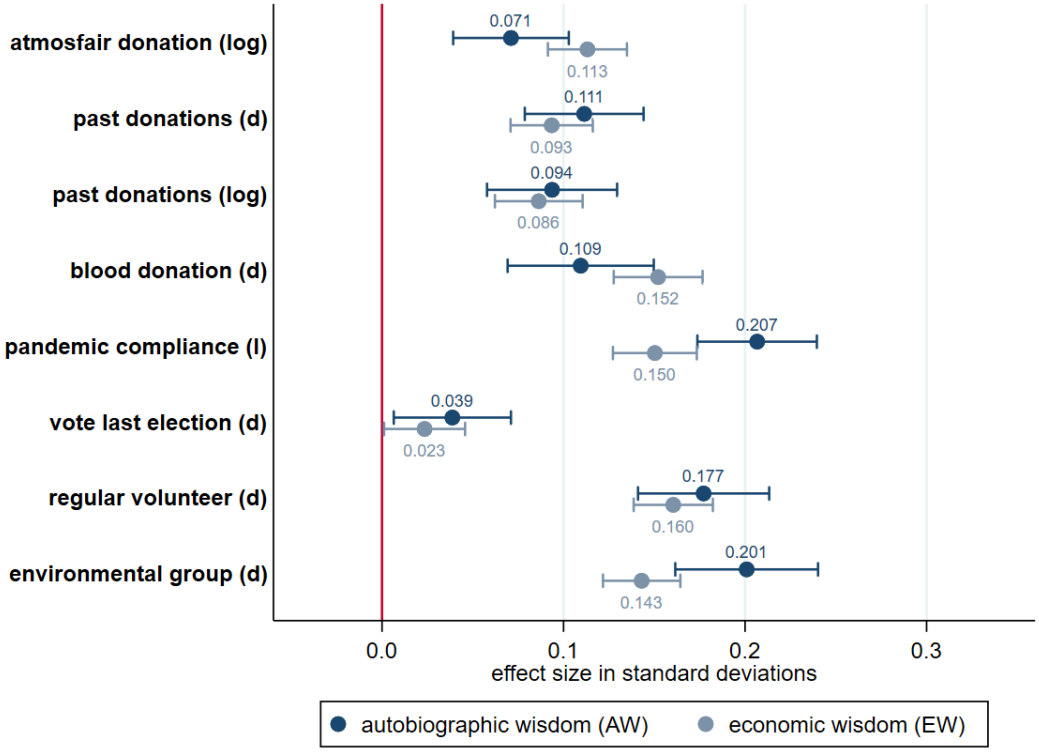
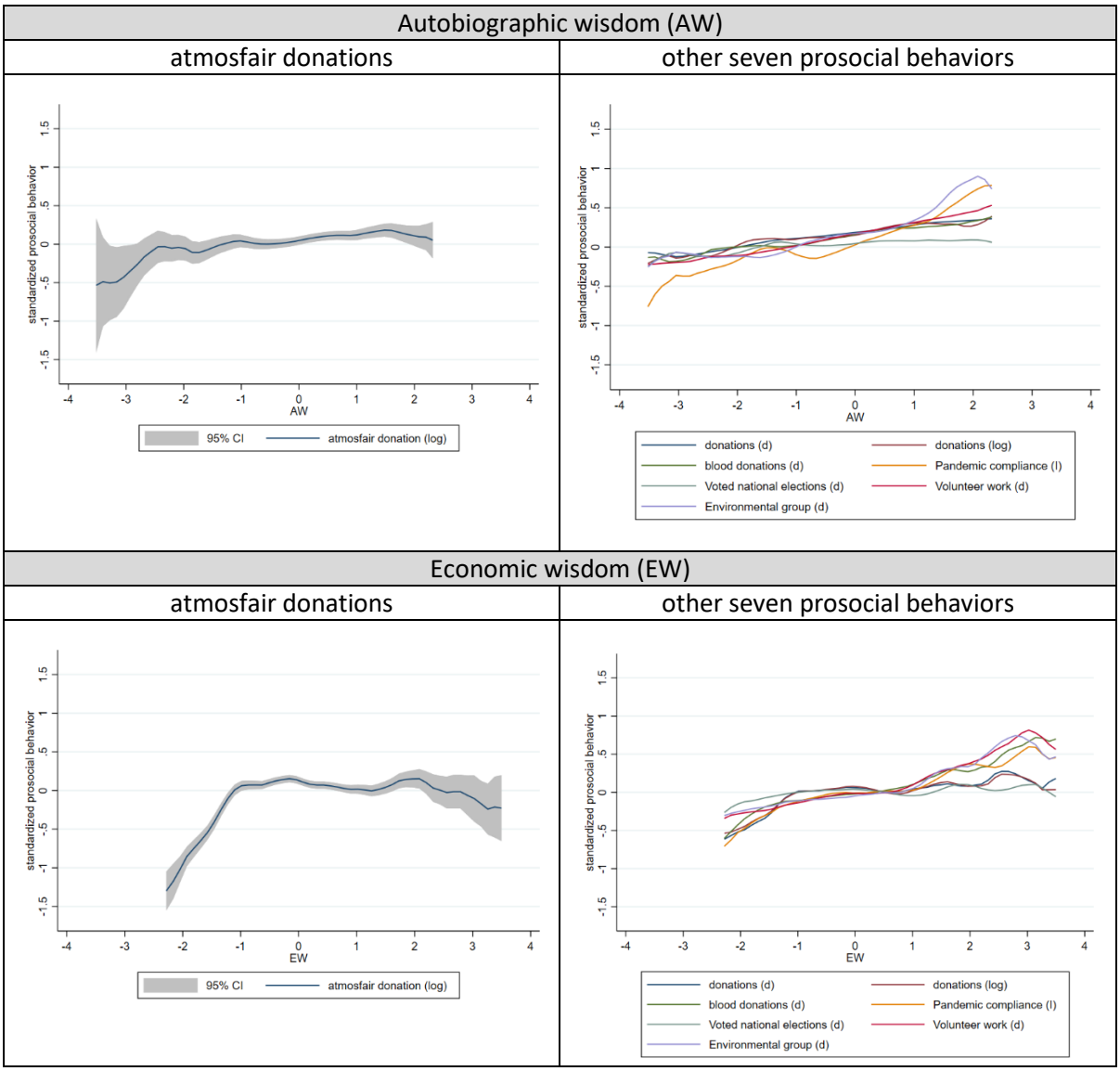


**Figure A6: Autobiographic wisdom (AW) and association with prosocial behavior variables**




*Local polynomial regression analyses are presented.*

**Figure A7: AW and prosocial behavior across countries**

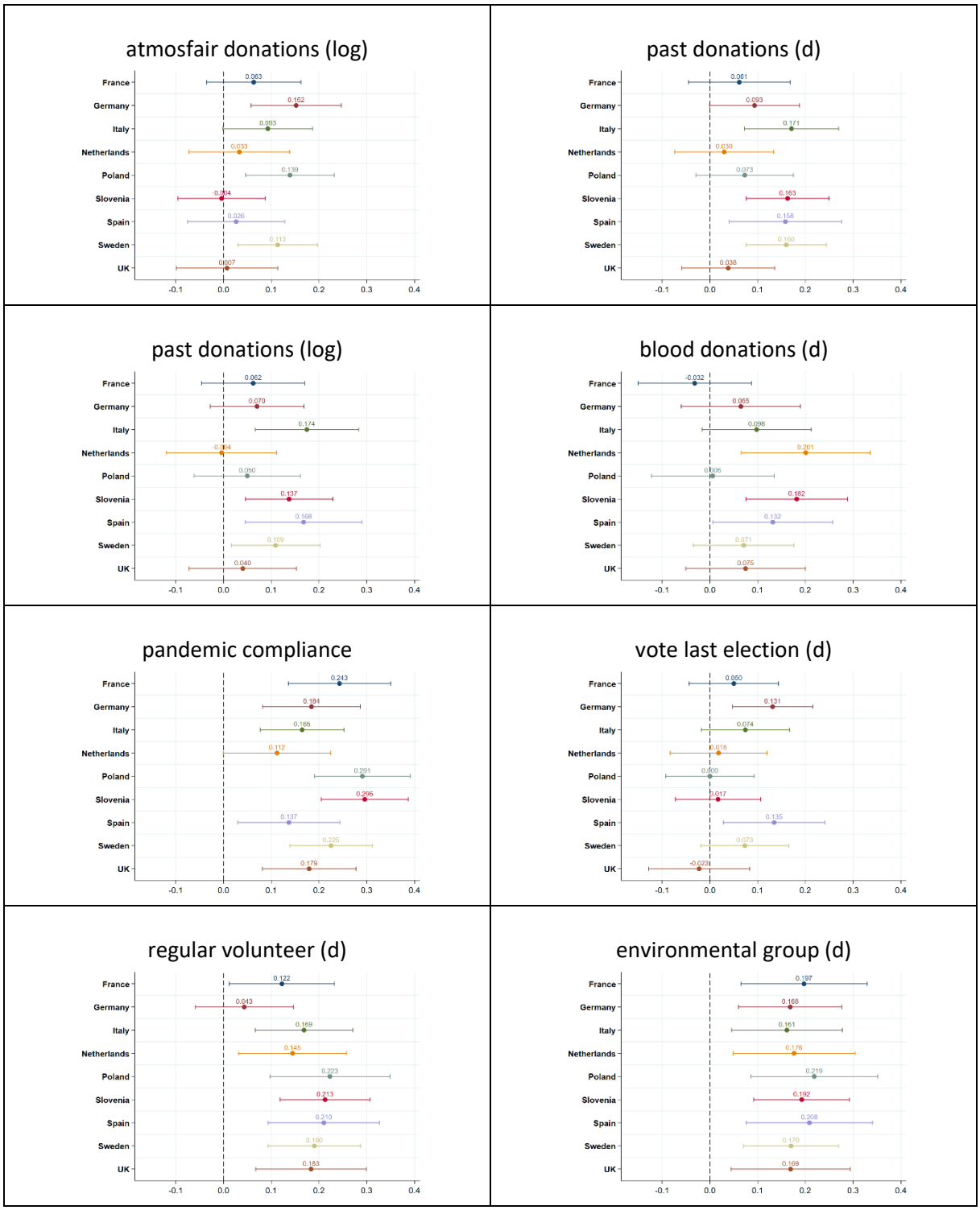


**Figure A8: EW and prosocial behavior across countries**

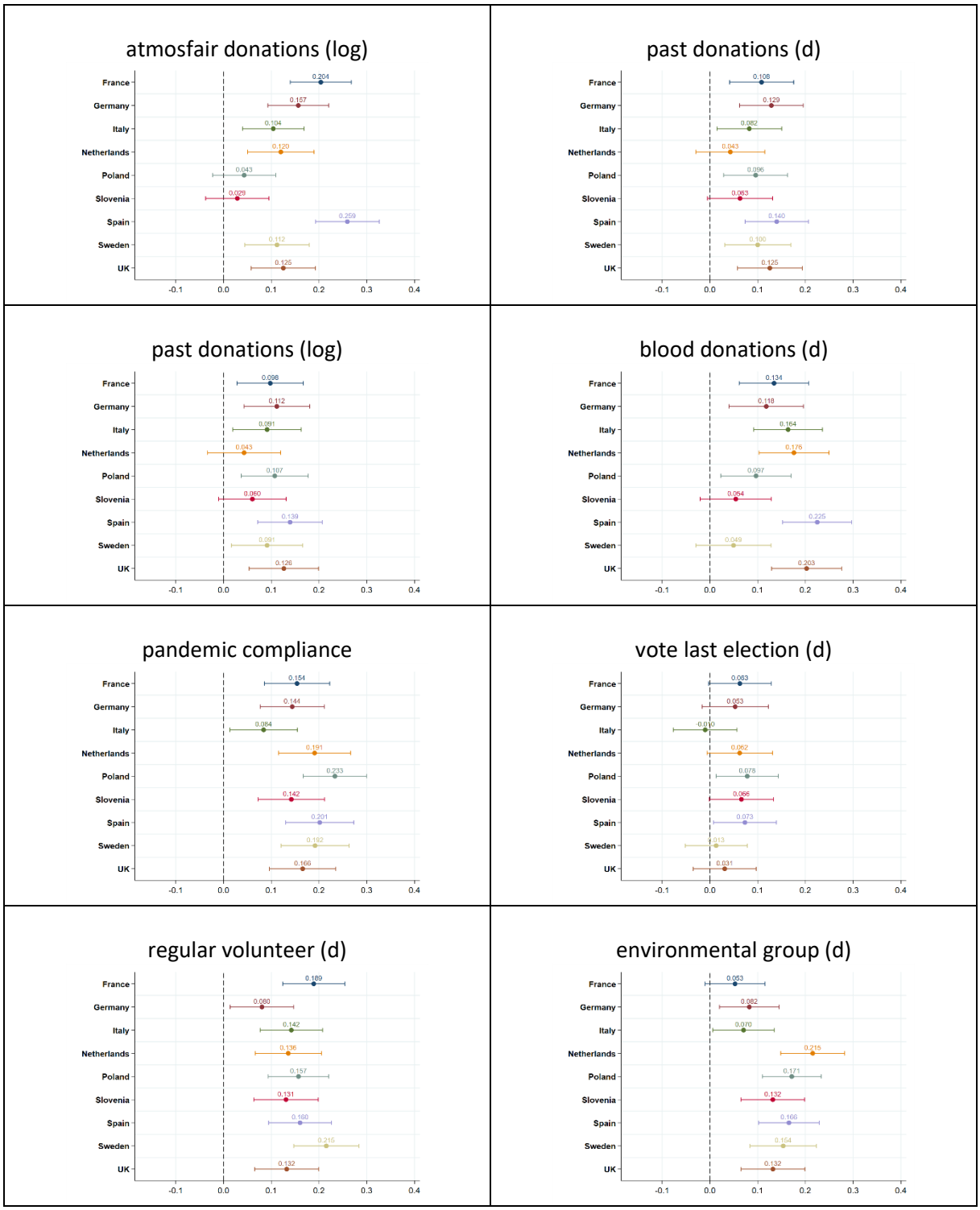
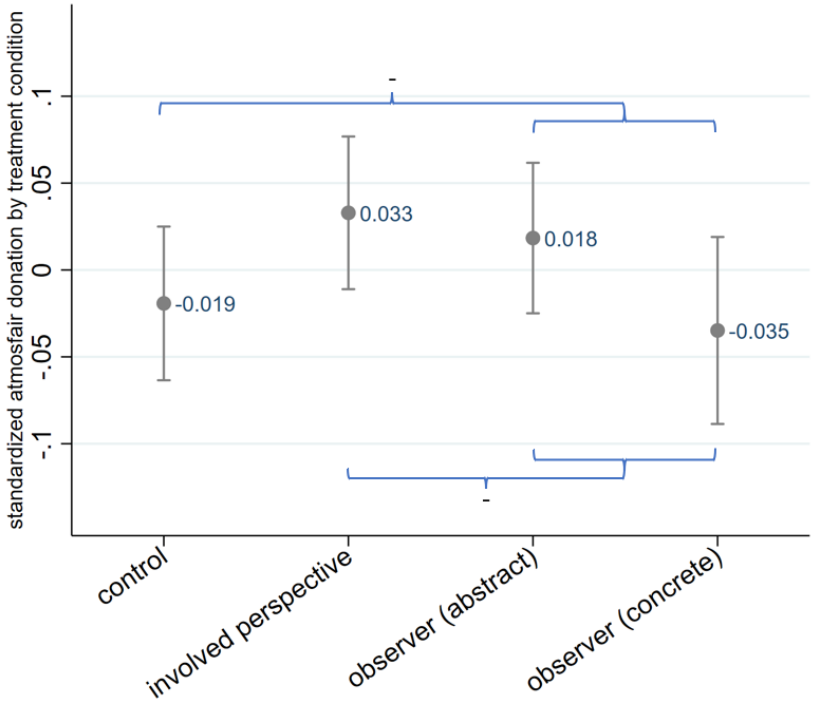


**Figure A9: Effect of experimental conditions on standardized atmosfair donations**




*Atmosfair donations standardized at the country level. The regression underlying the figure did not include socioeconomic variables.*

*– no significant difference (p > 5%), * significant at p > 5%, ** significant at p > 1%, *** significant at p > 0,1%*