

Electronic Supplementary Information

Pre-existing fairness concerns restrict the cultural evolution and generalization of inequitable norms in children

A Norm compliance – additional results

Table A1

	Compliance in periods 1-12	
	(1)	(2)
Kindergarten	-0.873 (-1.94)	-0.872 (-1.93)
Adult equal	0.402 (0.47)	0.402 (0.47)
Adult underprivileged	-1.771*** (-3.57)	-1.773*** (-3.56)
Adult privileged	-0.871 (-1.93)	-0.871 (-1.92)
Child underprivileged	-1.383** (-2.79)	-1.380** (-2.77)
Child privileged	-0.345 (-0.63)	-0.346 (-0.63)
Kindergarten x Adult equal	-0.319 (-0.32)	-0.319 (-0.32)
Kindergarten x Adult underprivileged	0.649 (1.24)	0.650 (1.24)
Kindergarten x Adult privileged	0.255 (0.59)	0.256 (0.59)
Kindergarten x Child underprivileged	0.683 (1.27)	0.676 (1.26)
Kindergarten x Child privileged	0.141 (0.24)	0.143 (0.24)
Period	0.00873 (0.79)	0.00873 (0.79)
Female		-0.0197 (-0.23)
Constant	1.343** (2.94)	1.352** (2.93)
N	3912	3912

Notes: Binary logit model. Norm compliance (=1) in the anti-coordination game is the dependent variable. N refers to the number of decisions in the 12 rounds of the game. Standard errors are bootstrapped (50 repetitions) and clustered on session. z statistics in parentheses. * p < 0.05, ** p < 0.01, *** p < 0.001.

Table A2

	Compliance
Adult role model	-0.110 (-0.45)
Kindergarten/underprivileged	-0.739 (-1.88)
Kindergarten/privileged	-0.227 (-0.57)
Second grade/equal	0.742* (2.02)
Second grade/underprivileged	-0.825* (-2.11)
Primary school/privileged	0.123 (0.30)
Constant	0.780** (3.03)
N	326

Notes: Binary logit model. Norm compliance (=1) in period 1 of the anti-coordination game is the dependent variable. Main effect of adult role model. z statistics in parentheses. * p < 0.05, ** p < 0.01, *** p < 0.001.

B Resource allocation task – additional results

Kindergarten x Adult/underprivileged vs. Kindergarten x Adult/equal	F = 1.36, p = 0.2527
Kindergarten x Adult/privileged vs. Kindergarten x Adult/equal	F = 0.71, p = 0.4052
Kindergarten x Child/underprivileged vs. Kindergarten x Child/equal	F = 0.21, p = 0.6526
Kindergarten x Child/privileged vs. Kindergarten x Child/equal	F= 0.32, p = 0.5776

Table B1. Allocation of coins to in-group, exogenous group status (kindergarteners). Test of linear combinations (F-test), derived from the OLS regression model listed in Table 6 in the main document.

Kindergarten x Adult/underprivileged vs. Kindergarten x Adult/equal	F = 0.74, p = 0.3957
Kindergarten x Adult/privileged vs. Kindergarten x Adult/equal	F = 1.23, p = 0.2769
Kindergarten x Child/underprivileged vs. Kindergarten x Child/equal	F = 2.02, p = 0.1656
Kindergarten x Child/privileged vs. Kindergarten x Child/equal	F = 2.57, p = 0.1190

Table B2. Allocation of coins to in-group, endogenous group status (kindergarteners). Test of linear combinations (F-test), derived from the OLS regression model listed in table 7 in the main document.

	Exogenous group status (1)	Exogenous group status (2)	Endogenous group status (3)	Endogenous group status (4)
Kindergarten	0.161 (1.33)	0.164 (1.36)	0.161 (1.33)	0.164 (1.43)
Adult equal	0.200 (1.61)	0.197 (1.59)	0.200 (1.61)	0.197 (1.70)
Adult underprivileged	0.1000 (0.66)	0.0837 (0.56)	0.200* (2.08)	0.186 (1.92)
Adult privileged	0.200 (1.24)	0.197 (1.27)	0.1000 (0.51)	0.0972 (0.55)
Child underprivileged	0.200 (1.85)	0.223* (2.31)	0.200 (1.85)	0.203* (2.05)
Child privileged	-0.150 (-0.66)	-0.160 (-0.72)	-0.150 (-0.66)	-0.142 (-0.77)
Kindergarten x Adult equal	-0.136 (-0.57)	-0.133 (-0.54)	-0.136 (-0.57)	0.133 (-0.65)
Kindergarten x Adult underprivileged	0.122 (0.64)	0.134 (0.68)	-0.444 (-1.16)	-0.427 (-1.31)
Kindergarten x Adult privileged	-0.444 (-1.08)	-0.437 (-1.13)	0.122 (0.52)	0.121 (0.60)
Kindergarten x Child underprivileged	-0.111 (-0.41)	-0.152 (-0.56)	-0.351 (-1.27)	-0.356 (-1.48)
Kindergarten x Child privileged	0.159 (0.56)	0.176 (0.63)	0.399 (1.47)	0.384 (1.55)
Female		-0.130 (-1.61)		-0.113 (-1.54)
Constant	1.950*** (20.65)	2.012*** (17.97)	1.950*** (20.65)	2.003*** (21.00)
N	316	316	316	316

Table B3. Allocation to in-group. OLS regression. Sum of coins allocated to the in-group is the dependent variable.

Bootstrapped standard errors clustered at the session level. N refers to the number of participants. z statistics in parentheses.

* p < 0.05, ** p < 0.01, *** p < 0.001.

	Underprivileged by suggested norm	Privileged by suggested norm
Endogenous underprivilege	3	5
Endogenous privileged	5	3

Table B4. Association between suggested norm and endogenous group status (kindergarteners)

	Underprivileged by suggested norm	Privileged by suggested norm
Endogenous underprivilege	5	3
Endogenous privileged	3	5

Table B5. Association between suggested norm and endogenous group status (second-graders)

Out of the two groups taking part in a session, the group that had earned a larger number of coins was labeled endogenously privileged and the group that had earned fewer coins was labeled endogenously underprivileged. Equal groups are not listed in the tables. In both age groups exogenous privilege was not statistically related to endogenous privilege. While in the younger age group, a negative tendency becomes evident (Table B4, Chi squared = 1.0, p=0.317, Cramer's V= -0.25), in the older age group, a positive tendency was observed (Table B5, Chi squared = 1.0, p=0.317, V= 0.25).

ρ^2_p	Power
0.01	0.2200
0.02	0.4372
0.03	0.6377
0.04	0.7892
0.05	0.8878
0.06	0.9450
0.07	0.9749
0.08	0.9894
0.09	0.9958
0.10	0.9984

Table B6. Observed power analyses (power determined based on sample and effect size), anti-coordination game. Power of a two-sided test of $H_0: \rho^2_p = 0$ versus $H_a: \rho^2_p \neq 0$, where ρ^2_p is a set of six target squared partial correlations in a multiple linear regression (refer to Table 3 in the main article), with $N=326$ and $\alpha = 0.05$. The power calculations were conducted with Stata 16's power command.

ρ^2_p	Power
0.01	0.2549
0.02	0.4951
0.03	0.6969
0.04	0.8358
0.05	0.9187
0.06	0.9628
0.07	0.9842
0.08	0.9937
0.09	0.9977
0.10	0.9992

Table B7. Observed power analyses (power determined based on sample and effect size), resource allocation game. Power of a two-sided test of $H_0: \rho^2_p = 0$ versus $H_a: \rho^2_p \neq 0$, where ρ^2_p is a set of four target squared partial correlations (kindergarten x adult/underprivileged, kindergarten x adult/privileged, kindergarten x child/underprivileged, kindergarten x child privileged) in a multiple linear regression (refer to Table 4 in the main article), with $N=326$ and $\alpha = 0.05$. The power calculations were conducted with Stata 16's power command.

C Instructions (Swiss German)

Instructions for asymmetric treatments

LIVE

1. Game #1 instructions done live by experimenter in Swiss German

*S-0

a) Screen: Blue Sky, green grass:

Ich erkläre jetzt, wie das Spili goht. Alli Chind losed ganz guet zueh und niemer tued schwätze, bis das Spili fertig isch. Es isch wichtig, dass alli Chind drus chömed bi dem Spili. Nur wenn Du drus chunsch, chasch Du vili Goldmünze [*zeige Goldmünze*] verdiene. Mit dene Goldmünze cha sich jedes Chind am Schluss vo de Stund Spilsache chaufe. Je meh Goldmünze Du hesch, desto grösseri Spilsache chasch Du chaufe.

Jedes chind sitzt amene Computer. Du spilsch über de Computer mit de andere Chind, alli Computer sind mitenand verbunde. Tue bitte jetzt no kei Taste drucke. Während em ganze Spili bruchsch Du nur 4 Taste. Nämlich die 4 Taste, wo en Chläber druff hend. Tu bitte nie en anderi Taste drucke. Süssch chas es Problem gä und mer chönd das Spili ned fertig Spile und niemer chan go Spilsache chaufe.

Lueg jetz guet uf de Bildschirm vo dim Computer.

*S-1

b) Screen: Two groups on top, one spinning, one with red lines

Alli Chind, wo do amene Computer sitzed und mitspiled, ghöred zu enere Gruppe. Es git zwei Gruppe. De Computer het alli Chind in eini vo dene beide Gruppe iteilt. Die einti Gruppe het en Chreis ufem Buch und die anderi Gruppe het es Drüegg ufem Buch. Lueg jetzt die beide Gruppe obe ufem Bild guet a. Gsesch di beide Gruppe?

Wenn Du die beide Gruppe ned gsesch, tue bitte jetzt ufstrecke. [*kurz vormachen*]

Du gsesch jetzt ufem Bildschirm en Figur mit rote Strich undedra. Das bisch Du i däm Spili. Jedes Chind isch en anderi Figur und gseht sich selber mit rote Strich unde dra. Gsehsch die Figur mit de rote Strich undedra, wo Du bisch? Wenn ned, tue bitte jetzt ufstrecke.

Du ghörsch entweder zu de Gruppe vo de Drüegg oder zu de Gruppe vo de Chreis. Alli Chind ghöred während em ganze Spili zu de gliche Gruppe. Niemer chan d Gruppe wächsle. Lueg jetzt de Buch vo dere Figur a wo Du bisch. Lueg, zu welere Gruppe du ghörsch. Es isch gheim, zu welere Gruppe du ghörsch, tues niemerem säge.

*S-2

Lueg jetzt uf d Taste vom Computer. Du gsesch uf de einte Site 2 Taste mitem gliche Zeiche wie die beide Gruppe. Es het en Taste miteme Chreis und en Taste miteme Drüegg. Zu welere Gruppe ghörsch Du? Wenn Du zur Gruppe Chreis ghörsch, drück uf d Taste mit em Chreis. Wenn Du zur Gruppe Drüegg ghörsch, drück uf d Taste mit em Drüegg. Drück JETZT uf die Taste, wo s Zeiche vo Dinere Gruppe druf isch.

Wenn Du die richtigi Taste drückt hesch, gsesch Du jetz en Sunne ufem Bildschirm. Wenn Du kei Sunne gsesch, tue bitte jetzt ufstrecke.

→ Right answer: A sun comes up on the program. Wrong answer, no sun. Then children are asked to raise their hand and someone goes to show what button to press.

*S-3 (no text)

*S-4

Du gsesch jetzt ufem Bildschirm, wie sich d Chind i de andere Gruppe im Chreis dreiet. De Computer wählt jetzt denn zuefällig irgend eis vo däne Chind us de andere Gruppe us, zum mit Dir spile. Du weisch ned, wer das Chind isch. Au s andere Chind weis ned, mit wem genau es spilt. Dänk dra, Du bisch d Figur mit de rote Strich unde dra.

*S-5

c) Screen: Kids zoom down

So, de Computer het entschide, mit wellem Chind us de andere Gruppe Du spilsch.

*S-6

Drück jetzt die Taste mit em Zeiche vo dä Gruppe druff, wo s ANDERE Chind dezue ghört. Was isch ufem Buch vom andere Chind? En Chreis oder es Drüegg? Drück jetzt uf d Taste wo s Zeiche vo de Gruppe vom andere Chind druff isch

Wenn Du die richtigi Taste drückt hesch, gsesch Du jetz en Sunne ufem Bildschirm. Wenn Du kei Sunne gsesch, tue bitte jetzt ufstrecke.

→ Right answer: A sun comes up on the program. Wrong answer, no sun. Then children are asked to raise their hand and someone goes to show what button to press.

*S-7

Alli Chind blibed während em ganze Spili i de glichlige Gruppe.

*S-8

d) Screen: Add baskets

Du weisch, das mer i dem Spili chan Goldmünze gwünne. Alli Chind gshend jetzt ufem Bildschirm vom Computer die Goldmünze, wo mer chan Gwünne. Das sind die glichlige Goldmünze wie die do [zeige

Goldmünze]. Die Goldmünze sind in 2 Chörb inne. Die beide Chörb mit Goldmünze sind zwüsche Dir und em andere Chind. Im einte Chorb hets 2 Goldmünze. Im andere Chorb hets ei Goldmünze. Alli Chind tüend sich nochher entscheide, welle vo dene beidne Chörb dass sie wönd. Aber Achtung: Du und s andere Chind entscheides sich glichzeitig für en Chorb. Au s ander Chind chan entweder de Chorb mit de 2 Goldmünze oder de Chorb mit einere Goldmünze uswähle. Du und s andere Chind chönd aber ned abmache, wer wele Chorb nimt.

***S-9**

e) Screen: Both choose up and then coins dissapear

Wenn Du und s andere Chind de glichligi Chorb uswähled, gits es Problem. Wenn Du und s andere Chind zum Bispil beidi de Chorb mit de 2 Goldmünze wähled, chömed ihr beidi nüd über und d Chörb mit de Goldmünze verschwindet.

Lueg uf de Bildschirm, das passiert, wenn beidi Chind de Chorb mit de 2 Goldmünze uswählet.

***S-10 (text first, then visual info: both choose 2 coins, coins disappear. Go through all stages immediately until both baskets appear and start flashing).**

***S-11 (no text)**

***S-12 (baskets flashing:)**

f) Screen: Baskets and figures come again to „start“ then both choose down and coins dissapear

Aber au, wenn Du und s andere Chind beidi de Chorb mit einere Goldmünze wähled, chömed ihr beidi nüd über und d Chörb mit de Goldmünze verschwindet.

Lueg uf de Bildschirm, das passiert, wenn beidi Chind de Chorb mit einere Goldmünze uswählet.

***S-13 (text first, then visual info: both choose 1 coin, coins disappear. Go through all stages immediately until baskets appear and start flashing).**

***S-14 (no text, reset)**

***S-15 (baskets flashing)**

g) Screen: Baskets and figures come again to „start“ then focal actor chooses DOWN and other kid chooses UP, piggy bank comes up.

Also: Wenn Du und s andere Chind beidi de glich Chorb wähled, chömed ihr beidi nüd über. Das isch sehr schad!

Aber es isch au möglich, dass ihr beidi en andere Chorb wähled. Wenn Du de Chorb mit einere Goldmünze uswählsch und s andere Chind de Chorb mit zwei Goldmünze uswählt, denn chunsch Du de Chorb mit einere Goldmünze über. Und s andere Chind chund de Chorb mit 2 Goldmünze über.

Lueg uf de Bildschirm, das passiert, wenn Du de Chorb mit einere Goldmünze uswählsch und s andere Chind de Chorb mit zweu Goldmünze uswählt.

***S-16 (text first, then visual info: focal chooses down, other up. Go to where figures grab their coins)**

Du chasch denn die Goldmünze i Dis Kässeli tue. Die Goldmünze blibt im Kässeli bis am Schluss. Am Endi vo de Stund chasch Du dir Spilsache chaufe mit de Goldmünze wo i dim Kässeli sind. Au s andere Chind cha sich Spilsache chaufe am Schluss vo de Stund. Uf em Bildschirm gsesch, wie das goht.

***S-17** (*text first, then visual info: piggy bank appears after this text-passage and coins are put into it*).

***S-18** (*remove piggy and figures, go through all stages immediately until baskets flashing*)

***S-19** (*no text*)

***S-20** (*baskets flashing*)

h) Screen: Baskets and figures come again to „start“ then focal actor chooses UP and other kid chooses DOWN, piggy bank comes up.

Es isch aber au möglich, dass Du de Chorb mit de 2 Goldmünze wählsch und s andere Chind de Chorb mit einere Goldmünze. Denn chunsch Du de Chorb mit 2 Goldmünze über und s andere Chind Chund de Chorb mit einere Goldmünze über.

Lueg uf de Bildschirm, das passiert, wenn Du de Chorb mit zweu Goldmünze uswählsch und s andere Chind de Chorb mit einere Goldmünze uswählt.

***S-21** (*text first, then visual info: focal up, other down. Go to where figures grab their coins*)

Au denn chasch Du d Goldmünze i dis Kässeli tue. Bis Du am Schluss vo derä Stund Spilsache chaufe chasch mit dene Goldmünze. Ufem Bildschirm gsesch, wie das goht.

***S-22** (*text first, then visual info: piggy bank appears, figures put coins into it, Go immediately to stage 24*)

***S-23** (*no text, remove piggy & figures*)

***S-24**

i) Screen: two figures and two baskets only

Also: Wenn Du und s andere Chind beidi de glichligi Chorb wähled, verschwindet die Goldmünze und ihr chömed beidi nüd über. Wenn Du und s andere Chind aber beidi en andere Chorb wähled, chönnd ihr beidi Goldmünze sammle.

***S-25**

Lueg jetz uf d Taste vom Computer. Es het ned nume en Taste mit eme Drüegg und en Taste mit eme Chreis. Uf de anderee Site hets no 2 anderi Taste. Uf de einte Taste hets en Chorb mit einere Goldmünze. Und uf de andere Taste hets en Chorb mit 2 Goldmünze.

Weisch, uf welli Taste Du muesch drücke, wenn Du de Chorb mit EINERE Goldmünze wotsch? Denn muesch uf d Taste drücke, wo de Chorb mit einere Goldmünze druff isch. Drück emol uf die Taste.

Wenn Du die richtigi Taste drückt hesch, gsesch Du jetz en Sunne ufem Bildschirm. Wenn Du kei Sunne gsesch, tue bitte jetzt ufstrecke

[if kids don't understand selection of baskets, explain keys. In addition, explain interdependende (if both choose the same basket, nobody gets anything and so on.)]

→ Right answer: A sun comes up on the program. Wrong answer, no sun. Then children are asked to raise their hand and someone goes to show what button to press.

*S-26 (no text, reset)

*S-27

Und uf weli Taste muesch drücke, wenn Du de Chorb mit de 2 Goldmünze wotsch? Denn muesch uf d Taste drücke, wo de Chorb mit zwei Goldmünze druff isch. Drück emol uf die Taste.

→ Right answer: A sun comes up on the program. Wrong answer, no sun. Then children are asked to raise their hand and someone goes to show what button to press.

[if kids don't understand selection of baskets, explain keys. In addition, explain interdependende (if both choose the same basket, nobody gets anything and so on.)]

Wenn Du die richtigi Taste drückt hesch, gsesch Du jetz en Sunne ufem Bildschirm. Wenn Du kei Sunne gsesch, tue bitte jetzt ufstrecke.

*S-28

Alli Chind tüend das Spili es paar mol spile. Du spilsch jedes Mol miteme Chind us de andere Gruppe.

*S-29

Immer wenns spili vo Vore afot, dreiet sich die andere Chind im Chreis. Denn tuet de Computer jedesmol zufällig irgend es Chind us de andere Gruppe uswähle. Meistens spilsch Du also i jedere Rundi miteme andere Chind. Du weisch ned, wer das Chind isch.

*S-30

j) Screen: insert screen that shows decision, coins flying, pigs coming up (scene depends on norm to generate!!).

Vor den Summerferie hend mer das Spili scho mit **andere Chind / Erwachsene** gespilt.

D Gruppe **Chreis/Drüegg** het meistens de Chorb mit **EINERE/ZWEI** Goldmünze gwählt. Und d Gruppe **Drüegg/Chreis** het meistens de Chorb mit **EINERE/ZWEI** Goldmünze gewaehlt. Lueg guet uf de Bildschirm, so hend **die meiste andere Chind/die meiste Erwachsene** das Spili gmacht.

*S-31 (text first, then norm is shown visually)

*S-32 (immediatly piggy bank appears)

*S-33 (remove piggy bank and go to next stage immediately)

*S-34

k) Screen: back to starting screen with sky and gras

Es isch wichtig, dass alli Chind drus chömed wie das Spili got. Nur wenn Du drus chunsch, chasch Du vill Goldmünze verdiene. Mer möched denn no es zweits Spili, wo's wider um Goldmünze goht. I beidne Spili sind alli Chind immer i de glichlige Gruppe.

Am Schluss vo dene beide Spili, zeigt de Computer a, wie vill Goldmünze Du gsamlet hesch. Mer gänd Dir denn die Goldmünze und Du chasch go Spilsache chaufe. Je meh Goldmünze Du hesch, desto grösseri Spilsache chasch Du Dir chaufe.

Hesch jetz no en Frog? Wenn Du no en Frog hesch, tue bitte jetzt ufstrecke.

Mer fönd bald mit dem Spili a. Es goht gnau so, wie ich das jetzt erklärt han. Es sind di gliche Bilder. Und de Computer erklärt Dir immer, was grad passiert. De Computer seit immer, wenn Du chasch en Chorb uswähle. Wenn Du en Chorb chasch wähle, blinked die beide Chörb. Du wälsch en Chorb us, indem Du uf die richtigi Taste drücksch. Entweder uf d Taste mit de 2 Goldmünze druf oder uf d Taste mit einere Goldmünze druf.

Ab jetzt red nüme ich mit Dir. De Computer ret mit Dir und zwar über de Chopfhörer [*zeige einen Kopfhörer*]. Alli Chind legged jetzt de Chopfhörer a.

HEADSET

Audio spoken during NormGen Game via headset (#1)

*S-35

A1) Screen: blue sky and green gras, figures spinning, figures zoom down
[before first round only]

Hoi, do isch de Computer. Wenn Du mich ghörsch, tue bitte jetzt ufstrecke.

[After Computer's Hello, ask children if the volume is too high or too soft and adjust it accordingly.]

*S-36

- [treatment, children, triangle 2, circle 1] Mer mached das Spili es paar Mol. Du chunsch sicher gli drus, wie das Spili goht. Mer hend das schomol mit CHIND gspillt. D Gruppe DRÜEGG het meistens de Chorb mit ZWEI Goldmünze gwählt und d Gruppe CHREIS het meistens de Chorb mit EINERE Goldmünze gwählt.
- [treatment, children, triangle 1, circle 2] Mer mached das Spili es paar Mol. Du chunsch sicher gli drus, wie das Spili goht. Mer hend das schomol mit CHIND gspillt. D Gruppe CHREIS het meistens de Chorb mit ZWEI Goldmünze gwählt und d Gruppe DRÜEGG het meistens de Chorb mit EINERE Goldmünze gwählt.
- [treatment, erwachsene, triangle 2, circle 1] Mer mached das Spili es paar Mol. Du chunsch sicher gli drus, wie das Spili goht. Mer hend das scho mit ERWACHSENE gspillt. D Gruppe DRÜEGG het meistens de Chorb mit ZWEI Goldmünze gwählt und d Gruppe CHREIS het meistens de Chorb mit EINERE Goldmünze gwählt.
- [treatment, erwachsene, triangle 1, circle 2] Mer mached das Spili es paar Mol. Du chunsch sicher gli drus, wie das Spili goht. Mer hend das scho mit ERWACHSENE gspillt. D Gruppe

CHREIS het meistens de Chorb mit **ZWEI** Goldmünze gwählt und **d** Gruppe **DRÜEGG** het meistens de Chorb mit **EINERE** Goldmünze gwählt.

**S-0

Mer fönd bald mit em Spili a. Dänkr drah, Du ghörsch immer zu de Gruppe vo de **Chreis/Drüegg**. D Gruppe blybet immer glich.

De Computer suecht jetz zufällig es Chind us de andere Gruppe us. Das Chind macht mit Dir das Spili.

So, jetz gsesch Du, mit wem Du dasmol das Spili machsch. Du chasch jetz denn en Chorb uswähle. Dänk dra, wenn Du und s andere Chind de glichlig Chorb uswähled, verschwindet die Goldmünze. Drück jetz die Taste mit dem Chorb wo Du wotsch uswähle.

- *[after choice]* Bitte wart jetz, bis alli Chind en Chorb usgwählt hend.
- *[after 10 seconds]* Bitte wähl JETZT en Chorb us.

A2)

[before round 2 to round N] De Computer suecht wider zufällig irgend es Chind us de andere Guppe us.

Dänk dra, wenn Du und s andere Chind de glichlig Chorb uswähled, verschwindet die Goldmünze. Drück jetz en Taste.

- *[after choice]* Bitte wart jetz, bis alli Chind en Chorb usgwählt hend.
- *[after 10 seconds]* Bitte wähl JETZT en Chorb us.

B) Alternative 1/2: both choose up/down, stars disappear:

- *[treatment&control]* Ihr hend beidi de glichlig Chorb gwählt. Du chunsch kei Goldmünze über. Au s andere Chind chund kei Goldmünze über.

C) Alternative 3: self chooses up, other chooses down, piggy bank moves into the screen, saving coins:

- *[treatment]* Ihr hend beidi en andere Chorb Gwäld. Du chunsch 2 Goldmünze über. S andere Chind chund ei Goldmünze über.
- *[control]*] Ihr hend beidi en andere Chorb Gwäld. Du chunsch 1 Goldmünze über. Au s andere Chind chund 1 Goldmünze über.

E) Alternative 4: self chooses down, other chooses up, piggy bank moves into the screen, saving coins:

- *[treatment]*] Ihr hend beidi en andere Chorb Gwäld. Du chunsch ei Goldmünze über. S andere Chind chund 2 Goldmünze über.

- [control: same as C]

F) FEEDBACK after everybody's choice, after every round from 1 to n):

- [treatment] Bis jetzt hend die meiste Chind us Dinere Gruppe de Chorb mit **zwei/einere** Goldmünze usgwählt.
- [treatment;equal] Bis jetzt hend I dinere Gruppe glichvil Chind de Chorb mit zwei Goldmünze und de Chorb mit einere Goldmünze usgwählt.
- [control] Bis jetzt hend die meiste Chind us Dinere Gruppe de **oberi/underi** Chorb usgwählt
- [control;equal] Bis jetzt hend i dinere Gruppe glichvil Chind de oberi und de underi Chorb usgwählt

Jetzt machemer das Spili grad nomol.

→ Back to A2 until all periods are done

F) AFTER VERY LAST ROUND ONLY:

- [treatment&control unequal case] Los guet zue. Im ganze Spili hend die meiste Chind us de Gruppe **Chreis/Drüegg** meh Goldmünze verdient als d Chind us de Gruppe **Chreis/Drüegg**. Das Spili isch jetzt fertig. Tue bitte de Chopfhörer abzieh. Leg en eifach näbe de Computer.
- [treatment&control equal case] Los guet zue. Im ganze Spili hend d Chind i beidne Gruppe glichvill Goldmünze verdient. Das Spili isch jetzt fertig. Tue bitte de Chopfhörer abzieh. Leg en eifach näbe de Computer.

LIVE

Game #2 general instructions live spoken, without headset.

*****S-0**

1) Screen with blue sky, green gras, big yellow sun in the middle

So, jetzt isch das Spili fertig. Mer möched aber no es anders Spili. Das letschte Spili isch ganz churz.

*****S-1**

2) Screen where subject in middle, circles of other subjects on each side

Lueg nomol uf de Bildschirm vom Computer.

*****S-2**

Du bisch wider das Chind mit de rote Strich unde dra.

*****S-3**

Du ghörsch immerno zu de gliche Gruppe. Au alli andere Chind ghöred no zu de gliche Gruppe. Du gsesch die beide Gruppe ufem Bildschirm.

***S-4

De Computer wählt jetzt zufällig zwei Chind us.

***S-5

3) Screen: groups start spinning and two zoom down, three golden coins in middle

Gesch, jetzt het de Computer 2 Chind usgwählt.

Eis Chind isch us de einte Gruppe und s sandere Chind isch us de andere Gruppe. Du bisch s Chind obe im Bild mit de rote Strich unde dra. Die andere 2 Chind sind unde ufem Gras.

Du und alli andere Chind chönd jetzt Goldmünze zwüsche 2 Chind ufteile.

***S-6

Du ggesch jetzt ufem Bildschirm 3 Goldmünze zwüsche dene beide Chind. Du dörfsch jetzt die 3 Goldmünze eini noch de andere verteile. Du spilsch jetzt nüme miteme Chind, Du chasch die Münze ganz elei verteile.

Wenn die erschi Goldmünze blinkt, chasch du dich entscheide, welem vo dene beide Chind, wo du ufem Bildschirm ggesch, du die Goldmünze wotsch gä. Entweder em Chind us de Gruppe **Chreis/Drüegg** oder em Chind us de Gruppe **Chreis/Drüegg**. Du chasch die Münze aber ned Dir sälber gä.

***S-7

4) Screen: First coin starts blinking

Lueg, jetzt blinkt die erschi Goldmünze. Welem Chind möchtsch Du die Goldmünze gä, wo JETZT blinkt? Drück jetzt die Taste mit em Zeiche vom Chind, wo Du die Goldmünze wotsch gäh.

→ if no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it privat decision) encourage the „sleeping“ child to now press the button:

(Es hend nonig alli Chind die blinkendi Münze verteilt. Wenn Du die Münze nonig verteilt hesch, muesch dich JETZT entscheide, welem Chind du die blinkendi Goldmuenze wotsch gä. Drueck uf de Taste mit em Zeichen vo dem Chind wo Du die Goldmuenze wotsch gäh.)

5) Golden coin will fly into the hand of the chosen figure

Du hesch die ersti Goldmuenze verteilt. Jetz chasch denn die 2. Goldmünze verteile.

***S-8

6) Second coin starts blinking

Jetzt blinkt die zweiti Goldmünze. Welem Chind möchtsch Du die Goldmünze gä, wo JETZT blinkt? Drück die Taste mit em Zeiche vom Chind, wo Du die Goldmünze wotsch gäh.

→ if no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it private decision) encourage the „sleeping“ child to now press the button: (Es hend nonig alli Chind die blinkendi Münze verteilt. Wenn Du die Münze nonig verteilt hesch, muesch dich JETZT entscheide, welem Chind du die blinkendi Goldmuenze wotsch gä. Drueck uf de Taste mit em Zeichen vo dem Chind wo Du die Goldmuenze wotsch gäh.)

7) Golden coin will fly into the hand of the chosen figure

Du hesch die 2. Goldmünze verteilt. Jetz chasch denn no die 3. Goldmünze verteile.

***S-9

8) Third coin starts blinking

Jetzt blinkt die letschi Goldmünze. Welem Chind möchtsch Du die Goldmünze gä, wo JETZT blinkt?

Drück die Taste mit em Zeiche vom Chind, wo Du die Goldmünze wotsch gäh.

→ if no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it privat decision) encourage the „sleeping“ child to now press the button: (Es hend nonig alli Chind die blinkendi Münze verteilt. Wenn Du die Münze nonig verteilt hesch, muesch dich JETZT entscheide, welem Chind du die blinkendi Goldmuenze wotsch gä. Drueck uf de Taste mit em Zeichen vo dem Chind wo Du die Goldmuenze wotsch gäh.)

***S-10

9) Golden coin will fly into the hand of the chosen figure

Du hesch die dritt Goldmuenze verteilt. Das Spili isch jetz fertig.

****S-0

11) Blue sky and green grass

Du gsesch jetz, wie vil Goldmünze Du verdient hesch i dene Spili. Blib no en Moment uf dim Platz sitze ohni z schwätze. Es chund jetz den grad über verbi und git Dir dini Goldmünze. Gli chasch Du go Spilsache chaufe.

12) Now the number of earned coins should come up on the screen, easy to see for the experimenter in order to give the child the right number of coins. Make up a system so that three to four kids go to toy-store together, rest waits.

Instructions for symmetric treatments

LIVE

Game #1 instructions done live by experimenter in Swiss German

***S-0**

a) Screen: Blue Sky, green grass:

Ich erkläre jetzt, wie das Spili goht. Alli Chind losed ganz guet zueh und niemer tued schwätze, bis das Spili fertig isch. Es isch wichtig, dass alli Chind drus chömed bi dem Spili. Nur wenn Du drus chunsch, chasch Du vili Goldmünze [*zeige Goldmünze*] verdiene. Mit dene Goldmünze cha sich jedes Chind am Schluss vo de Stund Spilsache chaufe. Je meh Goldmünze Du hesch, desto grösseri Spilsache chasch Du chaufe.

Jedes chind sitzt amene Computer. Du spilsch über de Computer mit de andere Chind, alli Computer sind mitenand verbunde. Tue bitte jetzt no kei Taste drucke. Während em ganze Spili bruchsch Du nur 4 Taste. Nämlich die 4 Taste, wo en Chläber druff hend. Tu bitte nie en anderi Taste drucke. Süsch chas es Problem gä und mer chönd das Spili ned fertig Spile und niemer chan go Spilsache chaufe.

Lueg jetzt guet uf de Bildschirm vo dim Computer.

***S-1**

b) Screen: Two groups on top, one spinning, one with red lines

Alli Chind, wo do amene Computer sitzed und mitspiled, ghöred zu enere Gruppe. Es git zwei Gruppe. De Computer het alli Chind in eini vo dene beide Gruppe iteilt. Die einti Gruppe het en Chreis ufem Buch und die anderi Gruppe het es Drüegg ufem Buch. Lueg jetzt die beide Gruppe obe ufem Bild guet a. Gsesch di beide Gruppe?

Wenn Du die beide Gruppe ned gsesch, tue bitte jetzt ufstrecke. [*kurz vormachen*]

Du gsesch jetzt ufem Bildschirm en Figur mit rote Strich undedra. Das bisch Du i däm Spili. Jedes Chind isch en anderi Figur und gseht sich selber mit rote Strich unde dra. Gsehsch die Figur mit de rote Strich undedra, wo Du bisch? Wenn ned, tue bitte jetzt ufstrecke.

Du ghörsch entweder zu de Gruppe vo de Drüegg oder zu de Gruppe vo de Chreis. Alli Chind ghöred während em ganze Spili zu de gliche Gruppe. Niemer chan d Gruppe wächsle. Lueg jetzt de Buch vo dere Figur a wo Du bisch. Lueg, zu welere Gruppe du ghörsch. Es isch gheim, zu welere Gruppe du ghörsch, tues niemerem säge.

***S-2**

Lueg jetzt uf d Taste vom Computer. Du gsesch uf de einte Site 2 Taste mitem gliche Zeiche wie die beide Gruppe. Es het en Taste miteme Chreis und en Taste miteme Drüegg. Zu welere Gruppe

ghörsch Du? Wenn Du zur Gruppe Chreis ghörsch, drück uf d Taste mit em Chreis. Wenn Du zur Gruppe Drüegg ghörsch, drück uf d Taste mit em Drüegg. Drück JETZT uf die Taste, wo s Zeiche vo Dinere Gruppe druf isch.

Wenn Du die richtigi Taste drückt hesch, gsesch Du jetz en Sunne ufem Bildschirm. Wenn Du kei Sunne gsesch, tue bitte jetzt ufstrecke.

→ Right answer: A sun comes up on the program. Wrong answer, no sun. Then children are asked to raise their hand and someone goes to show what button to press.

*S-3 (no text)

*S-4

Du gsesch jetzt ufem Bildschirm, wie sich d Chind i de andere Gruppe im Chreis dreiet. De Computer wählt jetzt denn zufällig irgend eis vo däne Chind us de andere Gruppe us, zum mit Dir spile. Du weisch ned, wer das Chind isch. Au s andere Chind weis ned, mit wem genau es spilt. Dänk dra, Du bisch d Figur mit de rote Strich unde dra.

*S-5

c) Screen: Kids zoom down

So, de Computer het entschide, mit wellem Chind us de andere Gruppe Du spilsch.

*S-6

Drück jetzt die Taste mit em Zeiche vo dä Gruppe druff, wo s ANDERE Chind dezue ghört. Was isch ufem Buch vom andere Chind? En Chreis oder es Drüegg? Drück jetzt uf d Taste wo s Zeiche vo de Gruppe vom andere Chind druff isch

Wenn Du die richtigi Taste drückt hesch, gsesch Du jetz en Sunne ufem Bildschirm. Wenn Du kei Sunne gsesch, tue bitte jetzt ufstrecke.

→ Right answer: A sun comes up on the program. Wrong answer, no sun. Then children are asked to raise their hand and someone goes to show what button to press.

*S-7

Alli Chind blibed während em ganze Spili i de glichlige Gruppe.

*S-8

d) Screen: Add baskets

Du weisch, das mer i dem Spili chan Goldmünze gwünne. Alli Chind gshend jetzt ufem Bildschirm vom Computer die Goldmünze, wo mer chan Gwünne. Das sind die glichlige Goldmünze wie die do [*zeige Goldmünze*]. Die Goldmünze sind in 2 Chörb inne. Die beide Chörb mit Goldmünze sind zwüsche Dir und em andere Chind. Im obere Chorb hets en Goldmünze und im undere Chorb hets en Goldmünze. Alli Chind tüend sich nochher entscheide, welle vo dene beidne Chörb dass sie wönd. Aber Achtung:

Du und s andere Chind entscheides sich glichzeitig für en Chorb. Au s ander Chind chan entweder de oberi Chorb oder de underi Chorb uswähle. Du und s andere Chind chönd aber ned abmache, wer wele Chorb nimt.

*S-9

e) Screen: Both choose up and then coins disappear

Wenn Du und s andere Chind de glichligi Chorb uswähled, gits es Problem. Wenn Du und s andere Chind zum Bispil beidi de oberi Chorb wähled, chömed ihr beidi nüd über und d Chörb mit de Goldmünze verschwindet.

Lueg uf de Bildschirm, das passiert, wenn beidi Chind de oberi Chorb uswählet.

***S-10 (text first, then visual info: both choose 2 coins, coins disappear. Go through all stages immediately until both baskets appear and start flashing).**

***S-11 (no text)**

***S-12 (baskets flashing:)**

f) Screen: Baskets and figures come again to „start“ then both choose down and coins disappear

Aber au, wenn Du und s andere Chind beidi de underi Chorb wähled, chömed ihr beidi nüd über und d Chörb mit de Goldmünze verschwindet.

Lueg uf de Bildschirm, das passiert, wenn beidi Chind de underi Chorb uswählet.

***S-13 (text first, then visual info: both choose 1 coin, coins disappear. Go through all stages immediately until baskets appear and start flashing).**

***S-14 (no text, reset)**

***S-15 (baskets flashing)**

g) Screen: Baskets and figures come again to „start“ then focal actor chooses DOWN and other kid chooses UP, piggy bank comes up.

Also: Wenn Du und s andere Chind beidi de glich Chorb wähled, chömed ihr beidi nüd über. Das isch sehr schad!

Aber es isch au möglich, dass ihr beidi en andere Chorb wähled. Wenn Du de underi Chorb uswählsch und s andere Chind de oberi Chorb uswählt, denn chunsch Du de underi Chorb mit einere Goldmünze über. Und s andere Chind chund de oberi Chorb mit einere Goldmünze über.

Lueg uf de Bildschirm, das passiert, wenn Du de underi Chorb uswählsch und s andere Chind de oberi Chorb uswählt.

***S-16 (text first, then visual info: focal chooses down, other up. Go to where figures grab their coins)**

Du chasch denn die Goldmünze i Dis Kässeli tue. Die Goldmünze blibt im Kässeli bis am Schluss. Am Endi vo den Stund chasch Du dir Spilsache chaufe mit de Goldmünze wo i dim Kässeli sind. Au s andere Chind cha sich Spilsache chaufe am Schluss vo de Stund. Uf em Bildschirm gsesch, wie das goht.

***S-17 (text first, then visual info: piggy bank appears after this text-passage and coins are put into it).**

***S-18** (*remove piggy and figures, go through all stages immediately until baskets flashing*)

***S-19** (*no text*)

***S-20** (*baskets flashing*)

h) Screen: Baskets and figures come again to „start“ then focal actor chooses UP and other kid chooses DOWN, piggy bank comes up.

Es isch aber au möglich, dass Du de oberi Chorb wählsch und s andere Chind de underi Chorb. Denn chunsch Du de oberi Chorb mit einere Goldmünze über und s andere Chind Chund de underi Chorb mit einere Goldmünze über.

Lueg uf de Bildschirm, das passiert, wenn Du de oberi Chorb uswählsch und s andere Chind de underi Chorb uswählt.

***S-21** (*text first, then visual info: focal up, other down. Go to where figures grab their coins*)

Au denn chasch Du d Goldmünze i dis Kässeli tue. Bis Du am Schluss vo derä Stund Spilsache chaufe chasch mit dene Goldmünze. Ufem Bildschirm gsesch, wie das goht.

***S-22** (*text first, then visual info: piggy bank appears, figures put coins into it, Go immediately to stage 24*)

***S-23** (*no text, remove piggy & figures*)

***S-24**

i) Screen: two figures and two baskets only

Also: Wenn Du und s andere Chind beidi de glichligi Chorb wähled, verschwindet die Goldmünze und ihr chömed beidi nüd über. Wenn Du und s andere Chind aber beidi en andere Chorb wähled, chönnd ihr beidi Goldmünze sammle.

***S-25**

Lueg jetz uf d Taste vom Computer. Es het ned nume en Taste mit eme Drüegg und en Taste mit eme Chreis. Uf de anderee Site hets no 2 anderi Taste. Uf de 2 andere Taste hets en Chorb. Die oberi Taste isch für de oberi Chorb und die underi Taste isch für de underi Chorb.

Weisch, uf welli Taste Du muesch drücke, wenn Du de underi Chorb wotsch? Denn muesch uf die underi Chorb-Taste drücke. Drück emol uf die Taste.

Wenn Du die richtigi Taste drückt hesch, gsesch Du jetz en Sunne ufem Bildschirm. Wenn Du kei Sunne gsesch, tue bitte jetzt ustrecke

[if kids don't understand selection of baskets, explain keys. In addition, explain interdependende (if both choose the same basket, nobody gets anything and so on.)]

→ Right answer: A sun comes up on the program. Wrong answer, no sun. Then children are asked to raise their hand and someone goes to show what button to press.

***S-26** (*no text, reset*)

***S-27**

Und uf weli Taste muesch drücke, wenn Du de oberi Chorb wotsch? Denn muesch uf die oberi Chorb-Taste drücke. Drück emol uf die Taste.

→ Right answer: A sun comes up on the program. Wrong answer, no sun. Then children are asked to raise their hand and someone goes to show what button to press.

[if kids don't understand selection of baskets, explain keys. In addition, explain interdependende (if both choose the same basket, nobody gets anything and so on.)]

Wenn Du die richtigi Taste drückt hesch, gsesch Du jetz en Sunne ufem Bildschirm. Wenn Du kei Sunne gsesch, tue bitte jetzt ufstrecke.

***S-28**

Alli Chind tüend das Spili es paar mol spile. Du spilsch jedes Mol miteme Chind us de andere Gruppe.

***S-29**

Immer wenns spili vo Vore afot, dreiet sich die andere Chind im Chreis. Denn tuet de Computer jedesmol zuefällig irgend es Chind us de andere Gruppe uswähle. Meistens spilsch Du also i jedere Rundi miteme andere Chind. Du weisch ned, wer das Chind isch.

***S-30**

j) Screen: insert screen that shows decision, coins flying, pigs coming up (scene depends on norm to generate!!)

Vor de Summerferie hend mer das Spili scho mit andere Chind/ Erwachsene gespilt. D Gruppe Chreis/Drüegg het meistens OBERI/UNDERI Chorb gwählt. Und d Gruppe Drüegg/Chreis het meistens de UNDERI/OBERI Chorb gewaehlt. Lueg guet uf de Bildschirm, so hend die meiste andere Chind/die meiste Erwachsne das Spili gmacht.

***S-31** (*text first, then norm is shown visually*)

***S-32** (*immediatly piggy bank appears*)

***S-33** (*remove piggy bank and go to next stage immediately*)

***S-34**

k) Screen: back to starting screen with sky and gras

Es isch wichtig, dass alli Chind drus chömed wie das Spili got. Nur wenn Du drus chunsch, chasch Du vill Goldmünze verdiene. Mer möched denn no es zweits Spili, wo's wider um Goldmünze goht. I beidne Spili sind alli Chind immer i de glichlige Gruppe.

Am Schluss vo dene beide Spili, zeigt de Computer a, wie vill Goldmünze Du gsamlet hesch. Mer gänd Dir denn die Goldmünze und Du chasch go Spilsache chaufe. Je meh Goldmünze Du hesch, desto grösseri Spilsache chasch Du Dir chaufe.

Hesch jetz no en Frog? Wenn Du no en Frog hesch, tue bitte jetzt ufstrecke.

Mer fönd bald mit dem Spili a. Es goht gnau so, wie ich das jetzt erklärt han. Es sind di gliche Bilder. Und de Computer erklärt Dir immer, was grad passiert. De Computer seit immer, wenn Du chasch en Chorb uswähle. Wenn Du en Chorb chasch wähle, blinked die beide Chörb. Du wälsch en Chorb us, indem Du uf die richtigi Taste drücksch. Entweder uf die oberi Chorb-Taste oder uf die underi Chorb-Taste.

Ab jetzt red nüme ich mit Dir. De Computer ret mit Dir und zwar über de Chopfhörer [*zeige einen Kopfhörer*]. Alli Chind legged jetzt de Chopfhörer a.

HEADSET

Audio spoken during NormGen Game via headset (#1)

*S-35

A1) Screen: blue sky and green grass, figures spinning, figures zoom down
[before first round only]

Hoi, do isch de Computer. Wenn Du mich ghörsch, tue bitte jetzt ufstrecke.

[After Computer's Hello, ask children if the volume is too high or too soft and adjust it accordingly.]

*S-36

- [control, children, triangle up, circle down] Mer mached das Spili es paar Mol. Du chunsch sicher gli drus, wie das Spili goht. Mer hend das schomol mit CHIND gspillt. D Gruppe DRÜEGG het meistens de OBERI Chorb gwählt und d Gruppe CHREIS het meistens de UNDERI Chorb gwählt.
- [control, children, triangle down, circle up] Mer mached das Spili es paar Mol. Du chunsch sicher gli drus, wie das Spili goht. Mer hend das schomol mit CHIND gspillt. D Gruppe CHREIS het meistens de OBERI Chorb gwählt und d Gruppe DRÜEGG het meistens de UNDERI Chorb gwählt.
- [control, erwachsene, triangle up, circle down] Mer mached das Spili es paar Mol. Du chunsch sicher gli drus, wie das Spili goht. Mer hend das scho mit ERWACHSENE gspillt. D Gruppe DRÜEGG het meistens de OBERI Chorb gwählt und d Gruppe CHREIS het meistens de UNDERI Chorb gwählt.

- [control, erwachsene, triangle down, circle up] Mer mached das Spili es paar Mol. Du chunsch sicher gli drus, wie das Spili goht. Mer hend das scho mit ERWACHSENE gspillt. D Gruppe CHREIS het meistens de OBERI Chorb gwählt und d Gruppe DRÜEGG het meistens de UNDERRI Chorb gwählt.

**S-0

Mer fönd bald mit em Spili a. Dänkr drah, Du ghörsch immer zu de Gruppe vo de Chreis/Drüegg. D Gruppe blybet immer glich.

De Computer suecht jetz zufällig es Chind us de andere Gruppe us. Das Chind macht mit Dir das Spili.

So, jetz gsesch Du, mit wem Du dasmol das Spili machsch. Du chasch jetz denn en Chorb uswähle. Dänk dra, wenn Du und s andere Chind de glichlig Chorb uswähled, verschwindet die Goldmünze. Drück jetz die Taste mit dem Chorb wo Du wotsch uswähle.

- [after choice] Bitte wart jetz, bis alli Chind en Chorb usgwählt hend.
- [after 10 seconds] Bitte wähl JETZT en Chorb us.

A2)

[before round 2 to round N] De Computer suecht wider zufällig irgend es Chind us de andere Guppe us.

Dänk dra, wenn Du und s andere Chind de glichlig Chorb uswähled, verschwindet die Goldmünze. Drück jetz en Taste.

- [after choice] Bitte wart jetz, bis alli Chind en Chorb usgwählt hend.
- [after 10 seconds] Bitte wähl JETZT en Chorb us.

B) Alternative 1/2: both choose up/down, stars dissapear:

- [treatment&control] Ihr hend beidi de glichlig Chorb gwählt. Du chunsch kei Goldmünze über. Au s andere Chind chund kei Goldmünze über.

C) Alternative 3: self chooses up, other chooses down, piggy bank moves into the screen, saving coins:

- [treatment] Ihr hend beidi en andere Chorb Gwäld. Du chunsch 2 Goldmünze über. S andere Chind chund ei Goldmünze über.
- [control]] Ihr hend beidi en andere Chorb Gwäld. Du chunsch 1 Goldmünze über. Au s andere Chind chund 1 Goldmünze über.

E) Alternative 4: self chooses down, other chooses up, piggy bank moves into the screen, saving coins:

- [treatment]] Ihr hend beidi en andere Chorb Gwäld. Du chunsch ei Goldmünze über. S
andere Chind chund 2 Goldmünze über.
- [control: same as C]

F) FEEDBACK after everybody's choice, after every round from 1 to n):

- [treatment] Bis jetzt hend die meiste Chind us Dinere Gruppe de Chorb mit **zwei/einere** Goldmünze usgwählt.
- [treatment;equal] Bis jetzt hend I dinere Gruppe glichvil Chind de Chorb mit zwei Goldmünze und de Chorb mit einere Goldmünze usgwählt.
- [control] Bis jetzt hend die meiste Chind us Dinere Gruppe de **oberi/underi** Chorb usgwählt
- [control;equal] Bis jetzt hend i dinere Gruppe glichvil Chind de oberi und de underi Chorb usgwählt

Jetzt machemer das Spili grad nomol.

→ Back to A2 until all periods are done

F) AFTER VERY LAST ROUND ONLY:

- [treatment&control unequal case] Los guet zue. Im ganze Spili hend die meiste Chind us de Gruppe **Chreis/Drüegg** meh Goldmünze verdient als d Chind us de Gruppe **Chreis/Drüegg**. Das Spili isch jetzt fertig. Tue bitte de Chopfhörer abzieh. Leg en eifach näbe de Computer.
- [treatment&control equal case] Los guet zue. Im ganze Spili hend d Chind i beidne Gruppe glichvill Goldmünze verdient. Das Spili isch jetzt fertig. Tue bitte de Chopfhörer abzieh. Leg en eifach näbe de Computer.

LIVE

Game #2 general instructions live spoken, without headset.

*****S-0**

1) Screen with blue sky, green grass, big yellow sun in the middle

So, jetzt isch das Spili fertig. Mer möched aber no es anders Spili. Das letschte Spili isch ganz churz.

*****S-1**

2) Screen where subject in middle, circles of other subjects on each side

Lueg nomol uf de Bildschirm vom Computer.

*****S-2**

Du bisch wider das Chind mit de rote Strich unde dra.

*****S-3**

Du ghörsch immerno zu de gliche Gruppe. Au alli andere Chind ghöred no zu de gliche Gruppe. Du gsesch die beide Gruppe ufem Bildschirm.

*****S-4**

De Computer wählt jetzt zufällig zwei Chind us.

*****S-5**

3) Screen: groups start spinning and two zoom down, three golden coins in middle

Gesch, jetz het de Computer 2 Chind usgwählt.

Eis Chind isch us de einte Gruppe und s sandere Chind isch us de andere Gruppe. Du bisch s Chind obe im Bild mit de rote Strich unde dra. Die andere 2 Chind sind unde ufem Gras.

Du und alli andere Chind chönd jetz Goldmünze zwüsche 2 Chind ufteile.

*****S-6**

Du ggesch jetz ufem Bildschirm 3 Goldmünze zwüsche dene beide Chind. Du dörfsch jetz die 3 Goldmünze eini noch de andere verteile. Du spilsch jetz nüme miteme Chind, Du chasch die Münze ganz elei verteile.

Wenn die erschi Goldmünze blinkt, chasch du dich entscheide, welem vo dene beide Chind, wo du ufem Bildschirm ggesch, du die Goldmünze wotsch gä. Entweder em Chind us de Gruppe **Chreis/Drüegg** oder em Chind us de Gruppe **Chreis/Drüegg**. Du chasch die Münze aber ned Dir sälber gä.

*****S-7**

4) Screen: First coin starts blinking

Lueg, jetzt blinkt die erschi Goldmünze. Welem Chind möchtsch Du die Goldmünze gä, wo JETZT blinks? Drück jetzt die Taste mit em Zeiche vom Chind, wo Du die Goldmünze wotsch gäh.

→ if no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it privat decision) encourage the „sleeping“ child to now press the button:

(Es hend nonig alli Chind die blinkendi Münze verteilt. Wenn Du die Münze nonig verteilt hesch, muesch dich JETZT entscheide, welem Chind du die blinkendi Goldmuenze wotsch gä. Drueck uf de Taste mit em Zeichen vo dem Chind wo Du die Goldmuenze wotsch gäh.)

5) Golden coin will fly into the hand of the chosen figure

Du hesch die ersti Goldmuenze verteilt. Jetz chasch denn die 2. Goldmünze verteile.

*****S-8**

6) Second coin starts blinking

Jetzt blinkt die zweiti Goldmünze. Welem Chind möchtsch Du die Goldmünze gä, wo JETZT blinks? Drück die Taste mit em Zeiche vom Chind, wo Du die Goldmünze wotsch gäh.

→ if no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it privat decision) encourage the „sleeping“ child to now press the button: : (Es hend nonig alli Chind die blinkendi Münze verteilt. Wenn Du die Münze nonig verteilt hesch, muesch dich JETZT entscheide, welem Chind du die blinkendi Goldmuenze wotsch gä. Drueck uf de Taste mit em Zeichen vo dem Chind wo Du die Goldmuenze wotsch gäh.)

7) Golden coin will fly into the hand of the chosen figure

Du hesch die 2. Goldmünze verteilt. Jetz chasch denn no die 3. Goldmünze verteile.

***S-9

8) Third coin starts blinking

Jetzt blinkt die letschi Goldmünze. Welem Chind möchtsch Du die Goldmünze gä, wo JETZT blinkt?

Drück die Taste mit em Zeiche vom Chind, wo Du die Goldmünze wotsch gäh.

→ if no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it privat decision) encourage the „sleeping“ child to now press the button: (Es hend nonig alli Chind die blinkendi Münze verteilt. Wenn Du die Münze nonig verteilt hesch, muesch dich JETZT entscheide, welem Chind du die blinkendi Goldmuenze wotsch gä. Drueck uf de Taste mit em Zeichen vo dem Chind wo Du die Goldmuenze wotsch gäh.)

***S-10

9) Golden coin will fly into the hand of the chosen figure

Du hesch die dritt Goldmuenze verteilt. Das Spili isch jetz fertig.

****S-0

11) Blue sky and green grass

Du gsesch jetz, wie vil Goldmünze Du verdient hesch i dene Spili. Blib no en Moment uf dim Platz sitze ohni z schwätze. Es chund jetz den grad über verbi und git Dir dini Goldmünze. Gli chasch Du go Spilsache chaufe.

12) Now the number of earned coins should come up on the screen, easy to see for the experimenter in order to give the child the right number of coins. Make up a system so that three to four kids go to toy-store together, rest waits.

D English translation of the instructions (translated by the authors)

First part of the instructions: live spoken by one of the experimenters

Screen 0 [Starting screen: blue sky, green grass]

I am going to explain how this game works. Every child should listen carefully and no one should talk until the game has ended. It is important that every child knows how this game works. Only if you know how the game works, you can earn many gold coins [experimenter shows a gold coin to the children]. With these gold coins, every child can buy a toy at the end of this lesson. The more gold coins you have, the bigger the toys you can buy.

Every child is sitting in front of a computer. You are playing with the other children via computer, all the computers are connected. Please do not yet press a key. During the game you will only need four keys, namely the four keys with stickers on. Please do not press any other key. Otherwise, there can be a problem and no one will be able to buy a toy in the end.

Screen 1 [Two groups on top, one group spinning, one figure with red lines.]

All the children sitting here in front of a computer, belong to a group. There are two groups. The computer has assigned every child to one group of these two groups. One group has a circle on their belly and the other group has a triangle on their belly. Now have a close look at the two groups on the top of your screen. Do you see the two groups? When you see the two groups, please raise your hand [the experimenter demonstratively raises his or her hand].

You either belong to the triangle group or to the circle group. Every child stays in same group during the whole game. No one can change the group. Now have a look at the belly of the figure, who is you. Check, to which group you belong. It is a secret to which group you belong, do not tell it to anyone.

Screen 2

Now have a look at the keyboard of your computer. There are two keys, each with the symbol of one of the two groups. There is a key with a circle and a key with a triangle. Which group do you belong to? If you belong to the circle group, press the key with the circle. If you belong to the triangle group, press the key with the triangle. Press the key with the symbol of your group NOW.

Screen 3

If you have pressed the right key, you now see a sun on your screen. If you do not see a sun, please raise your hand.

[The experimenter goes to children who are not raising their hands and is supporting them].

Screen 4

Now you see the children of the other group spinning on your screen. The computer is now randomly choosing anyone of these children to play with you. You do not know who this child is. Also, the other child does not know, with whom he or she is playing. Remember, you are the figure with the red lines.

Screen 5 [Kids zoom down]

So, now the computer has decided with which child of the other group you are playing.

Screen 6

Now press the key of the OTHER child's group. Which sign is on the other child's belly? A circle or a triangle? Press the key with the other child's group on now.

If you have pressed the right key, you now see a sun on your screen. If you do not see a sun, please raise your hand.

[The experimenter goes to children who are not raising their hands and is supporting them].

Screen 7

Every child stays in the same group for the whole game.

Screen 8 [Baskets appear]

You know that you can gain gold coins in this game. Every child now sees the gold coins they can win on the computer screen. These are the same cold coins like this [the experimenter shows a gold coin]. The cold coins are in two baskets. The baskets are located between you and the other child.

- **Asymmetric game version:** In the one basket there are 2 gold coins. In the other basket there is 1 gold coin. Later, every child is going to decide, which of these baskets they want to choose. Attention: You and the other child are going to decide which basket you want at the same time. Also the other child can choose between the basket with the two gold coins or the basket with one gold coin. But you and the other child cannot agree on who is choosing which basket.
- **Symmetric game version:** In the upper basket there is one gold coin and in the lower basket there is one gold coin. Later, every child is going to decide, which of these baskets they want to choose. Attention: You and the other child are going to decide which basket you want at the same time. Also the other child can choose between the basket with the two gold coins or the basket with one gold coin. But you and the other child cannot agree on who is choosing which basket. Also the other child can either choose the upper basket or the lower basket. But you and the other child cannot agree on who is choosing which basket.

Screen 9

- **Asymmetric game version:** If you and the other child both choose the same basket, there will be a problem. For example, if you and the other child both choose the basket with 2 gold coins you will both receive nothing and the baskets with the coins disappear. Look onto your screen, this is what happens, when both children choose the basket with 2 coins.

- **Symmetric game version:** If you and the other child both choose the same basket, there will be a problem. For example, if you and the other child both choose the upper basket you will both receive nothing and the baskets with the gold coins disappear. Look onto your screen, this is what happens, when both children choose the upper basket.

Screen 10 [No text. Visual instruction: Both figures choose the upper baskets and the baskets with coins disappear].

Screen 11 [Baskets flashing]

Screen 12 [Baskets and figures come again to „start“ then both choose down and coins disappear.]

- **Asymmetric game version:** Also, if you and the other child both choose the basket with one gold coin you both receive nothing und the baskets with the gold coins disappear. Look onto your screen, this is what happens, if both children choose the basket with one gold coin.
- **Symmetric game version:** Also, if you and the other child both choose the lower basket you both receive nothing und the baskets with the gold coins disappear. Look onto your screen, this is what happens, if both children choose the lower basket.

Screen 13 [No text. Visual instruction: Both figures choose lower basket and the basket with the coin disappears.]

Screen 14 [No text]

Screen 15 [Baskets flashing. Baskets and figures come again to „start“ then focal actor chooses DOWN and other kid chooses UP, piggy bank comes up.]

If you and the other child both choose the same basket, you both receive nothing. This is really a pity. But it is also possible that you both choose different baskets.

- **Asymmetric version:** If you choose the basket with one gold coin and the other child chooses the basket with two gold coins, then you receive the basket with one gold coin. And the other child receives the basket with two gold coins. Look onto your screen, this is what happens, if you choose the basket with one gold coin and the other child chooses the basket with two gold coins.
- **Symmetric version:** If you choose the lower basket and the other child chooses the upper basket, then you receive the lower basket with one gold coin. And the other child choose the upper basket with one gold coin. Look onto your screen, this is what happens, when you choose the lower basket and the other child chooses the upper basket.

Screen 16 [Visual instructions: Focal figure chooses down, the other figure chooses up. Both figures grab their coins.]

You can put the gold coin(s)¹ into your piggy bank. The gold coin stays in you piggy bank until the end. At the end of this lesson, you can buy a toy with the coins in your piggy bank. Also the other child can buy a toy with their piggy bank at the end of the lesson. On your screen you can see how this works.

Screen 17 [Visual instructions: piggy bank appears and both figures put their coins into it].

Screen 18 [The piggy bank, the baskets with coins and the figures disappear].

Screen 19 [The baskets with coins reappear].

Screen 20 [Baskets and figures come again to „start“, then the focal actor chooses UP and the other child chooses DOWN, the piggy bank comes up.]

- **Symmetric version:** But it is also possible that you choose the basket with two coins and the other child chooses the basket with one coin. Then you receive the basket with two gold coins and the other child receives the basket with one gold coin.
- **Symmetric version:** but it is also possible that you choose the upper basket and the other child chooses the lower basket. Then you receive the upper basket with one gold coin and the other child receives the lower basket with one gold coin.

Look onto your screen, this is what happens when you choose the upper basket and the other child chooses the lower basket.

Screen 21 [Visual instructions: Focal figure chooses up, the other figure chooses down. Both figures grab their coins.]

Also in this case you can put the gold coin(s) into your piggy bank. At the end of the lesson, you can buy a toy with your gold coins. On your screen you can see how this works.

Screen 22 [The figures put their coins into their piggy banks.]

Screen 23 [The figures and the piggy bank disappear.]

Screen 24 [Two figures and two baskets only].

To sum up: If you and the other child both choose the same basket, then the gold coins disappear and you both receive nothing. But when you and the other child both choose different baskets, you both can gain gold coins.

Screen 25

Look at the keyboard of your computer now. There is not only a key with a triangle on and a key with a circle on. There are also two other keys on the other side of the keyboard.

- **Asymmetric version:** On one key there is a basket with one gold coin. On the other key there is a basket with two gold coins.
Do you know which key to press for choosing the basket with one gold coin? Then you must press the key with one gold coin. Press this key now.

¹ The word «d Goldmünze» can be singular or plural at the same time in Swiss German.

- **Symmetric version:** On both of the two other keys there is a basket. The upper key is for the upper basket and the lower key is the lower basket.
Do you know which key to press for choosing the lower basket? Then you must press the lower key with a basket on. Press this key now.

If you have pressed the right key, you now see a sun on your screen. If you do not see a sun, please raise your hand.

[If the kids do not understand the selection of baskets, explain the keys. In addition, explain the interdependence (if both choose the same basket, nobody gets anything and so on)].

Screen 26 [No text, reset]

Screen 27

- **Asymmetric version:** And which key to press for choosing the basket with two gold coins? Then you must press the key with two gold coins. Press this key now.
- **Symmetric version:** And which key to press for choosing the upper basket? Then you must press the upper key with a basket on. Press this key now.

If you have pressed the right key, you now see a sun on your screen. If you do not see a sun, please raise your hand.

[If the kids do not understand the selection of baskets, explain the keys. In addition, explain the interdependence (if both choose the same basket, nobody gets anything and so on)].

Screen 28

Every child is going to play this game for several times. Every time you are playing with a child from the other group.

Screen 29

Every time the game is starting again, the other children are spinning. Then, every time, the computer is randomly selecting any child from the other group. So, most of the times you are playing with another child in each round. You do not know who this child is.

Screen 30 [Decision screen appears, coins flying, pigs coming up (scene depends on norm to generate)].

Before the summer holidays, we have played this game already with other children/grown ups.

- **Asymmetric version:** The triangle/circle group has usually chosen the basket with one/two gold coins. And the circle/triangle group has usually chosen the basket with two/one gold coins.
- **Symmetric version:** The triangle/circle group has usually chosen the upper/lower basket. And the circle/triangle group has usually chosen the lower/upper basket.

Look onto your screen, this is the way most other children/grown ups have played the game.

Screen 31 [Norm is shown visually]

Screen 32 [Piggy bank appears]

Screen 33 [-]

Screen 34 [Starting screen with only sky and grass]

It is important that every child understands how this game works. Only if you understand the game, you can earn many gold coins. We will make another game, which deals with gold coins, too. In both games, all the children stay in the same groups. At the end of both games, the computer will show you, how many gold coins you have collected. Then, we will give these gold coins to you and then you can buy a toy. The more gold coins you have collected, the bigger the toy you will be able to buy.

Do you have a question? If you have a question, please raise your hand now.

[Experimenter is answering questions].

We are starting with the game soon. It is exactly as I have explained. There will be the same screens. An the computer will explain to you what is happening. The computer always tells you, when to choose a basket. When you can choose a basket, the baskets are blinking. You are choosing a basket by pressing the right key.

- **Asymmetric version:** Either the key with two coins on or the key with one coin on.
- **Symmetric version:** Either the upper key with a basket on or the lower key with a basket on.

Starting from now, not I will talk to you. Instead the computer will talk to you via head set [experimenter shows head set]. Every child is now putting on their head sets.

Second part of the instructions: audio file played via head set

Screen 35 [Blue sky and green grass, figures spinning, figures zooming down].

Hello, it's your computer speaking. If you can hear me, raise your hand [before first round only]. [After computer's hello, the experimenter asks the children whether the volume is too high or too soft and adjusts it accordingly].

Screen 36

We are going to play this game several times. For sure, you will understand soon how this game works.

- **Asymmetric, children, triangle 2, circle 1:** We have played it with children already. The triangle group has usually chosen the basket with two gold coins and the circle group has usually chosen the basket with one gold coin.
- **Asymmetric, children, triangle 1, circle 2:** We have played it with children already. The circle group has usually chosen the basket with two gold coins and the triangle group has usually chosen the basket with one gold coin.

- **Asymmetric, adults, triangle 2, circle 1:** We have played it with grown-ups already. the triangle group has usually chosen the basket with two gold coins and the circle group has usually chosen the basket with one gold coin.
- **Asymmetric, adults, triangle 1, circle 2:** We have played it with grown-ups already. the circle group has usually chosen the basket with two gold coins and the triangle group has usually chosen the basket with one gold coin.
- **Symmetric, children, triangle up, circle down:** We have played it with children already. the triangle group has usually chosen the upper basket gold coins and the circle group has usually chosen the lower basket.
- **Symmetric, children, triangle down, circle up:** We have played it with children already. the circle group has usually chosen the upper basket gold coins and the triangle group has usually chosen the lower basket.
- **Symmetric, adults, triangle up, circle down** We have played it with grown ups already. the triangle group has usually chosen the upper basket gold coins and the circle group has usually chosen the lower basket.
- **Symmetric, adults, triangle down, circle up** We have played it with grown-ups already. the circle group has usually chosen the upper basket gold coins and the triangle group has usually chosen the lower basket.

Screen 0 [Starting screen: blue sky, green grass]

We are about to start with the game. Remember, you belong to the circle/triangle group through the whole game. The groups always stay the same.

Now, the computer is randomly selection a child from the other group. This child is going to play the game with you.

Now you see with whom you are playing this game this time. Now you can choose a basket. Remember, if you and the other child choose the same basket, the gold coins disappear. Press the key with the basket you want to choose now.

- [After choice] Please wait, until all the children have chosen a basket.
- [After 10 seconds] Please choose a basket now.

Screens 2 to N [Before round 2 to N]

The computer is randomly choosing any child from the other group again.

Remember, if you and the other child choose the same basket, then the gold coins disappear.

- [After choice] Please wait, until all the children have chosen a basket.
- [After 10 seconds] Please choose a basket now.

Screen ‘miscoordination’ up/up or down/down [coins disappear]

- Both of you have chosen the same basket. You do not receive a gold coin. Also the other child does not receive a gold coin.

Screen ‘coordination’ up/down

- **Asymmetric game:** You both have chosen different baskets. You receive 2 gold coins. The other child receives 1 gold coin.
- **Symmetric game:** You both have chosen different baskets. You receive 1 gold coins. Also the other child receives 1 gold coin.

Screen 'coordination' down/up

- **Asymmetric game:** You both have chosen different baskets. You receive 1 gold coin. The other child receives 2 gold coins.
- **Symmetric game:** You both have chosen different baskets. You receive 1 gold coins. Also the other child receives 1 gold coin.

Feedback [after everybody's choice, after every round from 1 to N]

- **Asymmetric, unequal choices:** Up until now, most children in your group have chosen the basket with two coins/one coin.
- **Asymmetric, equal choices:** Up until now, as many children in your group have chosen the basket with two coins as the basket with one coin.
- **Symmetric, unequal choices:** Up until now, most children in your group have chosen the upper/lower basket.
- **Symmetric, equal choices:** Up until now, as many children in your group have chosen the upper basket as the lower basket.

Now we are going to play this game again.

Feedback after very last round

- **Unequal outcome:** Listen carefully. Over the whole game, most children from the circle group/triangle group have earned more gold coins than the children from the triangle/circle group.
- **Equal outcome:** Listen carefully. Over the whole game, the children from both groups have earned equal numbers of gold coins.

This game is over now. Please remove your head set. Just put them next to the computer.

Third part of the instructions: live spoken by one of the experimenters

Screen 0 [Starting screen: blue sky, green grass, big yellow sun in the middle]

Ok, now this game is over. But we are going to play another game. This last game is very short.

Screen 1 [Screen with subject's figure in the middle, circles of the two other groups on each side]

Look onto the screen of your computer again.

Screen 2

Again, you are the child with the red lines at the bottom.

Screen 3

You still belong to the same group. Also the other children still belong to the same groups. You can see the two groups on the screen.

Screen 4

The computer is randomly choosing two children now.

Screen 5 [Groups start spinning and two zoom down, three gold coins in the middle]

Look, the computer has chosen two children now. One child from each group. You are the child on top with the red lines below. The other two children are below on the grass.

You and all the other children can now split coins between two children.

Screen 6

You can see three gold coins in between you and the other child. Now, you can distribute one gold coin after the other. You now do not play with a child anymore, you can distribute the coins on your own.

When the first gold coin starts blinking, you can decide, which of these two children you see on the screen you want to give this gold coin to. Either to the child from the circle group/triangle group or to the child from the triangle group/circle group. But you cannot give this coin to yourself.

Screen 7 [First coin starts blinking]

Look, now the first coin is blinking. To which child do you want to give the gold coin that is blinking now to? Press the key with the sign of the child, to which you want to give this gold coin to.

[if no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it a private decision) encourages the respective child to now press the button:]

Not every child has distributed the blinking coin yet. When you have not yet distributed this coin, you must decide now, to which child you want to give the blinking coin to. Press the key with the child with the sign of the child to whom you want to give the gold coin.

[The gold coins flies into the hand of the chosen figure.]

You have just distributed the first gold coin. Now you can distribute the second gold coin.

Screen 8 [Second coin starts blinking]

Now the second gold coin is blinking. To which child do you want to give the gold coin that is blinking now to? Press the key with the sign of the child, to which you want to give this gold coin to.

[if no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it a private decision) encourages the respective child to now press the button:]

Not every child has distributed the blinking coin yet. When you have not yet distributed this coin, you must decide now, to which child you want to give the blinking coin to. Press the key with the child with the sign of the child to whom you want to give the gold coin.

[The gold coins flies into the hand of the chosen figure.]

You have just distributed the second gold coin. Now you can distribute the third gold coin.

Screen 9 [Third gold coin starts blinking]

Now the last gold coin is blinking. To which child do you want to give the gold coin that is blinking now to? Press the key with the sign of the child, to which you want to give this gold coin to.

[If no key is pressed within ten seconds, the experimenter can see that on his computer and from the front (to keep it a private decision) encourages the respective child to now press the button:]

Not every child has distributed the blinking coin yet. When you have not yet distributed, you must decide now, to which child you want to give the blinking coin to. Press the key with the child with the sign of the child to whom you want to give the gold coin.

[The gold coins flies into the hand of the chosen figure.]

Screen 10

You have distributed the third gold coin. Now this game is over.

Screen 0 [Blue sky, green grass]

Now you see, how many gold coins you have earned in these games. Stay seated for a moment without talking. Someone is going to come by and give you your gold coins soon. You can buy a toy right away.

Screen 12 [Now the number of earned coins come up on the screen, easy to see for the experimenter in order to give the child the right number of coins. Make up a system so that three to four kids go to the toy-store together, the rest waits.]

E Additional figures



Figure E1. Representative client station

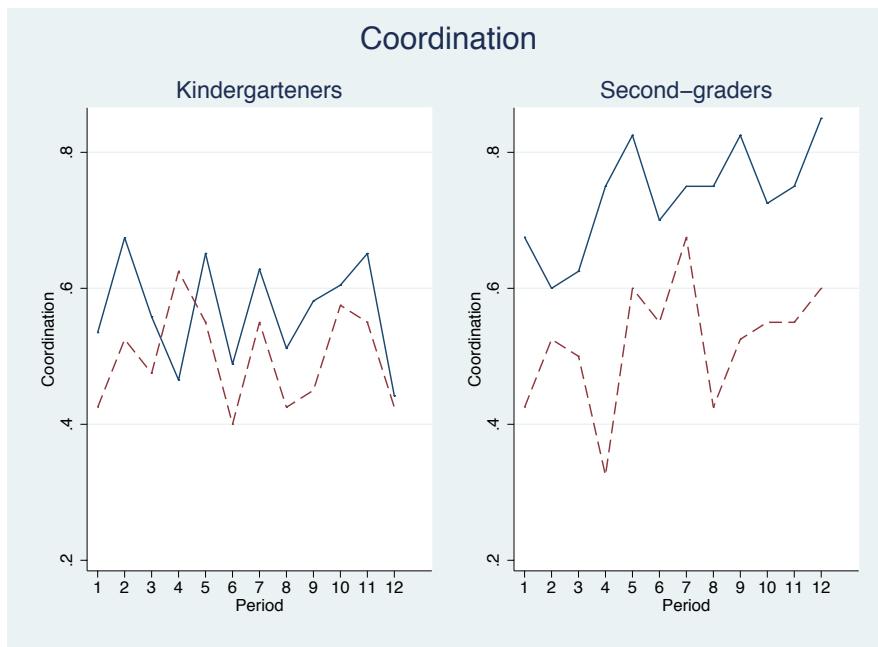


Figure E2. Coordination across periods and age groups. Solid line: equal game version. Dashed line: unequal game version.

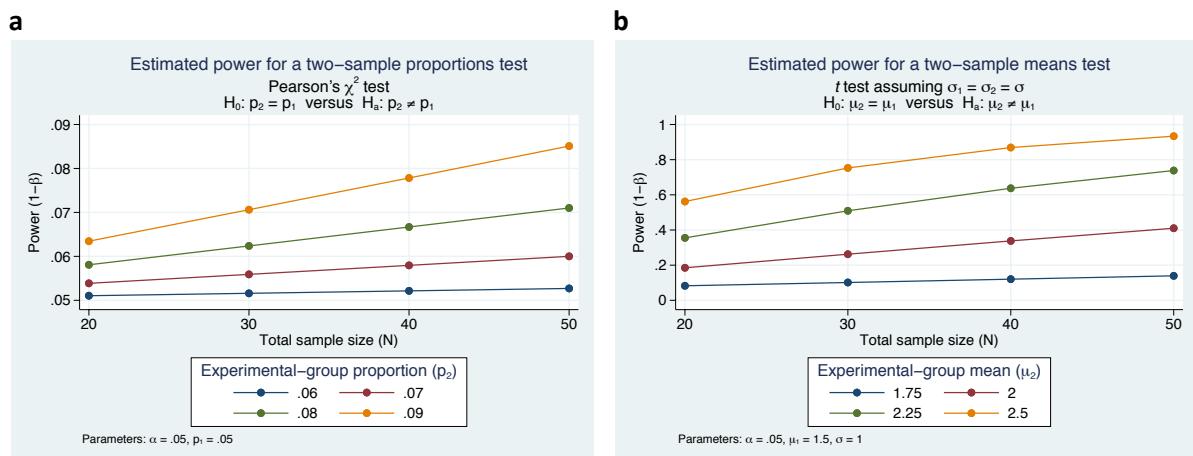


Figure E3. Statistical power under different scenarios. a. proportions (anti-coordination game). b. means (resource allocation task).