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SUPPLEMENTARY INFORMATION

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Wise deliberation sustains cooperation

Supplementary Information

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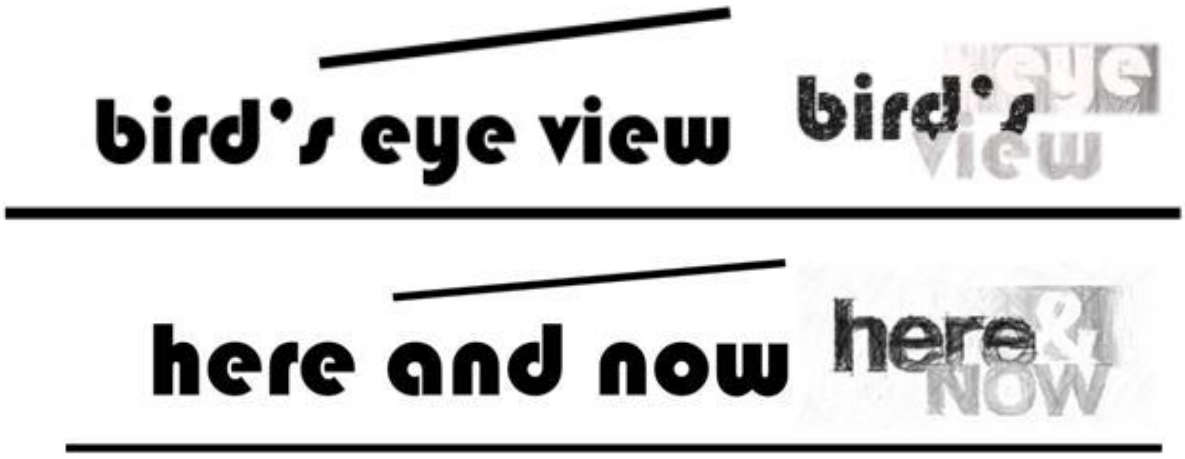

Supplementary Tables

Supplementary Table 1: Descriptives for time spent on each screen in Study 2

	Minimum	Maximum	*M*	*Md*	*SD*
time.screen1 (s)	2.00	95.32	4.33	2.98	5.68
time.screen2 (s)	15.80	554.37	53.52	44.88	39.50
time.screen3 (s)	2.02	114.17	11.01	9.45	9.05
time.screen4 (s)	26.23	247.07	49.01	40.09	28.11
time.screen5 (s)	.27	451.53	15.14	11.28	23.48

Supplementary Table 2: Zero-order correlations among Study 2 measures

	1.	2.	3.	4.	5.
1. Big Picture (1) vs. General (0) vs. Individual Terms (-1)	--	$-.83^{***(s)}$	$.85^{***(s)}$	$-.007^{(\kappa)}$	$.07^{\dagger(\kappa)}$
2. Individual Terms		--	$-.41^{***(s)}$	$.02^{(s)}$	$-.04^{(s)}$
3. Big Picture Terms			--	$.008^{(s)}$	$.10^{*(s)}$
4. Deliberation Length				--	-.11**
5. Contribution Amount					--

Note. (s) – *Spearman's rho*, (κ) = *Kendall's tau*. † ≤ .10 * ≤ .05 ** ≤ .01 *** ≤ .001

Supplementary Table 3: Interaction effects and simple effect estimates in Study 1

IV	Facet of Wise Reasoning	Delib. x WR	Simple Effect at -1 *SD* on WR		Simple Effect at +1 *SD* on WR	
		F / p-value	*B (SE)*	*t / p-value*	*B (SE)*	*t / p-value*
Decision Time (control)	Total Score	6.75 / .010	-2.06 (.50)	4.16 / < .00001	-.86 (.25)	3.39 / .001
	Intellectual Humility	5.74 / .017	-2.09 (.54)	3.89 / .0001	-.88 (.25)	3.50 / .001
	Others' Perspectives	8.86 / .003	-2.57 (.60)	4.28 / < .0001	-.67 (.27)	2.54 / .012
	Compromise/Resolution	6.36 / .012	-2.06 (.51)	4.05 / .0001	-.79 (.26)	3.07 / .002
	Change	2.59 / .109	-1.66 (.52)	3.17 / .002	-.85 (.26)	3.31 / .001
	Outsider's Vantage Point	1.91 / .168	-1.27 (.35)	3.69 / .0003	-.71 (.30)	2.33 / .021
Delay / No Delay (full samnle)	Intellectual Humility	.70 / .401	-4.00 (4.35)	.92 / .359	1.17 (4.45)	.26 / .793
	Others' Perspectives	2.61 / .106	-6.45 (4.39)	1.47 / .142	3.69 (4.50)	.82 / .407
	Compromise/Resolution	2.84 / .093	-6.81 (4.39)	1.55 / .122	3.59 (4.44)	.81 / .420
	Change	5.27 / .024	-9.10 (4.49)	2.03 / .043	5.26 (4.37)	1.20 / .230
	Outsider's Vantage Point	4.14 / .042	-7.69 (4.39)	1.75 / .080	5.25 (4.59)	1.14 / .250

Supplementary Table 4: Correlations between WR facets and Study 1 contribution

	Condition		Humility	Change	Perspective	Compr./Resol.	Outsider
Pearson's *r*	Control	*r*	.001	-.058	-.011	-.009	.032
		p-value	.984	.347	.860	.887	.608
		N	265	265	265	265	265
	'No Time'	*r*	.062	.039	-.015	.134	-.016
		p-value	.425	.613	.848	.084	.836
		N	169	169	169	169	169
	'Time Delay'	*r*	.100	**.177**	**.125**	**.193**	**.185**
		p-value	.158	.012	.077	.007	.010
		N	200	200	200	196	196
Kendall's τ	Control	*T*	-.001	-.058	-.018	-.022	.005
		p-value	.977	.232	.709	.651	.917
		N	265	265	265	265	265
	'No Time'	*T*	.034	.006	-.028	.090	-.011
		p-value	.577	.917	.650	.140	.862
		N	169	169	169	169	169
	'Time Delay'	*T*	.075	**.124**	.070	**.151**	**.126**
		p-value	.168	.024	.205	.006	.022
		N	200	200	200	196	196

Supplementary Notes

Study 1: WR moderates individual differences in decision time (control condition) on contribution

Focusing on the control condition, we tested the relationship between decision time and cooperation for people who report high and low levels of wise reasoning on an independent task. Consistent with prior work [2; Study 1], we observed that the time participants spent on the PGG decision was negatively related to their public contributions in the control condition (n = 265), B=-1.46, SE=.32, df = 261, $|t|$ =4.59, p<.001, 95%CI: -2.09, -.83. Examining control participants further, we found that WR moderated the relationship between deliberation time and cooperation (see Supplementary Table 3). Further, time spent deliberating had a stronger negative effect on cooperation for participants who reported less WR in their lives than for those who reported more WR. The WR effect held when controlling for presentation order, B=.86, SE=.32, $|t|$ =2.66, p=.008, 95%CI: .22,1.50.

Performing a parallel set of analyses across each of the five facets of wise reasoning, we observed a systematic deliberation time X reasoning interaction for intellectual humility, perspectives, and compromise, and trends for change, resolution, and outsider's vantage point (see Supplementary Table 3). Unpacking these interactions, we found that time spent deliberating had a stronger negative effect on cooperation for participants who reported lower intellectual humility, perspectives, compromise, resolution, and outsider's vantage point, compared to those who reported higher score on these dimensions. Recognition of change was the only exception to this pattern: the effect of deliberation time was comparable for both low and high WR participants.

Study 1 analysis of manipulated decision time on contribution as a function of WR

We subsequently examined how each WR-facet attenuates negative effects of manipulated deliberation time (time delay vs. no time delay) on contributions. Supplementary Table 3 indicates effects for change, compromise/resolution, and outsider's viewpoint, and a trend for perspectives, indicating that the overall effect is spread across multiple facets of wise reasoning concerning the big-picture thinking. Similar to the analyses in the main text, we also explored the relationship between each facet of wise reasoning and contribution amounts within each experimental condition. As Supplementary Table 4 indicates, in the 'time delay' condition we observed a consistent pattern of positive association between contribution amount and the likelihood of recognizing change, considering different bigger picture/others' perspectives on the issue, search for a compromise/resolution, and reflect on one's personal from an outsider's vantage point. In contrast, none of the associations was significant in the 'no time' and 'control' conditions.

Presentation order effects in Study 1

We performed post-hoc analyses examining whether effects of deliberation [time delay condition] vs. spontaneous deciding [no time and control conditions], WR, and WR *deliberation group interaction on cooperation varied as a function on presentation order of WR and PGG tasks.

When WR task came first, we observed a trend of deliberation towards less cooperative giving, $F(1,276) = 2.56$, $p = .111$, a trend of WR towards more cooperative giving, $F(1,276) = 1.51$, $p = .220$, and a marginal WR * deliberation interaction, $F(1,276) = 3.27$, $p = .072$. When WR task came second, we observed no trend of deliberation towards less cooperative giving, $F(1,350) < 1$, *ns.*, a trend of WR towards more cooperative giving, $F(1,350) = 1.68$, $p = .195$, and a trend of WR * deliberation interaction, $F(1,350) = 2.47$, $p = .12$. Effects of simple effects were also consistent with the pattern in the main text. Overall, it appears that the direction of WR*deliberation effects were symmetric regardless whether the WR task came first or second.

Replication without filtering participants violating condition instructions

Including participants who violated <10s rule in the "time pressure" (no time) condition

Results of a linear mixed model with condition contrast ('time delay' vs. 'no time'/control), wise reasoning, and their interaction predicting contributions showed a significant positive effect of wise reasoning, F (1,702) = 4.08, p = .044, and a condition contrast X wise reasoning interaction, F (1,702) = 5.94, p = .015. As with the main text, simple slope results indicated a marginal negative effect of condition contrast when wisdom was low (at -1 *SD* on WR), B = -7.59, SE = 4.30, $|t|$ = 1.77, p = .078, and reversal when wisdom was high (simple slope at +1 *SD* on WR), B = 7.36, SE = 4.38, $|t|$= 1.68, p = .094.

Including participants who violated >10s rule in the "time delay" condition

Results of a linear mixed model with condition contrast ('time delay' vs. 'no time'/control), wise reasoning, and their interaction predicting contributions showed a marginal positive effect of wise reasoning, F (1,672) = 2.89, p = .089, and a significant condition contrast X wise reasoning interaction, F (1,672) = 4.13, p = .042. As with the main text, simple slope results indicated a negative trend of condition contrast when wisdom was low (at -1 *SD* on WR), B = -4.72, SE = 4.09, $|t|$ = 1.15, p = .249, and reversal when wisdom was high (simple slope at +1 *SD* on WR), B = 7.14, SE = 4.16, $|t|$= 1.72, p = .087.

Extreme responding on the Public Goods Game (PGG)

The role of WR for extreme responding on the PGG

Some scholars recently suggested that individual differences in response times on the public goods task may reflect the magnitude of decision conflict between selfish and cooperative goals [10]. Specifically, Evans and colleagues suggested that some people do not work through the task contingencies, rather spontaneously deciding to give money to others or keep for themselves, whereas other people spend time reflecting on the self- and other-benefitting contingencies and subsequently choose intermediate responses. Evans at al. [10] demonstrated that these effects were specific to individual differences in time spent on the task, but did not hold when manipulating deliberation time.

If WR helps to manage the risk and uncertainty by orienting individuals towards big picture ideals when working through self-protective and other-benefitting contingencies (see Figure 2 in the main text), it is possible that wise reasoning moderates the relationship between individual differences in decision-time and response extremity. Following Evans et al., we first calculated extremity scores – i.e., the absolute distance between the contribution amount and the intermediate, midpoint response. In both studies, these extremity scores were highly correlated with contribution scores, Experiment 1 (control condition): r = .409, p < .001, Experiment 2: r = .298, p < .001. Next, we examined whether wise reasoning moderates the effect of time on extreme responding.

WR attenuated the relationship between deliberation time and decision conflict

In Experiment 1 (control condition), greater time was associated with less extreme responses, B = -.007, SE = .002, $|t|$ = 3.84, p < .0001. This relationship was qualified by a significant time * WR interaction, $|t|$ = 2.55, p = .011. Unpacking this interaction with help of simple slopes, we found that time spent deliberating had a stronger negative relationship to extremity of contributions for participants who reported less WR in their own lives (at -1 *SD* on WR), B = -.010, SE = .003, $|t|$ = 3.66, p = .0003, than for those who reported more WR (simple slope at +1 *SD* on WR), B = -.003, SE = .001, $|t|$= 2.50, p = .013. Overall, these extremity analyses suggest that wise reasoning indeed attenuates the relationship between deliberation time and decision-conflict-related extremity.

In Experiment 2, greater time was associated with less extreme responses, B = -.003, SE = .001, $|t|$ = 2.70, p = .007. Similar to Experiment 1, this effect which was qualified by a significant decision time *

condition interaction, $|t| = 2.18$, $p = .030$. Simple slope analyses indicated that time spent deliberating was related to extremity of contributions only for participants in the experiential condition, $B = -.005$, $SE = .002$, $|t| = 2.60$, $p = .010$, but not for participants in the observer condition, $B = -.0006$, $SE = .0007$, $|t| = .83$, $p = .410$.

Similarly, in Experiment 3, greater time was associated with less extreme responses, $B = -.152$, $SE = .069$, $|t| = 2.19$, $p = .029$. However, this effect which was qualified by a decision time * condition interaction, $|t| < 1$, *ns*.

Extremity does not account for decision time * WR interaction for PGG contributions

We also explored whether the extremity fully accounts for the relationship between time*WR for public goods contributions. To this end, we re-ran main text analyses with extremity as a covariate. In Experiment 1 (control condition), differences in WR marginally moderated the effect of time on contribution, above and beyond extremity, $|t| = 1.76$, $p = .081$, with Johnson-Neyman technique indicating that the negative relationship between time and contributions was not significant for the top 10% of participants on WR.

Similarly, in Experiment 2 we observed a significant time * condition interaction, $|t| = 2.43$, $p = .015$, with a significant negative relationship between time and contribution for participants in the experiential viewpoint condition, $B = -.006$, $SE = .002$, $|t| = 3.02$, $p = .003$, but not for participants in the observer viewpoint condition, $B = -.001$, $SE = .0007$, $|t| = 1.37$, $p = .171$.

Further, in Experiment 3, we observed a significant time * condition interaction, $|t| = 2.70$, $p = .007$, with a significant negative relationship between time and contribution for participants in the experiential viewpoint condition, $B = -.009$, $SE = .002$, $|t| = 3.91$, $p = .0001$, but not for participants in the observer viewpoint condition, $B = -.001$, $SE = .002$, $|t| = .66$, $p = .509$.

Together, these results suggest that the association between WR and extreme responding on the PGG plays a role for the relationship between deliberation time and performance on the PGG, yet extremity alone is not sufficient to explain the relationship between time, WR, and cooperation.

The role of past experience with public goods games

Past research found that people behave differently in PGGs when they have experience with the task. Specifically, researchers observed that the negative effect of deliberation (time spent on the task) on cooperation did not hold among those with experience (henceforth "experienced"), but only among novices [2]. Thus, in Experiment 1 we explored whether we replicate the moderating effect of experience vs. novice on the effect of deliberation on cooperation, and whether wise reasoning has an impact on this relationship. To this end, we categorized participants' responses to the questions concerning prior experience with public goods games, with those who reported no such experience as *Novices* (0) and those who reported encountering public good games before as *Experienced Participants* (1).

We examined the effect of prior experience with the PGG on the relationship between the experimental condition and level of cooperation. We conducted moderation analysis, with experimental condition (contrast of deliberation condition = 1 vs. spontanoues 'no time' and 'control' conditions = 0) as the predictor, cooperation as the criterion, and level of expertise (novice vs. experienced subject) as the moderator; if expertise made a difference in how people respond to the PGG task when instructed to deliberate about their decision, we would expect to find an interaction between condition and expertise variables. We did not find such an interaction, $F = .265$, $p = .607$. Splitting the data by experience, we found no significant effect of deliberation for novices, $F(1,236) = .675$, $p = .412$, experienced participants, $F(1,379) = .064$, $p = .800$, or those who did not complete the experience question, $F(1,13) = 2.11$, $p = .170$.

Moreover, adding experience variable into the model with experimental condition, WR, and their interaction predicting contributions did not yield a significant 3 way interaction, $F(1, 611) = 1.12$, $p = .291$, and no significant 2-way interactions with condition, $F < 1$, or wise reasoning, $F = 1.17$.

The role of trust

In Experiment 1, we examined the role of trust in determining the effect of deliberation on cooperation. We found a small-medium positive correlation between wise reasoning and trust, $r = .14$, $p < .001$ ($N = 620$). Given that higher WR scores were positively related to greater trust, trust might have confounded the role of WR for the effects of deliberation on cooperation. We ran multiple regressions with the condition, WR, and group (deliberative vs. spontaneous) * WR interaction as predictors, cooperation as the dependent variable, and trust as a covariate. Trust was a marginally significant predictor of cooperation, $F(1, 615) = 3.75$, $p = .053$. Moreover, deliberation * wise reasoning interaction remained significant, $F(1, 615) = 5.45$, $p = .020$, indicating that trust does not confound the relationship of wise reasoning and deliberation in facilitating cooperation.

The role of education

In Experiment 1, we also examined whether wise reasoning scores are confounded with the level of education. The level of education was not significantly related to the WR index, $r = -.01$, *ns*., nor its individual facets, $-.04 < r\text{s} < .01$, *ns*. Moreover, deliberation * wise reasoning interaction remained significant, when including the level of education as a covariate, $B=10.68$, $SE=4.45$, $t=2.40$, $p=.017$, suggesting that education does not confound the relationship of WR and deliberation in facilitating cooperation.

The role of attention to the task in Study 1

Does attention to PGG instructions play a role in determining the effect of WR on cooperation? Perhaps high wise reasoners spend more time attending to task instructions, which may induce greater cooperation; in this case, wise reasoning would be positively correlated with time spent on instruction pages. Alternatively, it may be the case that high WR people process information more effectively, which may improve their construal (i.e., realizing that outcomes may be optimized by mutual cooperation) of the task and lead to more cooperation and increased collective gains; in this case, we would find a positive correlation between WR and cooperation.

We examined how amount of time spent attending to instructions prior to the critical decision time page influences participants' responses. We found negligible relationships between time spent on instruction pages and cooperation, $r = -.08$, *ns*., and between time and group, $r < .01$, *ns*., suggesting that time spent on instructions played little to no role in cooperation or in explaining the effect of condition on cooperation. We found no relation between time and wise reasoning, nor condition and wise reasoning, $r\text{s} < .03$, *ns*.; thus, the moderating effect of wise reasoning and deliberation on cooperation could not be confounded by time spent on instruction pages.

The role of comprehension of PGG in Study 1

Some recent work suggests that understanding of the pay-off matrix in the PGG qualifies the effects of time delay (vs. time pressure) on cooperation [5]. As in this work, we assessed comprehension (yes/no) with correct responses to two questions: (1) What level of contribution earns the highest payoff for the group as a whole? (2) What level of contribution earns the highest immediate payoff for the individual player?

Adding comprehension variable into the model with deliberation condition, WR, and their interaction predicting contributions did not yield a significant 3 way interaction, $F(1, 626) = .14$, $p = .709$, and no significant 2-way interactions with condition, $F < 1$, or wise reasoning, $F = 1.40$, $p = .237$. Rather, it revealed a main effect of comprehension, with higher contributions among participants who showed understanding of the PGG task, $F(1,626) = 9.83$, $p = .002$, a significant positive effect of wise reasoning,

$F(1,626) = 4.84$, $p = .028$, and an expected significant deliberation condition * wise reasoning interaction, $F(1,626) = 4.46$, $p = .035$. Moreover, parallel analyses separately for participants who did vs. did not pass the comprehension test indicated that the deliberation condition * wise reasoning interaction was significant for participants who passed the comprehension test, $F(1,457) = 5.21$, $p = .023$, and not significant among participants who did not pass the comprehension test, $F(1,169) < 1$. For the latter group, the only effect concerned greater contributions among participants scoring higher on wise reasoning task, $F(1,169) = 3.49$, $p = .064$.

Based on these results, in Experiment 3, where we manipulated time delay, we included only participants who passed the comprehension test.

Distractibility differences by condition in Study 2

Does the experiential vs. observer viewpoint manipulation lead to different levels of distractibility? We examined open-ended responses regarding difficulties following instructions, including instructions to adopt the respective perspective. Three participants in the first-person language condition (out of 209 participants in this condition who provided responses to the question) mentioned difficulty using first-person language when deliberating on the instructions and contribution amount. Only one participant in the third-person condition (out of 211 who provided responses to this question) mentioned difficulty with using third-person pronouns and their name. Further, 18 participants in the first-person language condition and 17 participants in the third-person language condition spontaneously indicated that they enjoyed the survey and found it interesting. Moreover, six participants in the first-person language condition and five participants in the third-person language condition explicitly commented on the high level of clarity of the instructions and the survey flow. Overall, it appears that most participants had no difficulties understanding instructions, with a larger number of participants in each condition complementing rather than complaining about the instructions to adopt first- or third-person perspective.

Further, we conducted a supplementary study on MTurk ($N = 224$) examining degree of distractibility as a function of reflecting on the PGG instructions from the observer (3rd-person) vs. experiential (1st person) viewpoint. PGG and viewpoint instructions were identical to Experiment 2. Instead of providing the contribution amount, participants were asked to reflect on the game, maintaining their viewpoint. Afterwards, we asked participants to rate "the extent to which you felt distracted when reflecting on the game following third-[first]-person perspective" on a scale from 1 – extremely distracted to 5 – not distracted at all. Results indicated that participants in the observer condition ($M = 4.44$, $SD = .87$, $n = 110$) indicated not being any more distracted reflecting on the PGG than participants in the experiential condition ($M = 4.56$, $SD = .70$, $n = 114$), $F(1,222) = 1.40$, $p = .24$.

Supplementary Methods

Participants from all studies were screened for United States residence, the adult age (18 years), and English as a first language to ensure comprehension of the materials. Recruits who failed any of these criteria were not allowed to participate in the studies.

Attrition rates

MTurk attrition rates can be high and they have multiple causes. As Mason and Suri [1] pointed out "A worker could simply open up a new browser window and stop paying attention to the experiment at hand, he or she could walk away from their computers in the middle of an experiment, a user's Web browser or entire machine could crash, or his or her Internet connectivity could cut out."

In both studies, we aimed to recruit naïve, and not only experienced MTurk participants. For this purpose, we had to include individuals with zero approval rating on the MTurk platform (as novices don't have approval ratings). Therefore, we expected higher attrition rate (30-40%, including people who decided to click on the MTurk hit, but dropped it very initial inquiry; people who do not qualify as per predefined criteria and who did not follow instructions; see Table 1 in main text) as compared to typical online studies.

Consistent with past studies [2] and research on reading speed and comprehension [3,4], we filtered cases for failure to read or adhere to task instructions. In Experiment 1, we filtered <2s, <14.24s, and <2s on screens 1, 2 and 3, respectively in the control condition, and < 2s, <15.77s, and <2s, on screens 1, 2, and 3, respectively in the 'no time' and deliberation conditions), screening out $8.5\%_{\text{time pressure}}/8.4\%_{\text{time delay}}/6.3\%_{\text{control}}$ recruits for failing to read task instructions, and $7.4\%_{\text{time pressure}}/4.3\%_{\text{time delay}}$ recruits for failing to adhere to experimental instructions. In Experiment 2, we filtered < 2s, <15.55s, and <2s on screens 1, 2 and 3, screening out $22.7\%_{\text{self-distanced}}/23.9\%_{\text{self-immersed}}$ recruits for failing to read task instructions. Similarly, in Experiment 3, we filtered < 2s on screens 1, 2 and < <15.83s on screen 3 (which included 11% more words compared to screen 2 of Experiment 1-control condition), screening out $16.97\%_{\text{bird's eye view}}/12.27\%_{\text{here and now}}$ recruits for failing to read task instructions, and 11.9% recruits for failing to adhere to instructions. Based on comprehension results in Experiment 1 (see below) and prior research[5], we also filtered 28.9% of participants who failed PGG comprehension check.

Study 1 methods

Participants completed the wise reasoning instrument (see subsequent sections) and a public goods game (PGG; presentation order was counterbalanced; see subsequent sections). Following past work [2], we examined individual differences in generalized trust, as a marker of subjective perception of one's environment as cooperative vs. uncooperative, by asking participants, "To what extent do you feel you can trust other people that you interact with in your daily life?" using a ten-point Likert scale (1 = "*Very Little*" to 10 = "*Very Much*"). Fifteen participants did not complete the trust item, which was presented at the end of the study). Then participants completed a few filler tasks, as well as a measure of experience with economic games (on a scale 1-5 scale: 1 = *never*, 2 = *don't recall*, 3 = *once or twice*, 4 = *a few times*, 5 = *many times*; see a subsequent method secton for exact details) and a demographics questionnaire.

Details on the wise reasoning instrument

Within the body of psychological wisdom research, scholars have proposed a number of interrelated ego-decentered aspects of reasoning conducive for gauging a bigger picture context of the issue at hand,

including intellectual humility (i.e., recognition of limits of one's own knowledge), appreciation of contexts broader than the issue at hand, sensitivity to the possibility of change in social relations, acknowledgment of the likelihood of multiple outcomes of a social conflict, and adopting a view of events through the vantage point of an outsider. Empirical and theoretical work suggests that wise reasoning (WR) plays a crucial role for navigating through difficult life events [6–8].

We designed our measure to assess the extent to which people engage in WR when recalling difficult interpersonal experiences they have recently been involved in. Specifically, we assessed WR during difficult interpersonal situations (e.g., conflicts), asking people to recall recent personal experiences. Participants were initially prompted to take a moment to recall a specific conflict episode that they had personally experienced with a friend. Next, participants answered a set of questions about the conflict, using them to help participants reconstruct the context of the experience. Subsequently, participants responded to a set of 22 wise reasoning items, which referred to one of six aspects of wise reasoning. Twenty-one item were selected based on independent set of 3,000 participants [9], indicating that (a) responses to this instrument show a coherent confirmatory factor structure, with five facets feeding into a second-order factor, and (b) composite (second-order or cross-item average) WR score is only modestly correlated to other existing instruments (e.g., empathic concern; mindfulness; intellect; attributional complexity). One additional item measuring the change-facet of WE was assidentally kept from the initial item reduction phase "Considered how the situation might change through time." Results were consistent with and without excluding this item. Therefore, we kept this item as part of the change-facet of WE in the present set of analyses.

Notably, though the general aspects of WR (e.g., recognition of others' perspectives vs. recognition of world in flux/change) may vary in the extent to which they require more or less deliberation, the method of reconstructing a conflict experience by design requires deliberation in the reconstruction phase. Moreover, each item was phrased in a way that captured a deliberative (rather than intuitive) processes. See the next section for exact method procedure.

In the present study, the 22 items were presented on 2 computer screens (11 items each). Four participants finished their study without completing the second page of the WR instrument. Therefore, data on facets of compromise, resolution, and outsider's viewpoint is missing for these four participants.

Conflict reconstruction method of wise reasoning in Study 1

Page 1

In this section we would like you to think about a difficult situation that has happened to you with another person, **specifically with a close friend** (e.g., a disagreement, conflict). This should be a situation that you yourself were involved in, whether or not you were the person who initiated the situation. We would like you to take a moment to recall the situation and visualize the events in your mind's eye; consider who was involved and what happened, what you thought and how you felt. After doing so, please respond to the following questions:

1. When did this situation first begin? a. This week b. Within the last month c. Within the last 6 months d. Within the last year e. Over a year ago
2. What day of the week was it? M T W T F Sat Sun Don't remember
3. What time of day was it? Morning Afternoon Evening Don't remember
4. What were you doing when it happened? [text box]
5. Where were you? [text box]
6. As you were thinking about this situation, what thoughts came to your mind? Please write your thoughts in the space provided. [text box]

Page 2

Please continue to think about the situation you called to mind in the previous section and recall the extent to which you engaged in the following thoughts and behaviors – what you actually did as the situation unfolded. 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, and your replies are anonymous.

"While this situation was unfolding, I did the following..." (from 1 – *not at all*, to 5 – *very much*)

1. Put myself in the other person's shoes
2. Tried to communicate with the other person what we might have in common
3. Made an effort to take the other person's perspective
4. Took time to get the other person's opinions on the matter before coming to a conclusion
5. Looked for different solutions as the situation evolved
6. Considered alternative solutions as the situation evolved
7. Believed the situation could lead to a number of different outcomes
8. Considered how the situation might change through time
9. Thought the situation could unfold in many different ways
10. Double-checked whether my opinion on the situation might be incorrect
11. Double-checked whether the other person's opinions might be correct
12. Looked for any extraordinary circumstances before forming my opinion
13. Behaved as if there may be some information to which I did not have access
14. Tried my best to find a way to accommodate both of us
15. Though it may not have been possible, I searched for a solution that could result in both of us being satisfied
16. Considered first whether a compromise was possible in resolving the situation
17. Viewed it as very important that we resolve the situation
18. Tried to anticipate how the conflict might be resolved
19. Wondered what I would think if I was somebody else watching the situation
20. Tried to see the conflict from the point of view of an uninvolved person
21. Asked myself what other people might think or feel if they were watching the conflict
22. Thought about whether an outside person might have a different opinion from mine about the situation

Legend

Items 1-4: recognition of the larger issue at hand/others' perspectives; items 5-9: consideration of change and multiple ways situation may unfold; items 10-13: intellectual humility/recognition of limits of knowledge; items 14-18: search for a compromise / conflict resolution; items 19-22: view of the event through the vantage point of an outsider

Experimental instructions for the Public Goods Game in Study 1

Experimental conditions

Screen 1.

You will now complete a short decision making task. Below is a description and instructions:
You have been randomly assigned to interact with 3 other people. All of you receive this same set of instructions. You cannot participate in this study more than once.

Screen 2.

In addition to the 75 cents you already receive for this HIT, each person in your group is given 40 cents for this interaction.

You each decide how much of your 40 cents to keep for yourself, and how much (if any) to contribute to the group's common project (in increments of 2 units: 0, 2, 4, 6, etc.). Money contributed to the common project will be doubled, and then split evenly among the 4 group members.

For every 2 cents contributed to the common project, the group receives 4 cents to split. If everyone contributes all of their 40 cents, everyone's money will double: each of you will earn 80 cents. But if everyone else contributes their 40 cents, while you keep your 40 cents, you will earn 100 cents, while the others will earn only 60 cents. Thus, if everybody contributes to the project, you all may gain; if nobody else contributes, you may personally lose money on contributing.

Screen 3.

The other people are REAL and will really make a decision – there is no deception in this study. Once you and the other people have chosen how much to contribute, the interaction is over. Neither you nor the other people receive any bonus other than what comes out of this interaction.

Screen 4 (No time condition).

Please make your decision as quickly as possible. You must make your decision in less than 10 seconds!
Please use the slider to choose the amount of money you wish to contribute:
Your contribution: 0 ----------slider----------40

Screen 4 (time delay condition).

Please carefully consider your decision. You must wait and think for at least 10 seconds before making your decision.
Please use the slider to choose the amount of money you wish to contribute:
Your contribution: 0 ----------slider----------40

Screen 5.

You MUST answer these two questions correctly to receive your bonus!
1. What level of contribution earns the highest payoff for the group as a whole?
2. What level of contribution earns the highest payoff for you personally?

Control condition

Screen 1.

<u>You will now complete a short decision making task. Below is a description and instructions:</u>
You have been randomly assigned to interact with 3 other people. All of you receive this same set of instructions. You cannot participate in this study more than once.

Screen 2.

In addition to the 75 cents you already receive for this HIT, each person in your group is given 40 cents for this interaction.

You each decide how much of your 40 cents to keep for yourself, and how much (if any) to contribute to the group's common project (in increments of 2 units: 0, 2, 4, 6, etc.). Money contributed to the common project will be doubled, and then split evenly among the 4 group members.

For every 2 cents contributed to the common project, the group receives 4 cents to split. If everyone contributes all of their 40 cents, everyone's money will double: each of you will earn 80 cents. But if everyone else contributes their 40 cents, while you keep your 40 cents, you will earn 100 cents, while the others will earn only 60 cents. Thus, if everybody contributes to the project, you all may gain; if nobody else contributes, you may personally lose money on contributing.
Screen 3.
The other people are REAL and will really make a decision – there is no deception in this study.

Once you and the other people have chosen how much to contribute, the interaction is over. Neither you nor the other people receive any bonus other than what comes out of this interaction.
Screen 4.
Please use the slider to choose the amount of money you wish to contribute.

Your contribution: 0 ----------slider----------40
Screen 5.
You MUST answer these two questions correctly to receive your bonus!
1. What level of contribution earns the highest payoff for the group as a whole?
2. What level of contribution earns the highest payoff for you personally?

Experience with the Public Goods Game

Screen 1.

Please recall the group decision-making task you completed earlier, for bonus. Can you recall what the task was about? (open text response)

Screen 2.

Did you ever participate in MTurk tasks similar to the one described below? (1 = *never*, 2 = *don't recall*, 3 = *once or twice*, 4 = *a few times*, 5 = *many times*):

> Where you choose how many points or dollars to keep for yourself versus contributing to benefit the group (i.e., a "public goods game").

Study 2 methods

Participants were told that they would complete a short task and were presented with PGG instructions, across several screens. We asked participants to read through the instructions of the game, embedding the self-immersed vs. self-distanced experimental manipulation within the instructions. Specifically, in the self-immersed condition, participants were told to think about the principles of the PGG from a first-person perspective (e.g., "What would my decision be?"); in the self-distanced condition, participants were told to think about the principles of the PGG from a third-person perspective (e.g., "What would [Chris]'s decision be?" see the next section). Participants then entered their decision in the PGG. See Supplementary Table 1 for descriptives concerning time spend on each screen.

At the end of the study, participants responded to several open-ended questions, including "Did you find anything strange or uncomfortable during the study?" Responses were coded with regard to mentioning difficulties with the task instructions or lack of instruction comprehension. See Supplementary Table 2 for relationship between dependent variables in Experiment 2.

Instructions for PGG task (Study 2)

Screen 1.
You will now complete a short task. On the next page are task instructions.

Screen 2.

Please read the instructions:

The task involves 4 people. Each receives the same set of instructions and can only participate in this task once. In addition to the 50 cents each person receives for this HIT, each person in the group is given 40 cents for their interaction.

Each person decides how much of the 40 cents to keep for oneself, and how much to contribute to the group's common project (from 0 – 40 cents, in 2-cent increments). Money contributed to the common project is doubled, and then split evenly among the 4 group members. For every 2 cents contributed to the common project, the group receives 4 cents to split.

So, if everyone contributes 40 cents, everyone's money will double: each of you will earn 80 cents. If everyone else contributes their 40 cents, while you keep your 40 cents, you will earn 100 cents, while the others will earn only 60 cents. If everybody contributes to the project, everybody gains; if you contribute but nobody else does, you will lose and others will gain.

Screen 3.
We would like you to play this game with other players on MTurk. The other people are REAL, there is no deception in this study. Once you and the other people have chosen how much to contribute, the interaction is over. Neither you nor the other people receive any bonus other than what comes out of this interaction.

Screen 4.

Experiential viewpoint condition	*Observer viewpoint condition*
First, we would like to help you understand the principles of the game. Some people report understanding this game better by taking a first person perspective. This is what we would like you to do. Please put yourself in the role of a player in this task, and ask yourself "how would I behave as a player in this task?" To help you to take the first person perspective, use the pronouns I/me as much as possible as you try to understand the game. For example, ask yourself, "What would I do?", and "What would my decision be?" Please take a moment to think about the game from the first person perspective. For your convenience, the instructions are presented below. This page is timed at 25 seconds, to ensure enough time to consider these instructions. We will notify you when to continue. The task involves 4 people. In addition to the 50 cents each person receives for this HIT, each person in the group is given 40 cents for their interaction. Each person decides how much of the 40 cents to keep for oneself, and how much to contribute to the group's common project (from 0 – 40 cents, in 2-cent increments). Money contributed to the common project is doubled, and then split evenly among the 4 group members. For every 2 cents contributed to the common project, the group receives 4 cents to split. So, if everyone contributes 40 cents, everyone's money will double: each of you will earn 80 cents. If everyone else contributes their 40 cents, while you keep your 40 cents, you will earn 100 cents, while the others will earn only 60 cents. If everybody contributes to the project, everybody gains; if you contribute but nobody else does, you will lose and others will gain.	First, we would like to help you understand the principles of the game. Some people report understanding this game better by taking a third person perspective. This is what we would like you to do. Please put yourself in the role of a player in this task, and ask yourself "how would I behave as a player in this task?" To help you to take the third person perspective, use your name as much as possible as you try to understand the game. For example, if your name is Chris, ask yourself, "What would [Chris] do?", and "What would [Chris]'s decision be?" Please take a moment to think about the game from the third person perspective. For your convenience, the instructions are presented below. This page is timed at 25 seconds, to ensure enough time to consider these instructions. We will notify you when to continue. The task involves 4 people. In addition to the 50 cents each person receives for this HIT, each person in the group is given 40 cents for their interaction. Each person decides how much of the 40 cents to keep for oneself, and how much to contribute to the group's common project (from 0 – 40 cents, in 2-cent increments). Money contributed to the common project is doubled, and then split evenly among the 4 group members. For every 2 cents contributed to the common project, the group receives 4 cents to split. So, if everyone contributes 40 cents, everyone's money will double: each of you will earn 80 cents. If everyone else contributes their 40 cents, while you keep your 40 cents, you will earn 100 cents, while the others will earn only 60 cents. If everybody contributes to the project, everybody gains; if you contribute but nobody else does, you will lose and others will gain.

Screen 5.

Visualizing your decision from a first [third] person perspective, how much money do you contribute? (use the slider below - you must click on the slider for a valid response)

Your contribution: 0 ----------slider----------40

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