B Supplementary Material (for online publication)

B.1 Matching across supergames

Here we describe the matching procedure used to ensure that subjects would not meet *counterparts* from previous supergames: the same consumer-producer pair could not be formed in different supergames except for a mixed group of supergame 5. The procedure is based on the one used in Bigoni et al. (2019).

To see how this can be done, let us allocate the 24 subjects in the session into 4 sets denoted A, B, C, and D, of 6 players each, with A = 1, 2, 3, 4, 5, 6, ..., D =19, 20, 21, 22, 23, 24; here the number corresponds to the subject's ID in the session. The sets A through D are fixed for the duration of the session; each set has two players of each type 1, 2 and 3. In each supergames with mixed groups of 12 (either supergames 1,2 or 3,4), subjects from one set are matched to subjects from one of the other three sets without replacement. By means of example, in a set of 12 players composed of A and B, in period 1 of a supergame we have six A players being producers and six B players as consumers. Hence, A-subjects can only meet B-subjects in supergame 1 *and do not meet each other* (the other mixed group is C and D subjects). In supergame 2, A-subjects meet C-subjects and, once again, subjects in the same set do not meet each other as they have different roles (the other mixed group is B and D subjects). This ensures that A-subjects never meet each other in supergames 1-2 (similarly for the other subsets B, C and D) and in supergame 2 they do not meet counterparts from supergame 1.

For each of the two supergames in fixed pairs, subjects are matched to a player *of their same type* from the remaining set; in the example above it is set D, for A-subjects. As there are two players of their same type in each set, this allows to run two supergames in fixed pairs ensuring that A-subjects have a different partner in each supergame (the same holds true for B, C, and D subjects). Finally, we can form fixed pairs in supergame 5, matching the two players of the same type *within the same set* as these two subjects were never in a consumer-producer pair in the past.

This matching process allows us to run two supergames with groups of 12, and up to three with fixed pairs, so that no one meets the same individual in more than one supergame. Clearly, this does not include mixed groups formed in supergame 5, where subjects can meet counterparts from previous supergames. This was clarified in the instructions. For additional details see Bigoni et al. (2019, Supplementary Information).

B.2 Cooperation rate

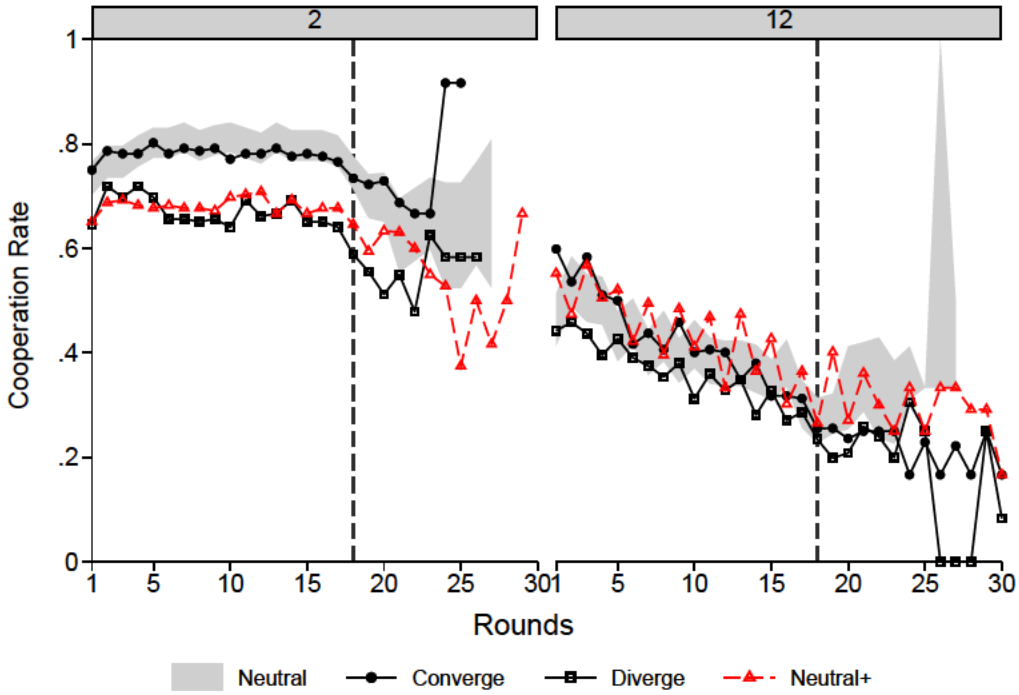
Cooperation rate is the relative frequency of cooperative choices in the average round of a supergame. For an individual, it is simply the subject's relative frequency of cooperation as a producer. For an economy, it is the average across all individuals, i.e.,

$$\frac{1}{T}\sum_{t=1}^{T}\sum_{j=1}^{N/2}\frac{\mathbb{1}_j}{N/2} \in [0,1],$$

where $T \geq 18$ is realized supergame duration, $N/2$ is the number of producers, and $\mathbb{1}_j = 1$ if producer $j = 1, \ldots, N/2$ cooperated (0 otherwise).

B.3 Result 1: Additional Analysis

Figure B1: Average Cooperation Rate (Phase 1)



Notes: Left panel: fixed pairs in Phase 1. Right panel: mixed groups in Phase 1. There are 12 fixed pairs per supergame, 24 (not independent) per session. There are 2 mixed groups per supergame, 4 (not independent) mixed groups per session. Given 8 sessions per treatment, we have N=192 fixed pairs and N=32 mixed groups per treatment for rounds 1-18. After round 18—identified by the dashed vertical line—the number of observations declines based on the realization of the random termination protocol. The shaded area identifies the one standard error band around the mean cooperation rate of the Neutral treatment (the mean cooperation rate is hidden to avoid clutter). Markers and lines identify mean cooperation rates in Converge, Diverge and Neutral+.

Cooperation in Endogenous Economies of Phase 2. Pooling all mixed groups data of Phase 2 we have 8 observations per treatment. Considering all treatments, 24-player groups emerged in 6 sessions, and in the remaining 26 sessions we had a 16-player mixed group and four fixed pairs. As a result 560 out of 768 subjects interacted in mixed groups in Phase 2. Table B1 reports

cooperation rates in Phase 2 economies. Table B2 reports the difference in cooperation rates, Phase 2 minus Phase 1, overall and conditional on the group choice of the subject in Phase 2. Cooperation and earnings did not improve in mixed groups between Phase 1 and Phase 2 and, in fact, fell in Neutral+ because subjects who chose mixed groups cooperated less than in Phase 1 (which increased their payoff while lowering overall earnings). Note also that we cannot exclude that the comparison of cooperation rates in fixed pairs vs. mixed groups in Phase 2, is free from self-selection bias, in that less (more) cooperative participants might prefer mixed groups (fixed pairs); a design based on the technique in Dal Bó et al. (2010) could be helpful to address this potential issue.

Table B1: Cooperation in Endogenous Economies of Phase 2

	Neutral	Converge	Diverge	Neutral+
Mixed Group	0.381	0.340	0.305	0.329
	(0.118)	(0.177)	(0.162)	(0.091)
Fixed Pair	0.844	0.718	0.750	0.805
	(0.153)	(0.273)	(0.192)	(0.164)

Notes: Average cooperation in an economy of Phase 2. One observation = one mixed group (N=32 per treatment) or one fixed pair (N=104 per treatment). Standard errors are in parentheses. Out of 32 sessions, 24-player groups emerged in 6 sessions (specifically 0, 2, 1 and 3 in, respectively, Neutral, Converge, Diverge and Neutral+). This gives us 6 observations for 24-player mixed groups, 26 observations for 16-player mixed groups (8, 6, 7 and 5 in, respectively, Neutral, Converge, Diverge and Neutral+), and N=104 observations for fixed pairs. The table pools together the observations for 24- and 16-player economies so we have 8 observations for Phase 2 mixed groups, in each treatment.

Table B2: Average cooperation in mixed groups, (Phase 2 - Phase 1)

	Neutral	Converge	Diverge	Neutral+
Chose fixed pairs	-0.026 (0.844)	-0.015 (0.461)	-0.036 (0.195)	-0.083 (0.312)
Chose mixed groups	0.002 (0.844)	-0.094 (0.250)	-0.039 (0.641)	-0.079 (0.008)
Overall	-0.009 (0.945)	-0.059 (0.312)	-0.038 (0.250)	-0.080 (0.016)

Notes: In parentheses the exact p-values from Wilcoxon signed rank tests on matched observations, cooperation in mixed groups of Phase 2 vs. Phase 1. One observation is one session (N=8). Each cell reports the difference of two session averages: average cooperation in mixed groups of Phase 2 minus average cooperation in fixed pairs of Phase 1. To construct this average we consider only subjects who interacted in mixed groups in supergame 5, of which we have N=560 for the four treatments (of these 215 chose fixed pairs and 345 chose mixed groups). For each session, we then calculate the average cooperation rate in the mixed group of Phase 2, and the average cooperation rate in all fixed pairs of Phase 1 (limited to those subjects who participated in the Phase 2 mixed group). The cells in the table report the difference between these two averages, and its standard deviation in parentheses. We cannot reject the hypothesis that cooperation is equal in mixed groups of Phase 2 relative to Phase 1, with the exception of Neutral+ overall and for subjects who chose mixed groups.

Table B3: Cooperation in Mixed groups Treatment Effects

Dep. var.: Avg. Coop.	(1) Phase 1	(2) All Data
Treatment		
Converge	-0.009	-0.052
	(0.052)	(0.059)
Diverge	-0.049	-0.043
	(0.069)	(0.064)
Neutral+	0.052	0.039
	(0.054)	(0.072)
Order 12-12-2-2	-0.128***	0.028
	(0.038)	(0.036)
2^{nd} Supergame	-0.019	
	(0.021)	
Controls	Yes	Yes
N	128	32

Notes: (Marginal Effects) GLM regression on avg. cooperation rate. One obs.=one mixed group in a supergame. Robust standard errors (in parentheses) are adjusted for clustering at the session level. Col. 1 includes only Phase 1 data; col. 2 also includes Phase 2 data (8 obs. per treatment). The *Treatment* factor variable identifies the treatment (Neutral is the base case). The 2^{nd} *game* indicator takes the value 1 if it was the second supergame in mixed groups during the session (else 0, the base case). The *Order* indicator takes the value 1 if subjects had not interacted in fixed pairs yet (else 0, the base case). Controls consist of the number of rounds played in the supergame (*Duration*), individual controls consisting of two measures of understanding of instructions (response time and wrong answers in the post-instruction quiz), and sex. Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively. Marginal effects are computed at the mean value of regressors of continuous variables. Using Wald tests, we reject the null hypothesis of equal treatment coefficients only for the pair Diverge vs. Neutral+, at the 10% level (cols. (1) and (2), p-values=0.0875, 0.0992) but not for any other pair.

Table B4: Initial Choices in Mixed Groups (Phase 1) Treatment Effects

Dep. var. =1 if C (0 if D)	Coeff.	S.E.
Treatment		
Converge	0.105	(0.068)
Wide Gap	-0.001	(0.077)
Neutral+	0.111	(0.070)
Full Cooperation=1	0.311***	(0.053)
Full Cooperation=2	0.365***	(0.103)
Order (12-12-2-2)	-0.146**	(0.064)
2^{nd} Supergame	0.100***	(0.037)
Male	0.019	(0.045)
Response Time	0.002	(0.022)
Incorrect Answers	-0.050**	(0.022)
N	768	

Notes: Marginal Effects. Logit panel regression with random effects at the individual level and robust standard errors (SE) adjusted for clustering at the session level. One observation = choice of producers in round 1 of mixed groups (Phase 1). Dependent variable = 1 if C chosen, 0 otherwise. The categorical variable *Treatment* corresponds to the four treatments (*Neutral* is the base case). As variation in earlier experience in fixed pairs might affect initial choices in mixed groups, we include the categorical variable *Full Cooperation*, which takes value $n = 0, 1, 2$ depending on how many times the subject experienced full cooperation in a fixed pair in Phase 1 before interacting in mixed groups (0, the base case, comprises also all those sessions in which subjects played in mixed groups before fixed pairs). Full cooperation means that in the supergame C was chosen in every round (several fixed pairs achieved it). We also include an indicator for the second supergame played in mixed groups and standard controls at the individual level consisting of the subject's sex and our two standardized measures of understanding of instructions. Marginal effects are computed at the regressors' mean value (at zero for indicator variables). Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively. We cannot reject the null hypothesis of equal treatment coefficients for any pair, at the 10% level (Wald tests).

B.4 Result 2: Additional Analysis

Table B5: Cooperation in Mixed Groups (Phase 1) Treatment Effects

Dep. var.:	(1) Disadv.		(2) Middle		(3) Advant.	
Coop. rate	coeff.	S.E.	coeff.	S.E.	coeff.	S.E.
Converge	0.035	(0.067)	-0.045	(0.078)	-0.054	(0.052)
Diverge	-0.039	(0.071)	-0.102	(0.087)	-0.028	(0.074)
Neutral+	0.051	(0.071)	0.019	(0.075)	0.057	(0.053)
Controls	Yes		Yes		Yes	
N	128		128		128	

Notes: Marginal Effects. Each regression uses data for one specific player type within a mixed group of Phase 1. *Neutral* is the base. For other details, see notes to Table B3. We reject the null hypothesis of equal treatment coefficients for only the pairs *Diverge* vs. *Neutral+* in regression (2), and for *Converge* vs. *Neutral+* in regression (3) (Wald tests, p-values=0.0784, 0.0043 respectively). We cannot reject the null for any other pair, at the 10% or higher level.

Table B6: Cooperation in Mixed Groups (Phase 1 & 2) Treatment Effects

Dep. var.:	(1) Disadv.		(2) Middle		(3) Advant.	
Coop. rate	coeff.	S.E.	coeff.	S.E.	coeff.	S.E.
Converge	0.027	(0.063)	-0.053	(0.075)	-0.041	(0.052)
Diverge	-0.051	(0.064)	-0.097	(0.081)	-0.020	(0.068)
Neutral+	0.047	(0.066)	0.009	(0.074)	0.057	(0.051)
Controls	Yes		Yes		Yes	
N	151		155		148	

Notes: See notes to Table B5. *Neutral* is the base. We reject the null hypothesis of equal treatment coefficients for only the pairs *Diverge* vs. *Neutral+* in regression (2), and for *Converge* vs. *Neutral+* in regression (3) (Wald tests, p-values=0.0967, 0.0158 respectively). We cannot reject the null for any other pair, at the 10% or higher level.

Table B7: Cooperation in Mixed Groups (Phase 1) Effect of Type

Dep. var.: Coop. rate	(1) Neutral	(2) Converge	(3) Diverge	(4) Neutral+
Type=Middle	0.024	-0.019	-0.022	0.006
	(0.056)	(0.067)	(0.041)	(0.064)
Type=Advan.	0.057	0.042	0.078**	0.084
	(0.062)	(0.053)	(0.038)	(0.056)
Controls	Yes	Yes	Yes	Yes
N	96	96	96	96

Notes: Marginal Effects. The categorical variable *Type* indicates the player type (Disadvantaged is the base case). For other details, see notes to Table B5. We reject at the 10% the null hypothesis of equal coefficients on types for all regressions except in (3), where the Advantaged type cooperated significantly more than Middle (Wald test, p-value=0.0399).

Table B8: Cooperation in Mixed Groups (Phase 1 & 2) Effect of Type

Dep. var.: Coop. rate	(1) Neutral	(2) Converge	(3) Diverge	(4) Neutral+
Type=Middle	0.026	-0.009	-0.011	0.008
	(0.053)	(0.063)	(0.038)	(0.055)
Type=Advan.	0.052	0.060	0.085**	0.087
	(0.056)	(0.053)	(0.036)	(0.054)
Controls	Yes	Yes	Yes	Yes
N	112	114	113	115

Notes: See notes to Table B7. We reject at the 10% the null hypothesis of equal coefficients on types for all regressions except in (3), where the Advantaged type cooperated significantly more than Middle (Wald test, p-value=0.0339).

B.5 Result 3: Additional Analysis

Table B9: Cooperation in Fixed Pairs Treatment Effects

Dep. var.: Avg. Coop.	(1) Phase 1	(2) All Data
Treatment		
Converge	-0.025	-0.068
	(0.052)	(0.073)
Diverge	-0.118*	-0.035
	(0.065)	(0.072)
Neutral+	-0.065	-0.004
	(0.044)	(0.070)
Order 12-12-2-2	0.060*	-0.104
	(0.034)	(0.066)
2^{nd} Supergame	0.098***	
	(0.017)	
Controls	Yes	Yes
N	768	104

Notes: (Marginal Effects) GLM regression on avg. cooperation rate. One obs.=one fixed pair in a supergame. Robust standard errors (in parentheses) are adjusted for clustering at the session level. Col. 1 includes only Phase 1 data; col. 2 also includes Phase 2 data (8 obs. per treatment). The *Treatment* factor variable identifies the treatment (Neutral is the base case). The 2^{nd} *game* indicator takes the value 1 if it was the second supergame in mixed groups during the session (else 0, the base case). The *Order* indicator takes the value 1 if subjects had not interacted in fixed pairs yet (else 0, the base case). Controls consist of the number of rounds played in the supergame (*Duration*), individual controls consisting of two measures of understanding of instructions (response time and wrong answers in the post-instruction quiz), and sex. Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively. Marginal effects are computed at the mean value of regressors of continuous variables. Using Wald tests, we cannot reject the null hypothesis of equal treatment coefficients for any pair, in both columns.

B.6 Result 4: Additional Analysis

Table B10: Realized Profits (Phase 1, all sessions)

Dep. var.: Profit	(1) Neutral	(2) Converge	(3) Diverge	(4) Neutral+
Mixed group=1	-0.146	-0.240**	-0.108	0.513**
	(0.235)	(0.090)	(0.171)	(0.201)
Order (12-12-2-2)	0.261**	-0.307***	-0.066	0.064
	(0.100)	(0.065)	(0.230)	(0.075)
2^{nd} game	0.086	0.076*	0.162**	0.178*
	(0.049)	(0.032)	(0.057)	(0.083)
Constant	5.599***	6.059***	5.632***	5.641***
	(0.155)	(0.176)	(0.219)	(0.113)
Controls	Yes	Yes	Yes	Yes
N	224	224	224	224
R^2	0.089	0.123	0.086	0.094
adj R^2	0.055	0.091	0.052	0.061

Notes: Linear regression on avg. profit. Robust standard errors (S.E.) are adjusted for clustering at the session level. One obs.=one economy in a supergame of Phase 1 (N=32 mixed groups, and N=192 fixed pairs per treatment). The indicator variable *Mixed Group*=1 if mixed groups (0, Fixed Pair, is the base case). For other details, see notes to Table B5.

Table B11: Realized Profits (Phase 1, 2-2-12-12 sessions)

Dep. var.: Profit	(1) Neutral	(2) Converge	(3) Diverge	(4) Neutral+
Mixed group=1	0.424*	-0.140**	-0.422	0.854**
	(0.136)	(0.040)	(0.617)	(0.218)
2^{nd} game	0.166*	0.109	0.150	0.130
	(0.053)	(0.107)	(0.319)	(0.112)
Constant	5.302***	5.965***	5.730***	5.709***
	(0.199)	(0.254)	(0.557)	(0.241)
Controls	Yes	Yes	Yes	Yes
N	112	112	112	112
R^2	0.190	0.046	0.077	0.166
adj R^2	0.135	-0.019	0.015	0.110

Notes: Linear regression on avg. profit. Robust standard errors (S.E.) are adjusted for clustering at the session level. One obs.=one economy in a supergame of Phase 1, sessions with order 2-2-12-12 (N=16 mixed groups, and N=96 fixed pairs per treatment). The indicator variable *Mixed Group*=1 if mixed groups (0, Fixed Pair, is the base case). For other details, see notes to Table B5.

B.7 Result 7: Additional Analysis

Table B12: Economy Configuration Choices

	Leave	Exclude	Stay
Neutral			
Disadv.	0.42	0.28	0.30
	(0.09)	(0.08)	(0.08)
Middle	0.44	0.41	0.16
	(0.07)	(0.06)	(0.04)
Advan.	0.55	0.31	0.14
	(0.08)	(0.04)	(0.05)
Converge			
Disadv.	0.27	0.45	0.28
	(0.09)	(0.07)	(0.09)
Middle	0.48	0.23	0.28
	(0.06)	(0.06)	(0.07)
Advan.	0.66	0.17	0.17
	(0.05)	(0.03)	(0.05)
Diverge			
Disadv.	0.47	0.36	0.17
	(0.07)	(0.07)	(0.04)
Middle	0.38	0.48	0.14
	(0.06)	(0.07)	(0.05)
Advan.	0.53	0.28	0.19
	(0.07)	(0.06)	(0.05)
Neutral+			
Disadv.	0.27	0.38	0.36
	(0.06)	(0.08)	(0.07)
Middle	0.36	0.39	0.25
	(0.07)	(0.06)	(0.07)
Advan.	0.31	0.36	0.33
	(0.08)	(0.04)	(0.07)

Notes: Unit of observation: one subject in a session (N=64 per type, per treatment). Each cell reports the average observation. Standard error of the mean in parentheses.

B.8 Neutral-Chat treatment: Additional Analysis

Table B13: Effect of Chat on Cooperation in Mixed groups

Dep. var.: Avg. Coop.	(1) Phase 1	(2) All Data
Neutral-Chat	0.410***	0.402***
	(0.057)	(0.027)
2^{nd} Supergame	-0.043	
	(0.035)	
Controls	Yes	Yes
N	32	8

Notes: (Marginal Effects) GLM regression on avg. cooperation rate in Neutral-Chat and Neutral sessions with order 2-2-12-12 (the base case). Robust standard errors (in parentheses) are adjusted for clustering at the session level. One obs.=one mixed group in a supergame. For details see notes to Table B13.

Table B14: Economy Configuration Choices Marginal Effects

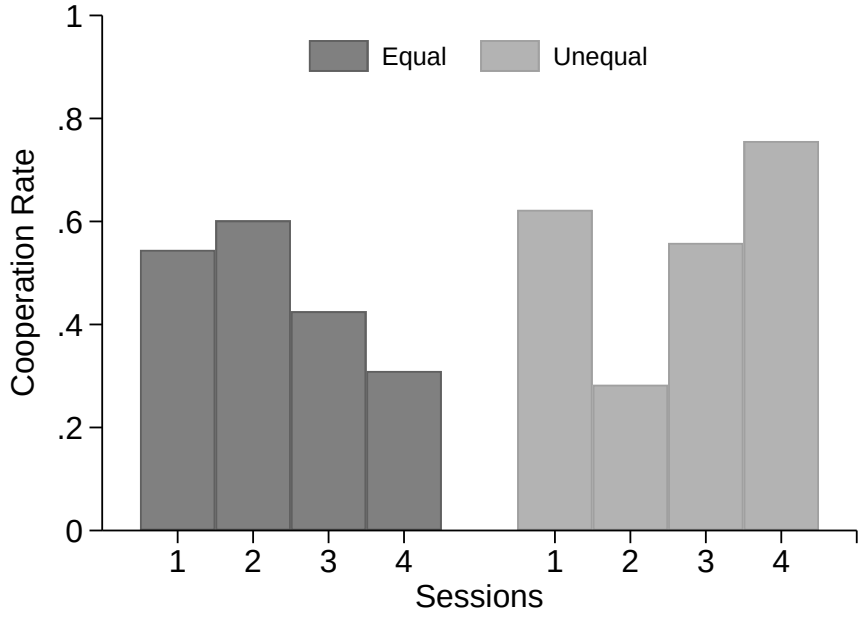
Dep. variable= Economy choice	Leave (1)	Exclude (2)	Stay (3)
Neutral-Chat	-0.327***	0.059	0.268***
	(0.076)	(0.096)	(0.092)
Realized Gain	-0.235***	0.115**	0.120**
	(0.070)	(0.052)	(0.051)
Controls	Yes	Yes	Yes
N	192	192	192

Notes: Multinomial logit regression on preferences for choices of endogenous configuration. One observation = one subject in a session with order 2-2-12-12 in Phase 1. Robust standard errors (in parentheses) adjusted for clustering at session level. The categorical variable *Neutral-Chat* identifies that treatment (*Neutral* is the base case). *Realized Gains* is the standardized difference in earnings between mixed groups and fixed pairs of Phase 1 and is interacted with treatments. Controls at the individual level consisting of the subject's sex and our two standardized measures of understanding of instructions (response time and wrong answers in the post-instruction quiz). Marginal effects are computed at the regressors' mean value (at zero for indicator variables). Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively.

B.9 An analysis of the data in Camera and Hohl (2021)

The central difference between Camera and Hohl (2021) and our design is that producers can condition their choices on the consumer type (which is visible, unlike our experiment). In the *Equal* treatment of Camera and Hohl (2021) the return from cooperation is 16 points for everyone. In the *Unequal* treatment of Camera and Hohl (2021), instead, payoffs are redistributed as in Neutral (14, 16 and 18 points). In Camera and Hohl (2021) we have 192 subjects, two treatments, 4 sessions with order 2-2-12-12, per treatment. Supporting evidence is in the Figure below, statistical tests and a regression in the Table below. The Figure reports cooperation rates in mixed groups of the two treatments, *Equal* and *Unequal* , for each of the four sessions. The average across sessions is 0.471 and 0.555 in, respectively, *Equal* and *Unequal* . Using a session as the independent unit of observation, we fail to reject the null hypothesis of identical cooperation rates at the 10% significance level (two-sided Wilcoxon rank-sum tests with exact statistics N1=N2=4); this holds true also if we consider only play in the first round of a mixed group.

Figure B2: Cooperation in Mixed Groups of Camera and Hohl (2021)



A GLM regression that controls for individual characteristics confirms this

view. Hence, we cannot reject the hypothesis that cooperation rates are identical in heterogeneous and homogeneous mixed groups.

Table B15: Cooperation in Mixed groups of Camera and Hohl (2021)

Dep. var.: Avg. Coop.	Coefficient	S. E.
Unequal	-0.018	(0.118)
2^{nd} Supergame	-0.132***	(0.021)
Controls	Yes	Yes
N	32	

Notes: (Marginal Effects) GLM regression on avg. cooperation rate. One obs.=one mixed group in a supergame. Robust standard errors (in parentheses) are adjusted for clustering at the session level. All mixed groups occurred during supergames 3 and 4. The *Unequal* factor variable identifies the treatment (*Equal* is the base case). The 2^{nd} *game* indicator takes the value 1 if it was the second supergame in mixed groups during the session (else 0, the base case). Controls consist of the number of rounds played in the supergame (*Duration*), individual controls consisting of two measures of understanding of instructions (response time and wrong answers in the post-instruction quiz), and sex. Symbols $***$, $**$, and $*$ indicate significance at the 1%, 5% and 10% level, respectively. Marginal effects are computed at the mean value of regressors of continuous variables.

Your ID in this session:____ First Name & Last Initial:_____

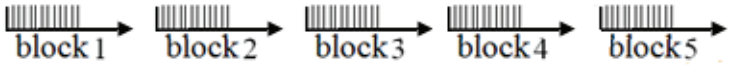
Instructions for NEUTRAL treatment

This is an experiment in decision-making. You will earn money based on the decisions you and others make in the experiment, and you will be paid in cash at the end of the experiment. Different participants may earn different amounts.

Overview of the experiment

You are one of 24 participants. Each person will be randomly assigned a color—either green, red, or blue—so there are 8 participants of each color. Your color is set **for the entire experiment**.

The experiment is divided into **five blocks**. Each block is a separate section comprising **many periods.** In each period you interact with another **anonymous** participant called your **"match."**



Depending on the block, your match may be fixed, or may vary from period to period.

- Some blocks have **fixed pairs**: here, your match has your same color & is the same person in each period.
- Other blocks have **mixed groups** with 4 people of each color (12 in all): here, your match and her color may vary from period to period because your group is split into random pairs in each period.

By design **your match in a block cannot be your match in a future block**. The only exception is block 5, which is when you will have a chance to choose between fixed pairs and mixed groups.

How do you earn money in a period?

In each period you will be in a pair. In each pair, one person is a *producer* and the other a *consumer*. The *producer* must choose either outcome **Y** or **Z.**

Earnings in the pair depend on this choice. They also depend on your color and on whether you are in a fixed pair or mixed group. This is explained in the following table.

	Producer	***Consumer***
If Y is the outcome:	**6** points	**3** points

	Producer	*Consumer*
If Z is the outcome:	**0** points	**11** points -- if you are green **13** points -- if you are red **15** points -- if you are blue + **3** extra points if you are in a **mixed group**

Points will be converted into dollars at the end of the session in a manner that we explain later.

What happens in each period?

Each **period** has the following timeline:

1. You meet your match, and you may be informed about her color.
2. You may be called to make a choice.
3. You observe the outcome.

Now, we discuss each of these steps.

1. Your role and your match

In each period, there is an equal number of *producers* and *consumers*. Your initial role is random and then it alternates from period to period:
consumer, *producer*, *consumer*, *producer*, …or *producer*, *consumer*, *producer*, *consumer*, …

You and your match have always different roles.

- If there are **fixed pairs**, then in each period you switch role, but your match never changes and has your same color.
- If there are **mixed groups**, then in each period you switch role, and your match and her color may also change. You will see the color of your match only if you are a *consumer*.

Your match can be anyone in your group with a role different than yours. So, in a group of 12 there is one chance out of six that your match is the same in two consecutive periods, but neither you nor your match will know if this happens because **no-one can be identified:** everyone remains anonymous.

2. Your choices

Your choices depend on your role.

- As a *consumer*, you have no choice to make.
- As a *producer*, you must select one of two options (see figure below):
  - Y
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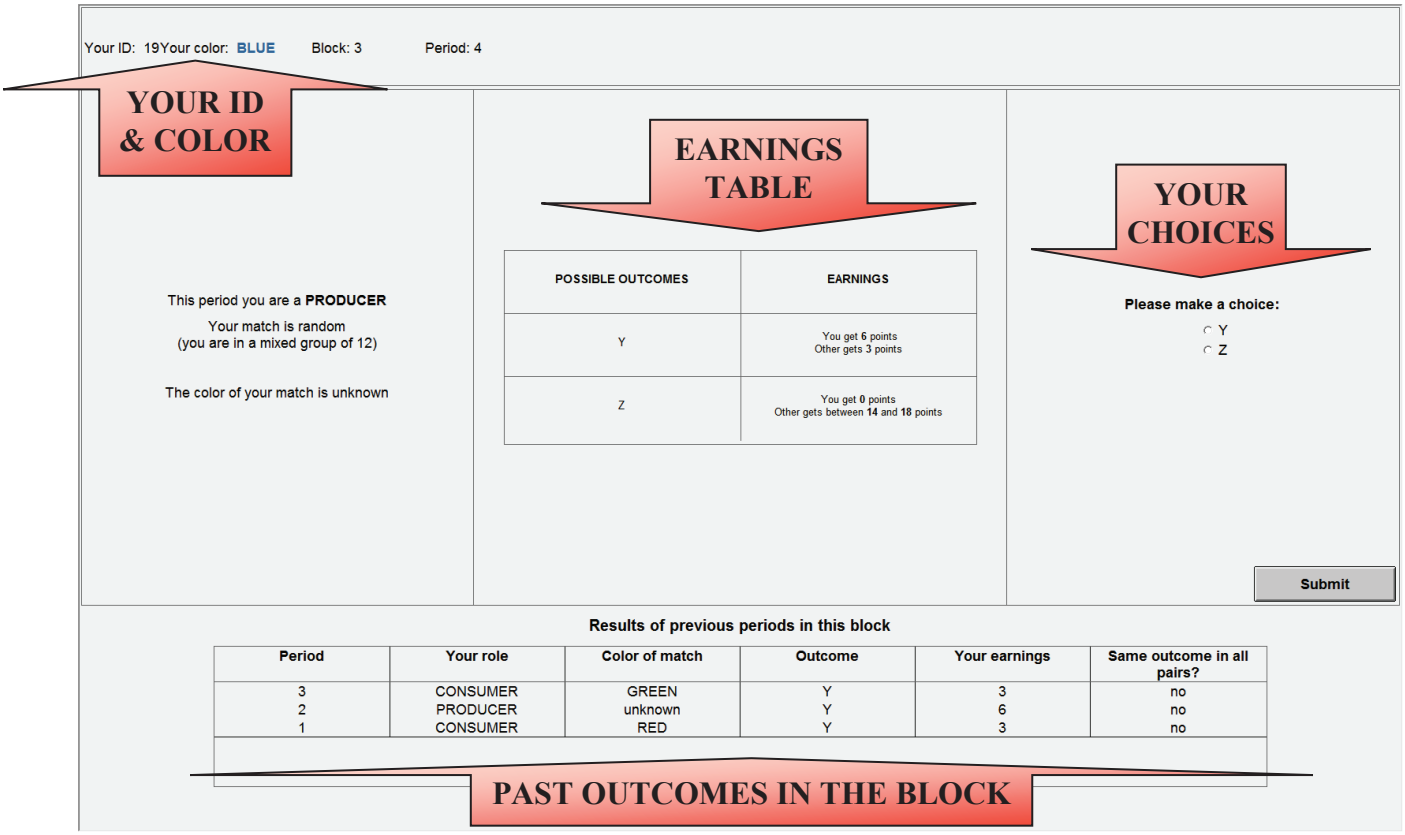


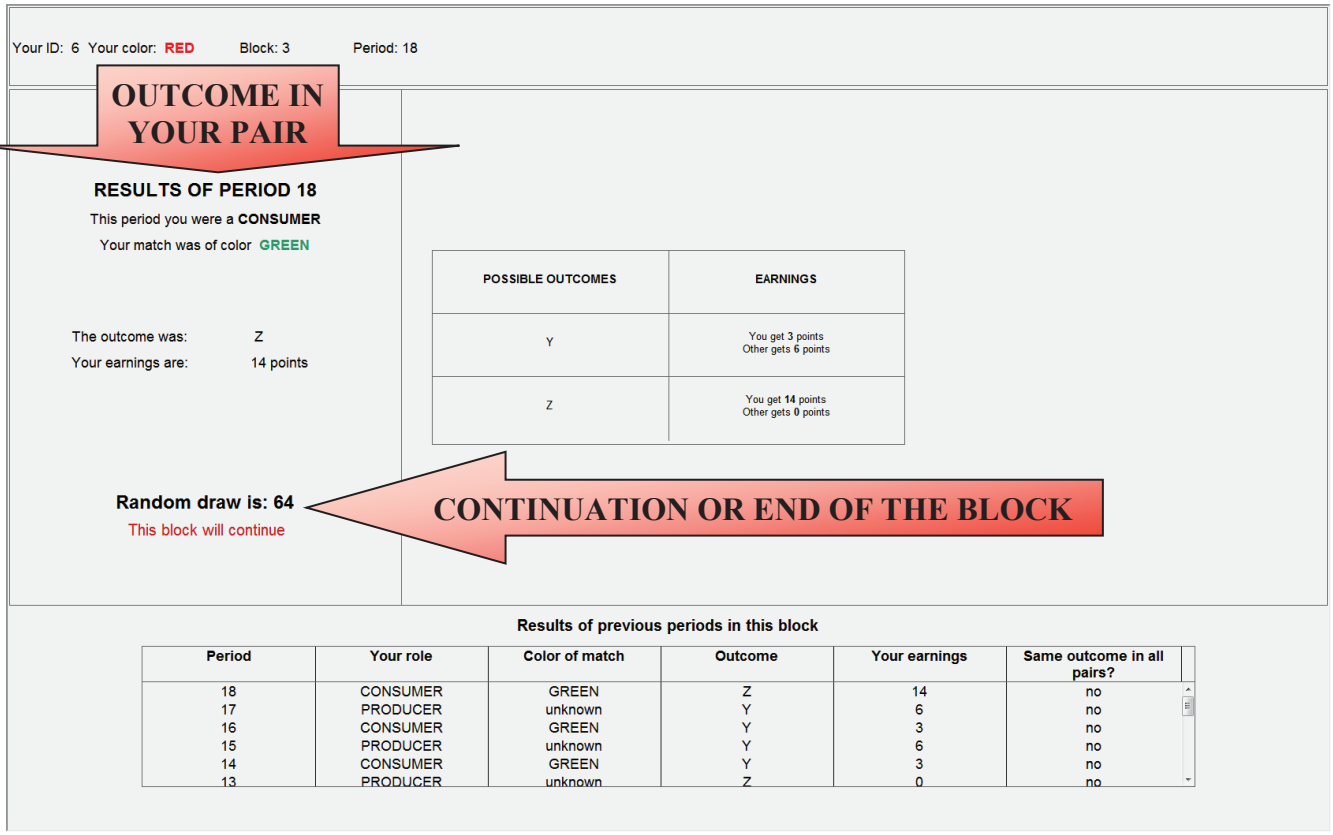
To make your choice, select the option you prefer and click "Submit." Your choice is always **private:** no one can see it before the outcome is realized.

Before making a choice, you can review results of previous periods **of the block** by scrolling down the table at the bottom of the screen. Each line refers to a **past** period.

You can see: your role, the color of your match (possibly), the outcome Y or Z in your pair, and your payoff for the period. If you are in a mixed group, the last column reports whether the outcome was the same **in all pairs** of your group.

3. Outcome of choices

At the end of each period, after everyone has made a choice, you will see the outcome and your payoff for the period (see figure below). You can write these results on your record sheet, if you wish. Results from previous periods will be visible at the bottom of the screen.



Ending of a block

Each block has many periods but their number is **uncertain** because it is **random**.

Each block will have at least 18 periods. From period 18 on, at the end of each period the computer selects a number between 1 and 100. Each number is equally likely to be selected:

- If the number selected is less than or equal to 75, then the block will continue for everyone.
- If the number selected is 76 or more, then the block will end for everyone.

So: starting in period 18, the block has always a chance to continue. To see whether the block continues or ends look at the results screen; you will see the random number selected by the computer.

The number of past periods does not influence the chance that a block will end because the number selected is independent of the numbers selected in past periods. The chance that a block will end, say, after period 27, is 25%, which is exactly the same as the chance that the block will end after period 18.

Hence:

- **We never know for sure which period will be the last in a block;**
- **Some blocks may end up being longer and others shorter.**

As soon as a block ends, new groups are formed and a new block starts.

Will there be fixed pairs or mixed groups?

In blocks 1 and 2 there will be fixed pairs. In blocks 3 and 4 there will be mixed groups with 4 participants of each color (12 in all). In blocks 1-4 you cannot meet someone in more than one block.

Before block 5 starts, you will have a chance to choose between fixed pairs and mixed groups. How this is done will be explained at the end of block 4; additional instructions will appear on your screen.

Payments

When the session ends, **one** of the blocks completed will be randomly selected. The points you have earned in that block will be converted into dollars: **1 point is worth 18 cents** ($0.18). To choose the block we randomly select a number between 1 and 5 at https://www.random.org. The number selected will identify the block. Each block is equally likely to be selected.

Final reminders

- The session is divided into **5 separate blocks**.
- Each block has 18 periods for sure plus an uncertain number of additional periods. After each additional period there is **always** a 75% chance of one more period, and a 25% chance of ending.
- In some blocks your match is fixed and has your same color (fixed pairs). In others, your match and her color likely vary from period to period (mixed groups).
- In block 5 you will have a chance to choose between fixed pairs and mixed groups.
- You cannot interact with anyone for more than one block except, possibly, block 5.
- Your payoff in a period depends on your color, the choices in your pair, and if you are in a fixed pair or a mixed group.

Before we start the experiment, you will be asked to answer ten questions designed to verify your understanding of the instructions. You will receive $0.25 for each question you answer correctly. If you have a question at any time, then please raise your hand and someone will come to answer it.

Your ID in this session:____ First Name & Last Initial:_____

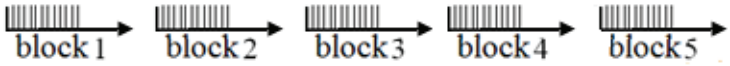
Instructions for CONVERGE treatment

This is an experiment in decision-making. You will earn money based on the decisions you and others make in the experiment, and you will be paid in cash at the end of the experiment. Different participants may earn different amounts.

Overview of the experiment

You are one of 24 participants. Each person will be randomly assigned a color—either green, red, or blue—so there are 8 participants of each color. Your color is set **for the entire experiment**.

The experiment is divided into **five blocks**. Each block is a separate section comprising **many periods.** In each period you interact with another **anonymous** participant called your **"match."**



Depending on the block, your match may be fixed, or may vary from period to period.

- Some blocks have **fixed pairs**: here, your match has your same color & is the same person in each period.
- Other blocks have **mixed groups** with 4 people of each color (12 in all): here, your match and her color may vary from period to period because your group is split into random pairs in each period.

By design **your match in a block cannot be your match in a future block**. The only exception is block 5, which is when you will have a chance to choose between fixed pairs and mixed groups.

How do you earn money in a period?

In each period you will be in a pair. In each pair, one person is a *producer* and the other a *consumer*. The *producer* must choose either outcome **Y** or **Z.**

Earnings in the pair depend on this choice. They also depend on your color and on whether you are in a fixed pair or mixed group. This is explained in the following table.

	Producer	***Consumer***
If Y is the outcome:	**6** points	**3** points

	Producer	*Consumer*
If Z is the outcome:	**0** points	**11** points -- if you are green + **5** extra points if you are in a **mixed group** **13** points -- if you are red + **3** extra points if you are in a **mixed group** **15** points -- if you are blue + **1** extra point if you are in a **mixed group**

Points will be converted into dollars at the end of the session in a manner that we explain later.

What happens in each period?

Each **period** has the following timeline:

1. You meet your match, and you may be informed about her color.
2. You may be called to make a choice.
3. You observe the outcome.

Now, we discuss each of these steps.

1. Your role and your match

In each period, there is an equal number of *producers* and *consumers*. Your initial role is random and then it alternates from period to period:

consumer, *producer*, *consumer*, *producer*, …or *producer*, *consumer*, *producer*, *consumer*, …

You and your match have always different roles.

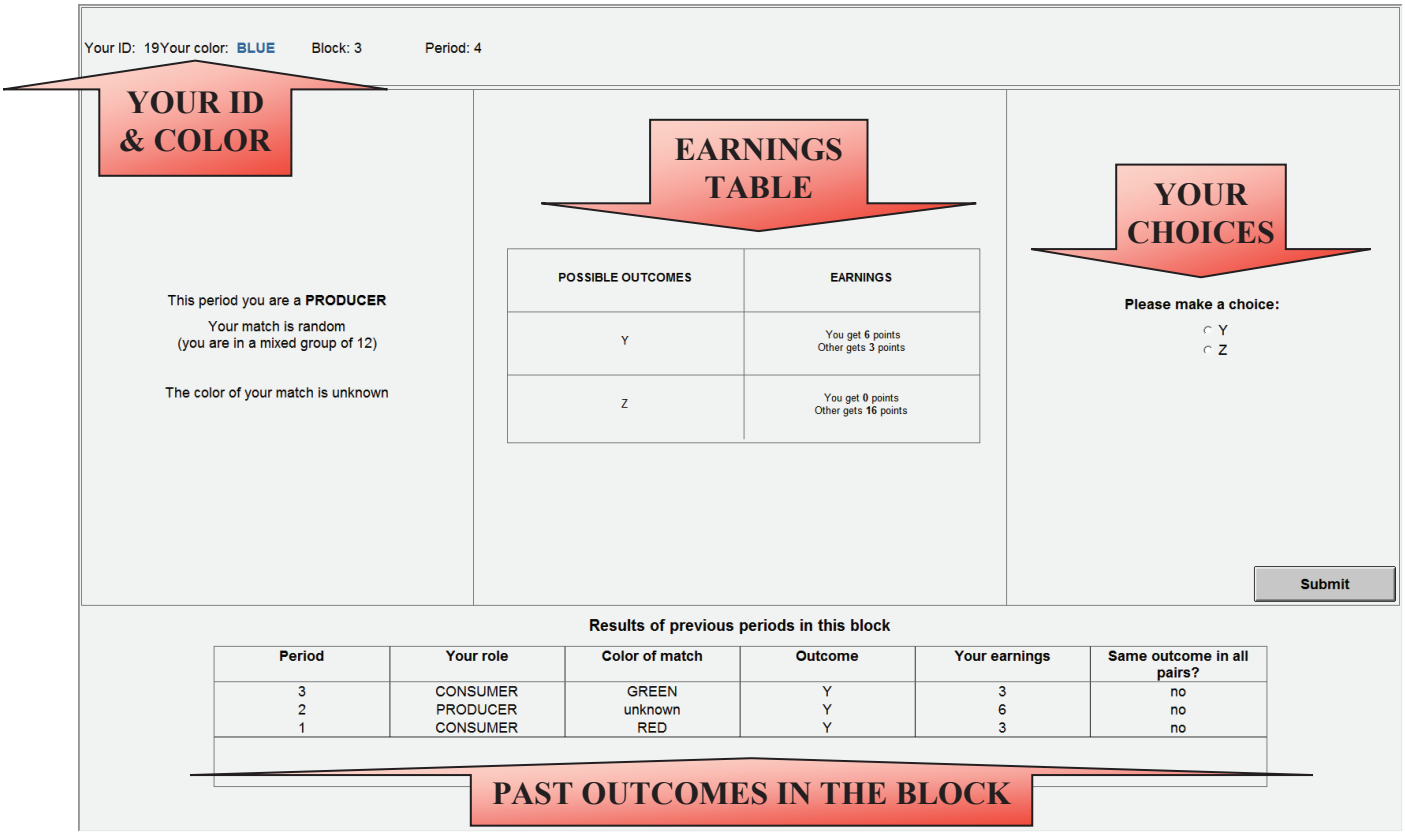
- If there are **fixed pairs**, then in each period you switch role, but your match never changes and has your same color.
- If there are **mixed groups**, then in each period you switch role, and your match and her color may also change. You will see the color of your match only if you are a *consumer*.

Your match can be anyone in your group with a role different than yours. So, in a group of 12 there is one chance out of six that your match is the same in two consecutive periods, but neither you nor your match will know if this happens because **no-one can be identified:** everyone remains anonymous.

2. Your choices

Your choices depend on your role.

- As a *consumer*, you have no choice to make.
- As a *producer*, you must select one of two options (see figure below):
  - Y
  - Z



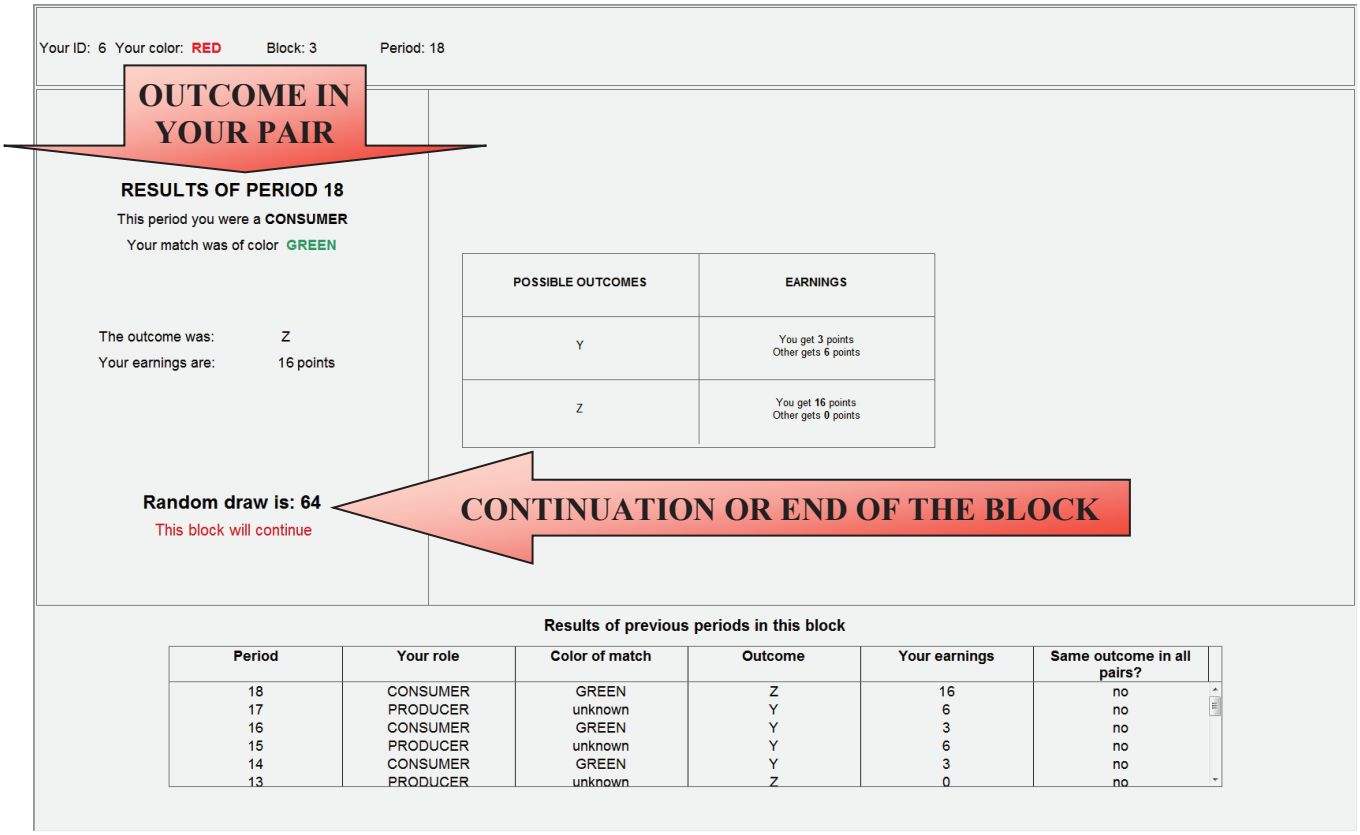
To make your choice, select the option you prefer and click "Submit." Your choice is always **private:** no one can see it before the outcome is realized.

Before making a choice, you can review results of previous periods **of the block** by scrolling down the table at the bottom of the screen. Each line refers to a **past** period.

You can see: your role, the color of your match (possibly), the outcome Y or Z in your pair, and your payoff for the period. If you are in a mixed group, the last column reports whether the outcome was the same **in all pairs** of your group.

3. Outcome of choices

At the end of each period, after everyone has made a choice, you will see the outcome and your payoff for the period (see figure below). You can write these results on your record sheet, if you wish. Results from previous periods will be visible at the bottom of the screen.



Ending of a block

Each block has many periods but their number is **uncertain** because it is **random**.

Each block will have at least 18 periods. From period 18 on, at the end of each period the computer selects a number between 1 and 100. Each number is equally likely to be selected:

- If the number selected is less than or equal to 75, then the block will continue for everyone.
- If the number selected is 76 or more, then the block will end for everyone.

So: starting in period 18, the block has always a chance to continue. To see whether the block continues or ends look at the results screen; you will see the random number selected by the computer.

The number of past periods does not influence the chance that a block will end because the number selected is independent of the numbers selected in past periods. The chance that a block will end, say, after period 27, is 25%, which is exactly the same as the chance that the block will end after period 18.

Hence:

- **We never know for sure which period will be the last in a block;**
- **Some blocks may end up being longer and others shorter.**

As soon as a block ends, new groups are formed and a new block starts.

Will there be fixed pairs or mixed groups?

In blocks 1 and 2 there will be fixed pairs. In blocks 3 and 4 there will be mixed groups with 4 participants of each color (12 in all). In blocks 1-4 you cannot meet someone in more than one block.

Before block 5 starts, you will have a chance to choose between fixed pairs and mixed groups. How this is done will be explained at the end of block 4; additional instructions will appear on your screen.

Payments

When the session ends, **one** of the blocks completed will be randomly selected. The points you have earned in that block will be converted into dollars: **1 point is worth 18 cents** ($0.18). To choose the block we randomly select a number between 1 and 5 at https://www.random.org. The number selected will identify the block. Each block is equally likely to be selected.

Final reminders

- The session is divided into **5 separate blocks**.
- Each block has 18 periods for sure plus an uncertain number of additional periods. After each additional period there is **always** a 75% chance of one more period, and a 25% chance of ending.
- In some blocks your match is fixed and has your same color (fixed pairs). In others, your match and her color likely vary from period to period (mixed groups).
- In block 5 you will have a chance to choose between fixed pairs and mixed groups.
- You cannot interact with anyone for more than one block except, possibly, block 5.
- Your payoff in a period depends on your color, the choices in your pair, and if you are in a fixed pair or a mixed group.

Before we start the experiment, you will be asked to answer ten questions designed to verify your understanding of the instructions. You will receive $0.25 for each question you answer correctly. If you have a question at any time, then please raise your hand and someone will come to answer it.

Your ID in this session:____ First Name & Last Initial:_____

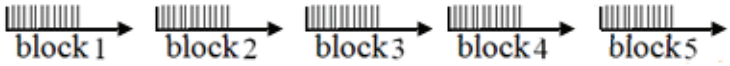
Instructions for DIVERGE treatment

This is an experiment in decision-making. You will earn money based on the decisions you and others make in the experiment, and you will be paid in cash at the end of the experiment. Different participants may earn different amounts.

Overview of the experiment

You are one of 24 participants. Each person will be randomly assigned a color—either green, red, or blue—so there are 8 participants of each color. Your color is set **for the entire experiment**.

The experiment is divided into **five blocks**. Each block is a separate section comprising **many periods.** In each period you interact with another **anonymous** participant called your **"match."**



Depending on the block, your match may be fixed, or may vary from period to period.

- Some blocks have **fixed pairs**: here, your match has your same color & is the same person in each period.
- Other blocks have **mixed groups** with 4 people of each color (12 in all): here, your match and her color may vary from period to period because your group is split into random pairs in each period.

By design **your match in a block cannot be your match in a future block**. The only exception is block 5, which is when you will have a chance to choose between fixed pairs and mixed groups.

How do you earn money in a period?

In each period you will be in a pair. In each pair, one person is a *producer* and the other a *consumer*. The *producer* must choose either outcome **Y** or **Z.**

Earnings in the pair depend on this choice. They also depend on your color and on whether you are in a fixed pair or mixed group. This is explained in the following table.

	Producer	***Consumer***
If Y is the outcome:	**6** points	**3** points

	Producer	*Consumer*
If Z is the outcome:	**0** points	**11** points -- if you are green **+ 1** extra point if you are in a **mixed group** **13** points -- if you are red **+ 3** extra points if you are in a **mixed group** **15** points -- if you are blue **+ 5** extra points if you are in a **mixed group**

Points will be converted into dollars at the end of the session in a manner that we explain later.

What happens in each period?

Each **period** has the following timeline:

1. You meet your match, and you may be informed about her color.
2. You may be called to make a choice.
3. You observe the outcome.

Now, we discuss each of these steps.

1. Your role and your match

In each period, there is an equal number of *producers* and *consumers*. Your initial role is random and then it alternates from period to period:

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Your match can be anyone in your group with a role different than yours. So, in a group of 12 there is one chance out of six that your match is the same in two consecutive periods, but neither you nor your match will know if this happens because **no-one can be identified:** everyone remains anonymous.

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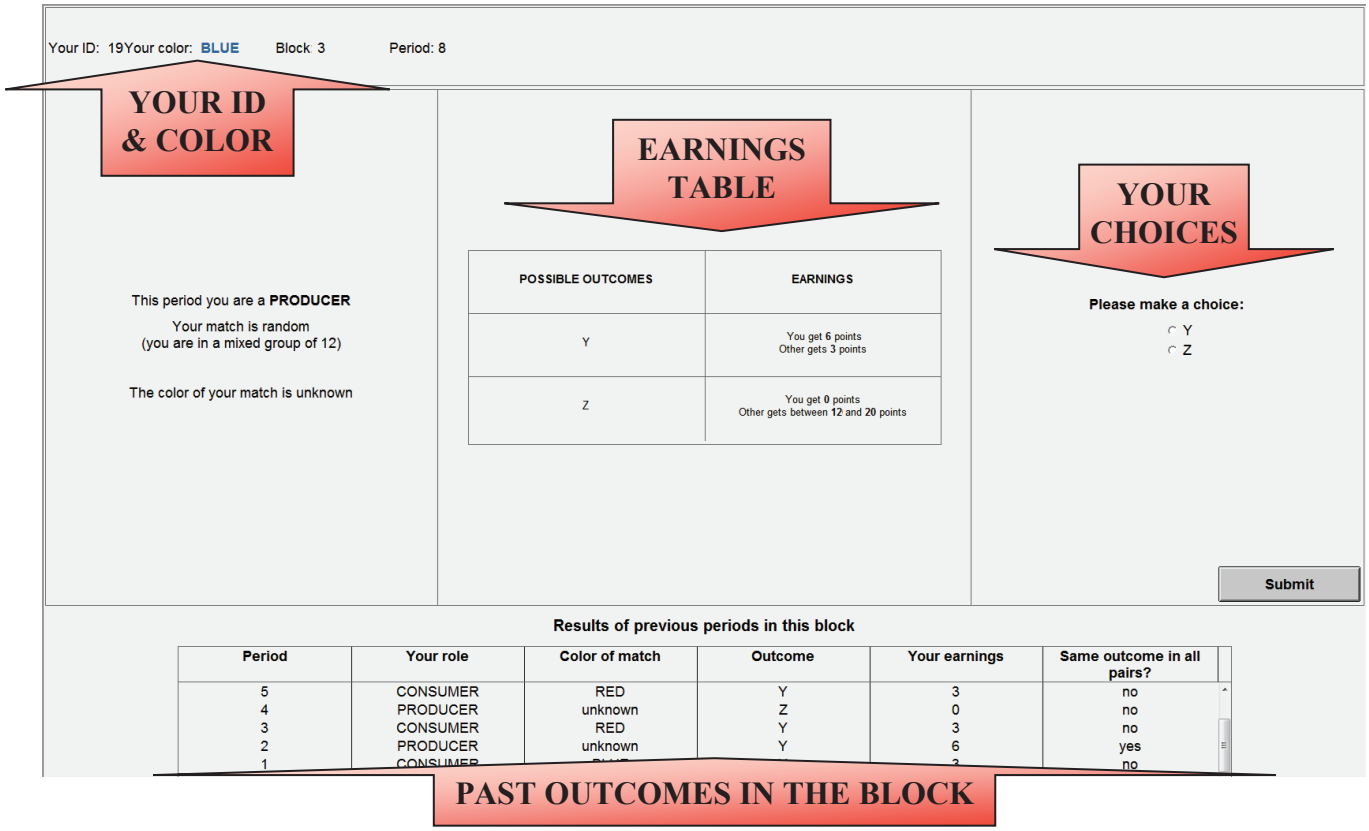

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3. Outcome of choices

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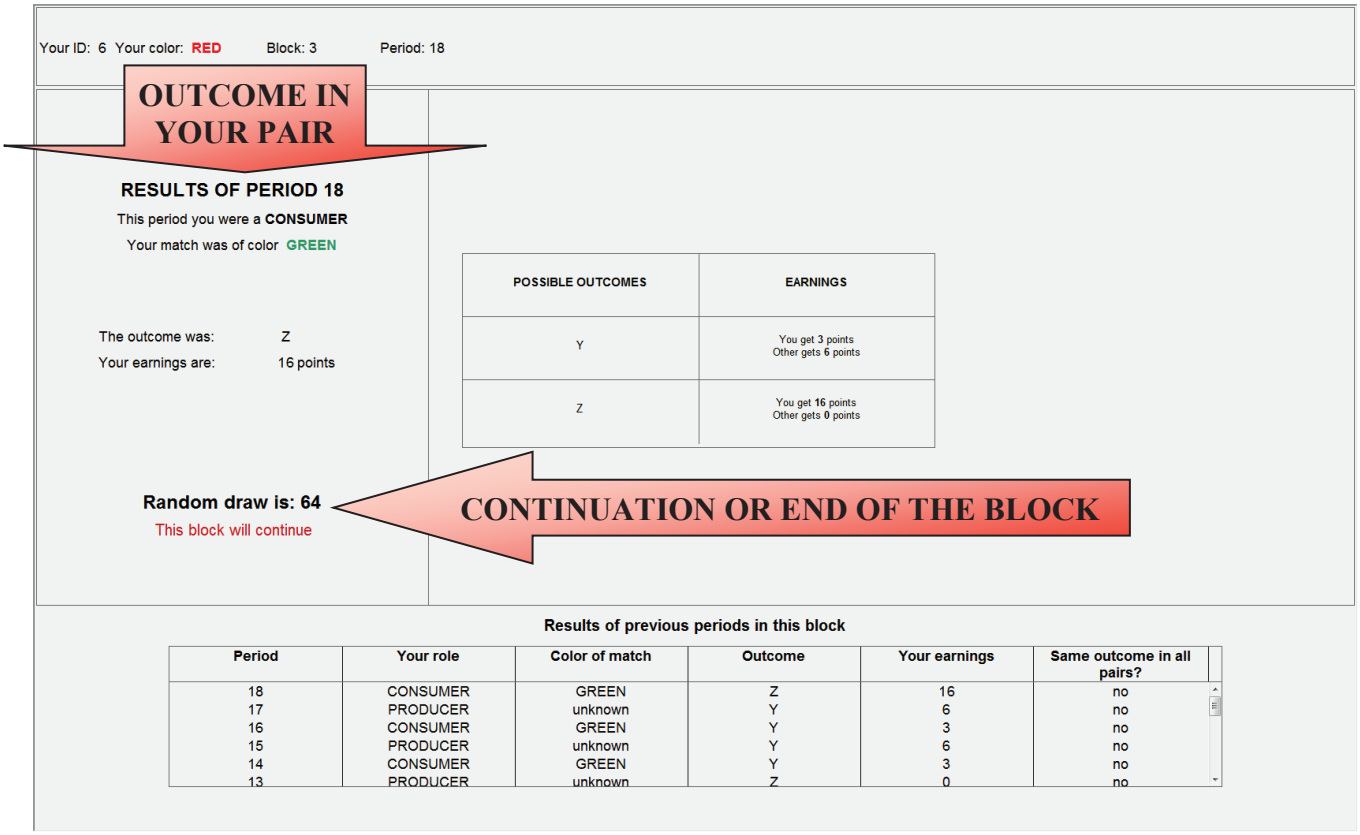

Ending of a block

Each block has many periods but their number is **uncertain** because it is **random**.

Each block will have at least 18 periods. From period 18 on, at the end of each period the computer selects a number between 1 and 100. Each number is equally likely to be selected:

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Final reminders

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Instructions

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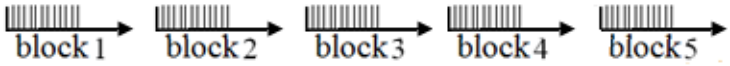

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How do you earn money in a period?

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	Producer	*Consumer*
If Z is the outcome:	**0** points	**11** points -- if you are green **13** points -- if you are red **15** points -- if you are blue **+ 3** extra points if you are in a **mixed group**

Points will be converted into dollars at the end of the session in a manner that we explain later.

What happens in each period?

Each **period** has the following timeline:

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Now, we discuss each of these steps.

1. Your role and your match

In each period, there is an equal number of *producers* and *consumers*. Your initial role is random and then it alternates from period to period:

consumer, *producer*, *consumer*, *producer*, …or *producer*, *consumer*, *producer*, *consumer*, …

You and your match have always different roles.

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Your choices depend on your role.

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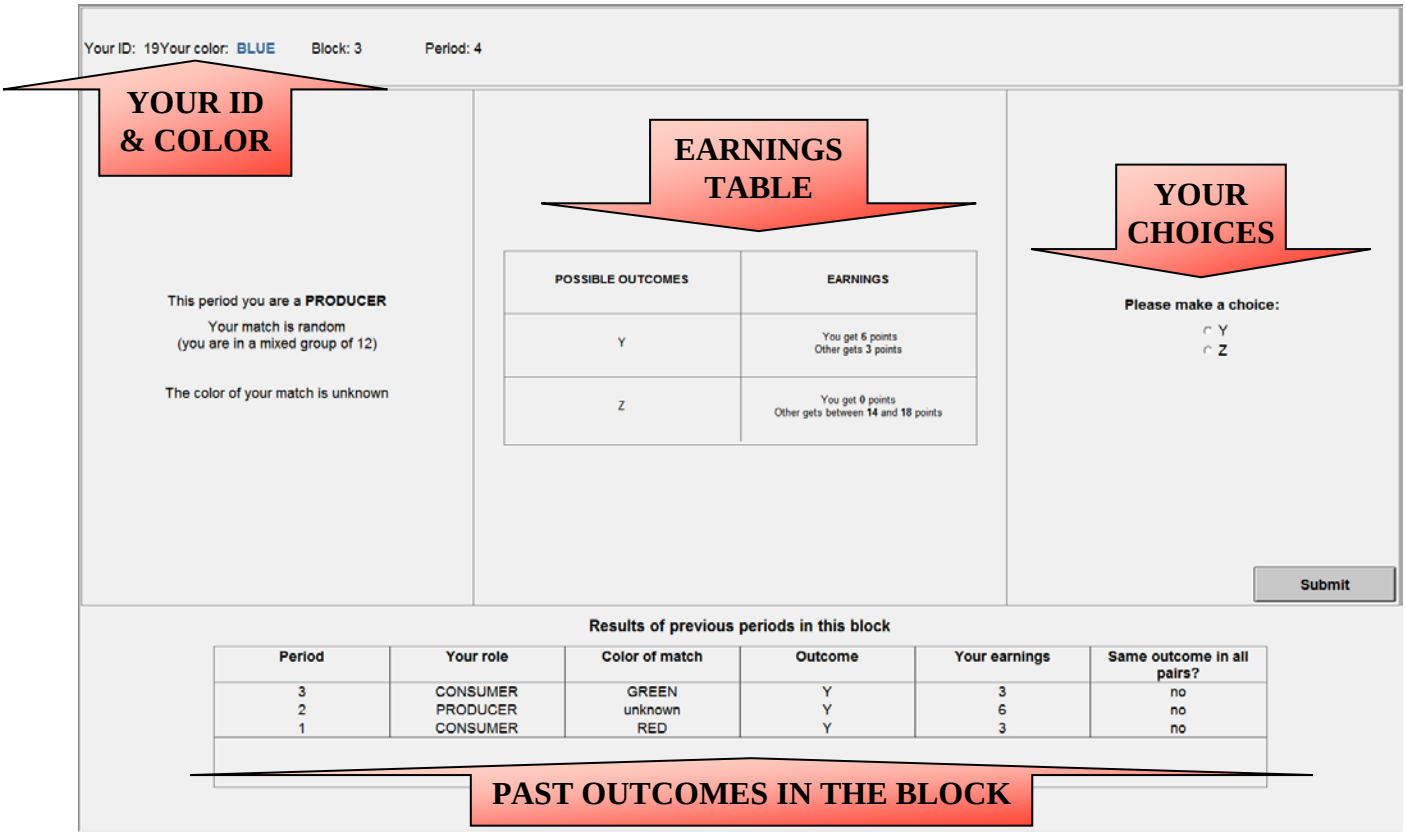

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You can see: your role, the color of your match (possibly), the outcome Y or Z in your pair, and your payoff for the period. If you are in a mixed group, the last column reports whether the outcome was the same **in all pairs** of your group.

3. Outcome of choices

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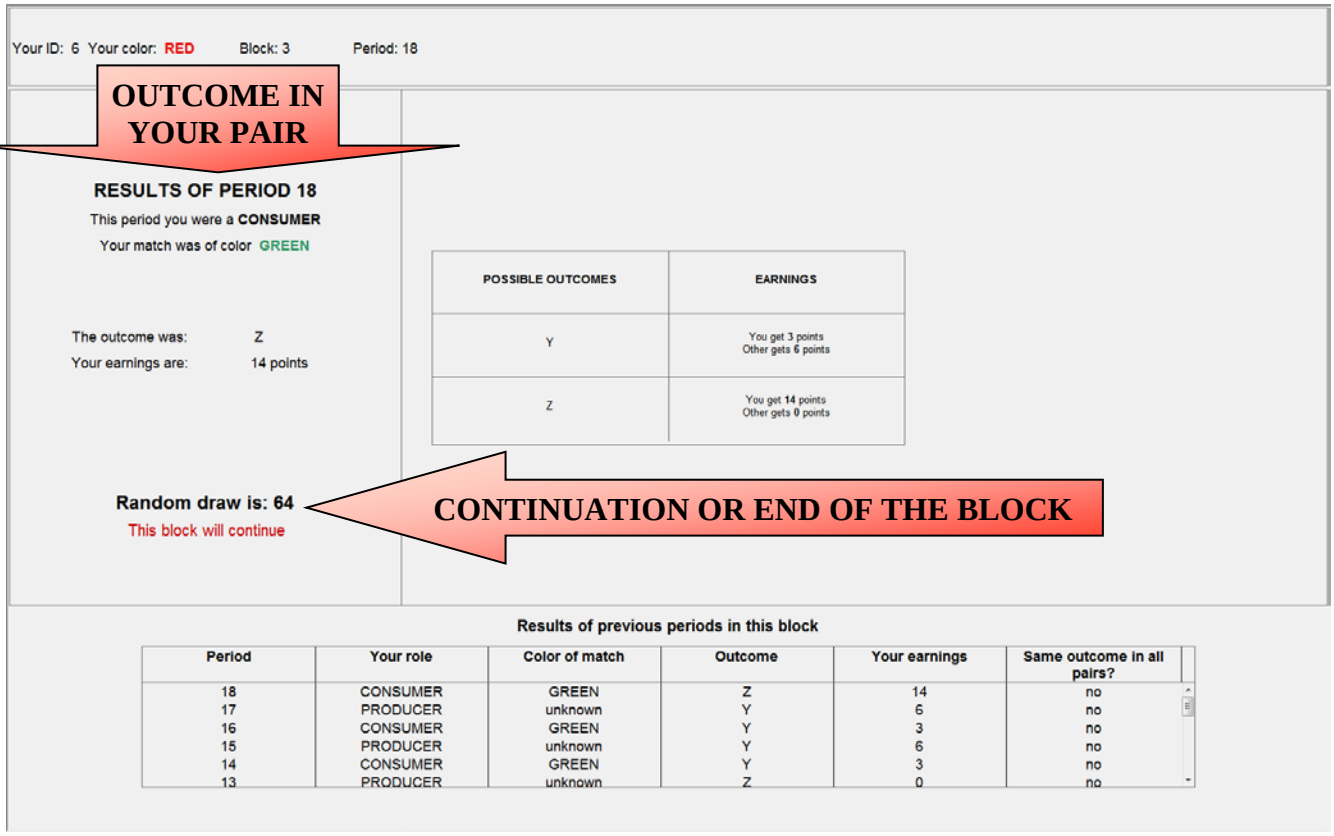

Ending of a block

Each block has many periods but their number is **uncertain** because it is **random**.

Each block will have at least 18 periods. From period 18 on, at the end of each period the computer selects a number between 1 and 100. Each number is equally likely to be selected:

- If the number selected is less than or equal to 75, then the block will continue for everyone.
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So: starting in period 18, the block has always a chance to continue. To see whether the block continues or ends look at the results screen; you will see the random number selected by the computer.

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Hence:

- **We never know for sure which period will be the last in a block;**
- **Some blocks may end up being longer and others shorter.**

As soon as a block ends, new groups are formed and a new block starts.

Suggestions Stage

At the start of each of the first four blocks, you will have an opportunity to suggest or discuss choices with every other participant of every color in this session by using a chat box. To do so, simply enter text in the shaded box at the bottom of the screen and press "Enter." The chat box will be open for two

minutes, after which it will close and the block will start. In using the chat box you should be civil and neither use offensive language nor identify yourself.

Will there be fixed pairs or mixed groups?

In blocks 1 and 2 there will be fixed pairs. In blocks 3 and 4 there will be mixed groups with 4 participants of each color (12 in all). In blocks 1-4 you cannot meet someone in more than one block.

Before block 5 starts, you will have a chance to choose between fixed pairs and mixed groups. How this is done will be explained at the end of block 4; additional instructions will appear on your screen.

Payments

When the session ends, **one** of the blocks completed will be randomly selected. The points you have earned in that block will be converted into dollars: **1 point is worth 18 cents** ($0.18). To choose the block we randomly select a number between 1 and 5 at https://www.random.org. The number selected will identify the block. Each block is equally likely to be selected.

Final reminders

- The session is divided into **5 separate blocks**.
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Before we start the experiment, you will be asked to answer ten questions designed to verify your understanding of the instructions. You will receive $0.25 for each question you answer correctly. If you have a question at any time, then please raise your hand and someone will come to answer it.

RECORD SHEET (optional)

Period	Your Role	Outcome Y or Z	Earnings	Notes
				please continue on back

Period	Your Role	Outcome Y or Z	Earnings	Notes

Period	Your Role	Outcome Y or Z	Earnings	Notes

QUIZ (Baseline treatment, * identifies the correct answer)

Q1: Each block is composed of:

A) at most 18 periods

B*) at least 18 periods plus an uncertain number of additional periods, depending on a series of random draws

C) an average of 18 periods

Q2: Suppose we have reached period 24 of a block. What is the probability that the block will continue?

A*) 75%

B) 25%

C) the block will stop for sure

Q3: In blocks with fixed pairs:

A*) my match is the same person and has my same color in each period

B) my match is the same person in each period, but her color may change

C) my match may change across periods but her color never changes

Q4: Consider a block with mixed groups. Can your match and her color change across periods?

A*) yes--it is likely that my match and her color will change in the block

B) no--my match cannot change but her color may change in the block

C) no--my match may change but her color will not change in the block

Q5: Suppose you are consumer in a period. Will you switch to a producer role the following period?

A) unsure--there is a 50% chance that I will switch role

B) no--I will remain a consumer

C*) yes--I will switch role to producer

Q6: Suppose you are a consumer and Z is the outcome. Will the points that you earn be the same if you are in a fixed pair as opposed to a mixed group?

A) yes--the points I earn from outcome Z are the same in a fixed pair and in a mixed group

B*) no--I will earn 3 more points from outcome Z in a mixed group, than in a fixed pair

C) I will earn 0 points form outcome Z as a consumer

Q7: Suppose you earn 260 points in block 1 and 200 points in block 2. At the end

of the session block 2 is randomly selected for payment.
How many dollars will you earn in the experiment, in addition to the $7 show-up fee and payments from this quiz?

A) the amount cannot be calculated
B*) $0.18 x 200 points = $36.00
C) $0.18 x 200 points x 5 blocks = $150.00

Q8: Is it possible that your match in blocks 1-4 is the same person who was your match in a previous block?

A) yes--this is always true
B) unsure--it is not always true but it is very likely
C*) no--it is impossible. My match in a block 1-4 cannot be my match in any other block 1-4

Q9: Recall that you are a consumer half of the periods and a producer half of the periods. Suppose a block that lasted 22 periods is selected for payment. The outcome was Y in every period. Suppose your color was GREEN and you were in a mixed group in that block. How many points did you earn in that block?

A) 154 points =11 periods x (11+3) points
B*) 99 points = 11periods x 3 points + 11 periods x 6 points
C) 121 points =11 periods x 11 points

Q10: Recall that you are a consumer half of the periods and a producer half of the periods. Suppose a block that lasted 22 periods is selected for payment. The outcome was Z in every period. Suppose your color was RED and you were in a mixed group in that block. How many points did you earn in that block?

A) 143 points = 11 periods x 13 points\line
B) 99 points = 11 periods x 3 points + 11 periods x 6 points \line
C*) 176 points =11 periods x (13+3) points