

Measuring Norms of Cooperation in Different Societies

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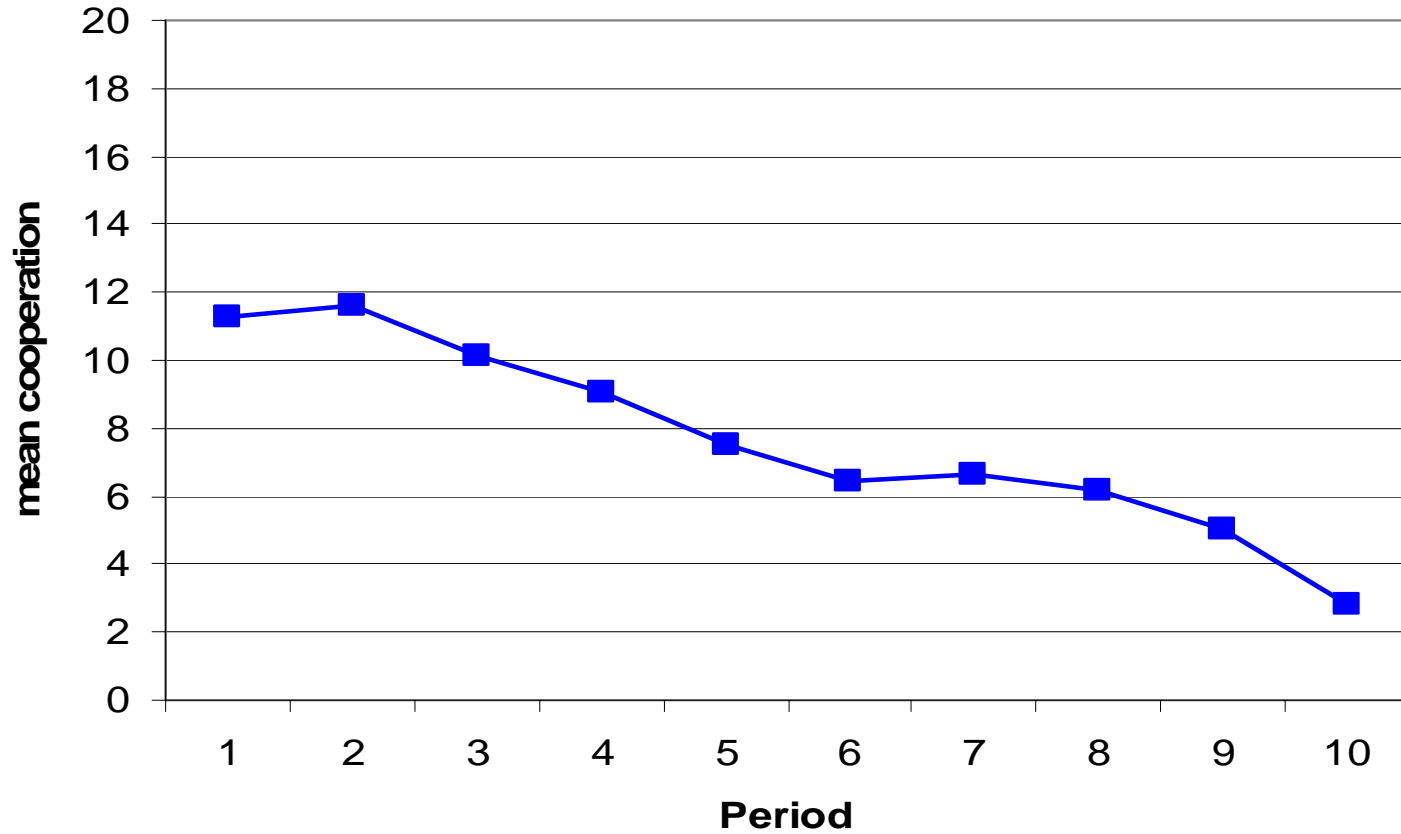
Contents

- Background & Motivation
- The experimental design and procedure
- The subject pools
- Expectations, decisions, attitudes and emotions
- A cross-generational & urban-rural comparison
- Conclusions

Background I: The cooperation problem

- Many social and economic problems are problems of voluntary cooperation with free rider incentives.
- Groups of four subjects. Each subject is endowed with $y=20$ tokens. Subjects have to decide how many tokens to keep privately and how many tokens to invest in a group project.
- For each token invested in the project, **each** subject in the group receives 0.4 tokens, i.e., the group together earns 1.6 tokens.
 - ⇒ Group as a whole benefits from a contribution.
 - ⇒ Yet, each contributor loses 0.6 tokens.
 - ⇒ Purely self-interested subjects will never contribute.

Typical results



Cooperation in the presence of a punishment opportunity

- Modification: After contribution decisions each member is informed about the contribution vector and can assign punishment points to **each** of the other members.
- For every point assigned the punisher has costs of 1 and the punished player has costs of 3.
- Self-interest hypothesis predicts zero punishment and on contribution levels.
- Existence of reciprocal types predicts punishment and hence an impact on cooperation.
- Important predecessors: Yamagishi *JPSP* 1986; Ostrom et al. *APSR* 1992

Screenshot Punishment stage

	gewählter Betrag	Einkommen aus der 1. Stufe	Abzugspunkte
Ihr eigenes Resultat	0	20,0	
Gruppenmitglied 1	0	20,0	<input type="text"/>
Gruppenmitglied 2	0	20,0	<input type="text"/>

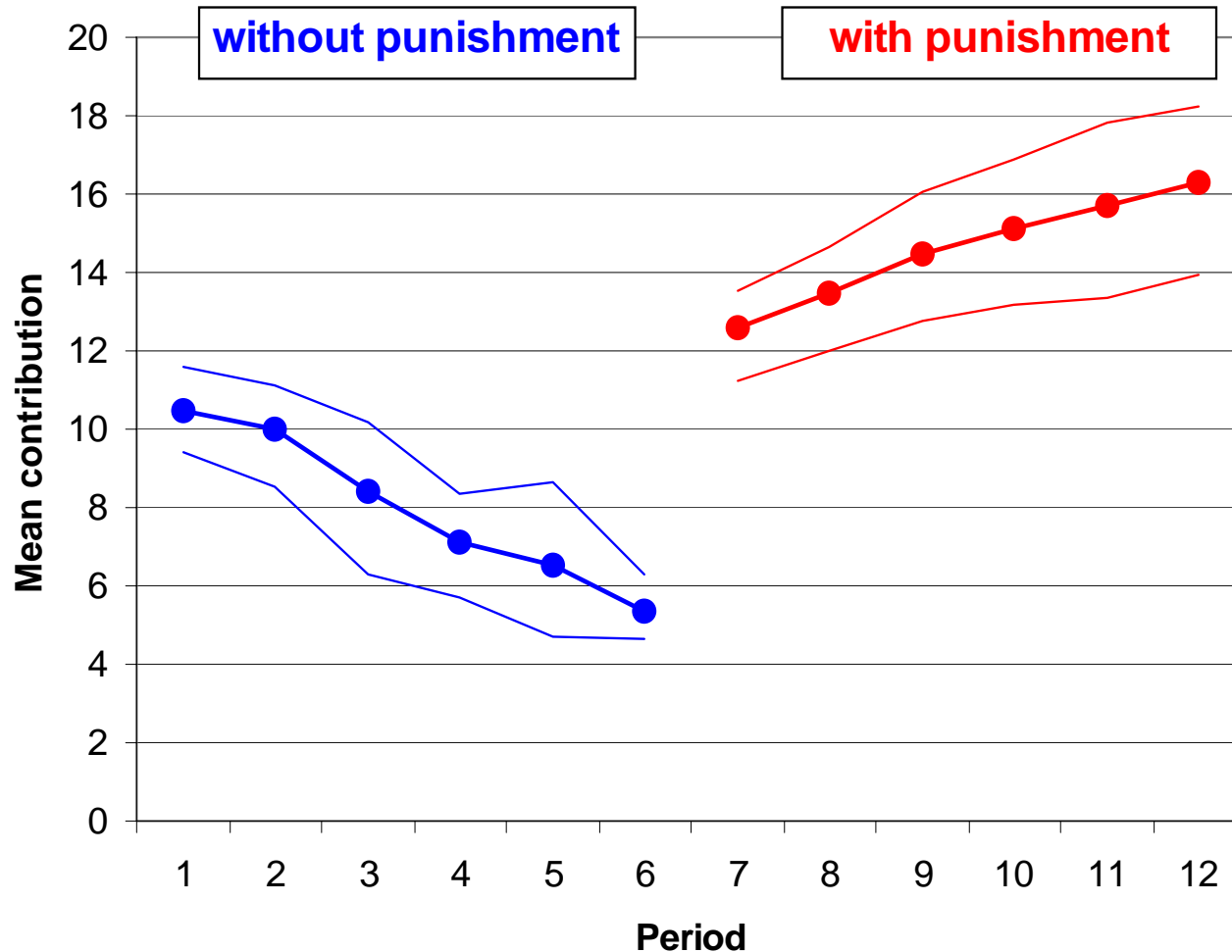
Kostenberechnung

Die Kosten Ihrer Punktzugabe betragen ----

OK

Punishment solves the cooperation problem

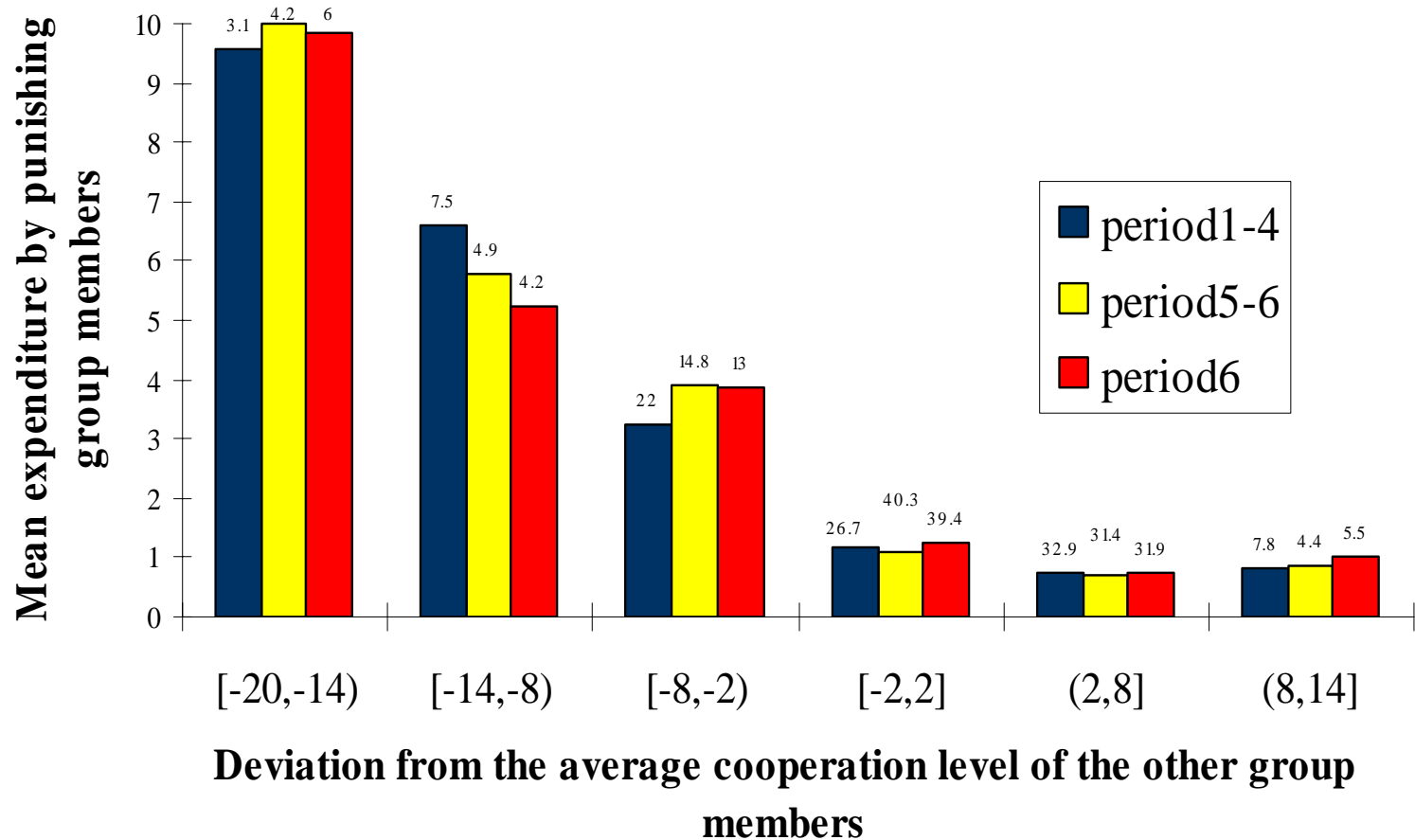
Fehr & Gächter *AER* 2000; *Nature* 2002



Replicated by

- Fehr & Gächter 2003a,b
- Page et al. 2002a,b; 2003
- Masclet et al. 2003
- Carpenter 2002, 2003
- Sefton et al. 2002
- Noussair&Tucker 2002
- ...

Punishment of free riders



Background II: Cross-cultural experiments

- International comparisons of cooperation and trust
e.g., Yamagishi 1986; Kachelmeier & Shehata 1995; Buchan et al. 2002; Ashraf, et al. 2003
- Henrich et al. 2001; 2002: How universal is behavior that has been observed in affluent university students? Go to remote tribes to test. (15 small-scale societies).
- We go to Russia. Poor areas; some of them remote from Western influence. Soviet “spirit” still alive.

Background III: Cooperation as a measure of social capital

“Social capital generally refers to trust, concern for one’s associates, a willingness to live by the norms of one’s community and to punish those who do not.”

Bowles and Gintis (2002, p. F419)

- Current literature focuses more on trust than on cooperation and norm enforcement.
- Cooperation and norm enforcement an important element of „social capital“.
- The focus on trust alone neglects the problems of incentives for free riders to cooperate.
- **Experimental research on cooperation and sanctioning behavior may yield a better understanding of social capital.**

Why Russia?

- **Results of several surveys show different patterns of trust between Russia and Western Europe e.g.:**
 - Rose (2000), calls Russia a “antimodern” society.
 - Hjollund, Paldam and Svendsen (2001), formulate the hypothesis of negative social capital as a consequence of dictatorships.
 - Collectivist and authoritarian ideology and practice.
- **Lack of successful voluntary cooperation accounts for many development and transition problems.**
 - Woolcock (1998).
 - Campos N.F. and Coricelli F. C. (2002).

Our research question

Are there different patterns of cooperation and sanctioning behavior in the former Soviet Union and Western Europe?

Test instrument: run exactly the same cooperation game in different societies.

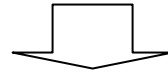
- Identical incentives.
- Differences in behavior reflect cross-societal differences.
- Cross-societal comparison with 926 students in six places (Zürich, St. Gallen, Goettingen, Minsk, Belgorod and Jekaterienburg).

Design overview

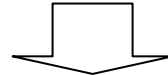
	1st one-shot Experiment	2nd one-shot Experiment
N-P experiments	No punishment (N)	With punishment (P)
P-N experiments	With punishment (P)	No punishment (N)

Sequence of one-shot experiment (N-P)

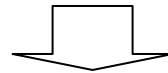
1. Contribution decision (N)



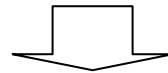
Expectation and confidence about others' contribution?



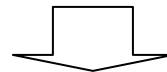
2. Contribution decision (P)



Expectation and confidence about others' contribution?



3. Punishment decision (P)



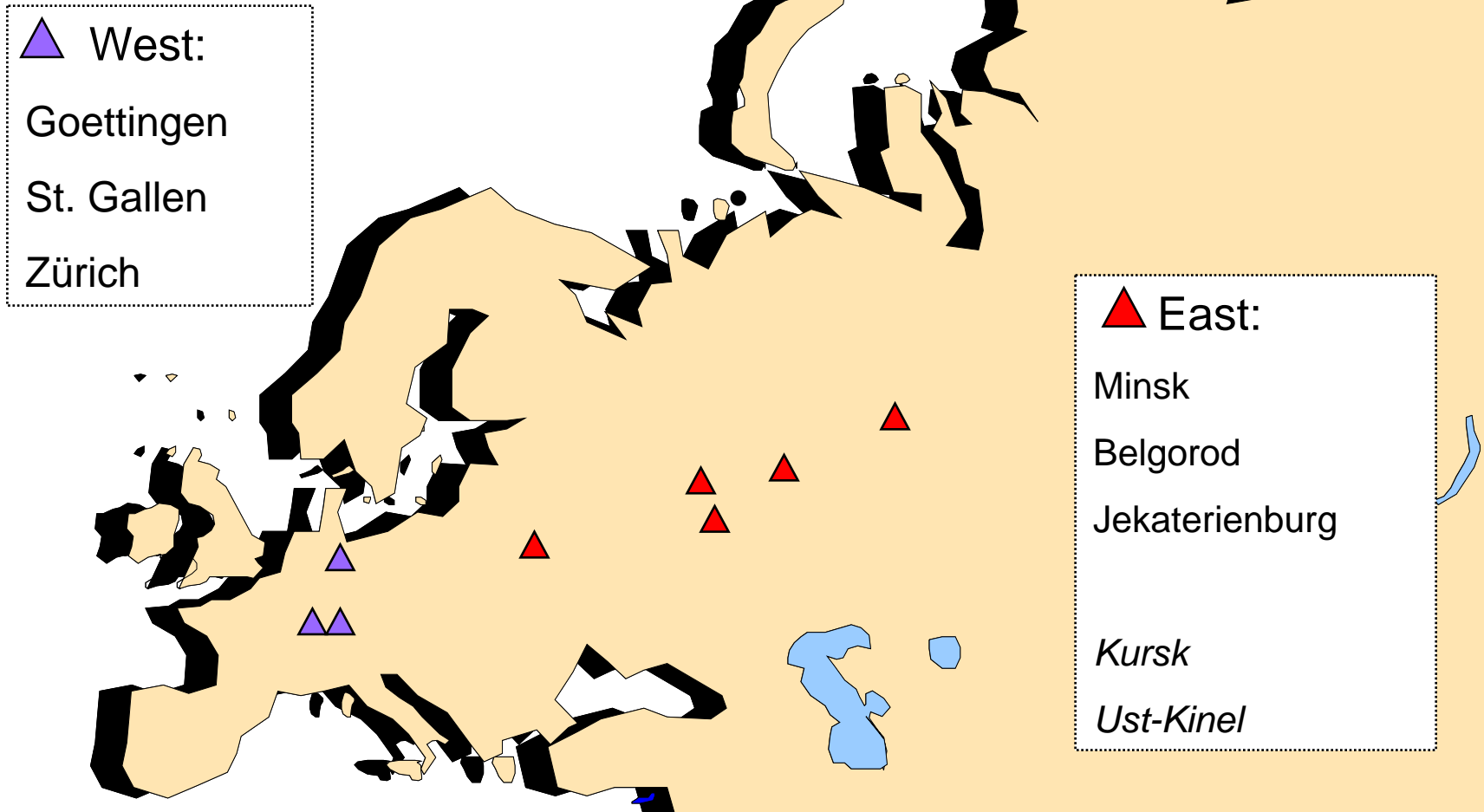
Expectation about others' punishment?

4. Post-experimental questionnaire

Methods

- Instructions with detailed explanations and control questions were translated from German into Russian, forward and backwards, to ensure that texts are identical.
- In all places the same software (Z-tree) and the same displays were used.
- The experimenter was in all places the same person.
- Experiment only continues when control questions are correctly answered.
- Instructions and procedures orally summarized according to a script.
- To avoid currency effects “Guilders” were used as experimental currency units.

Geography of experiments



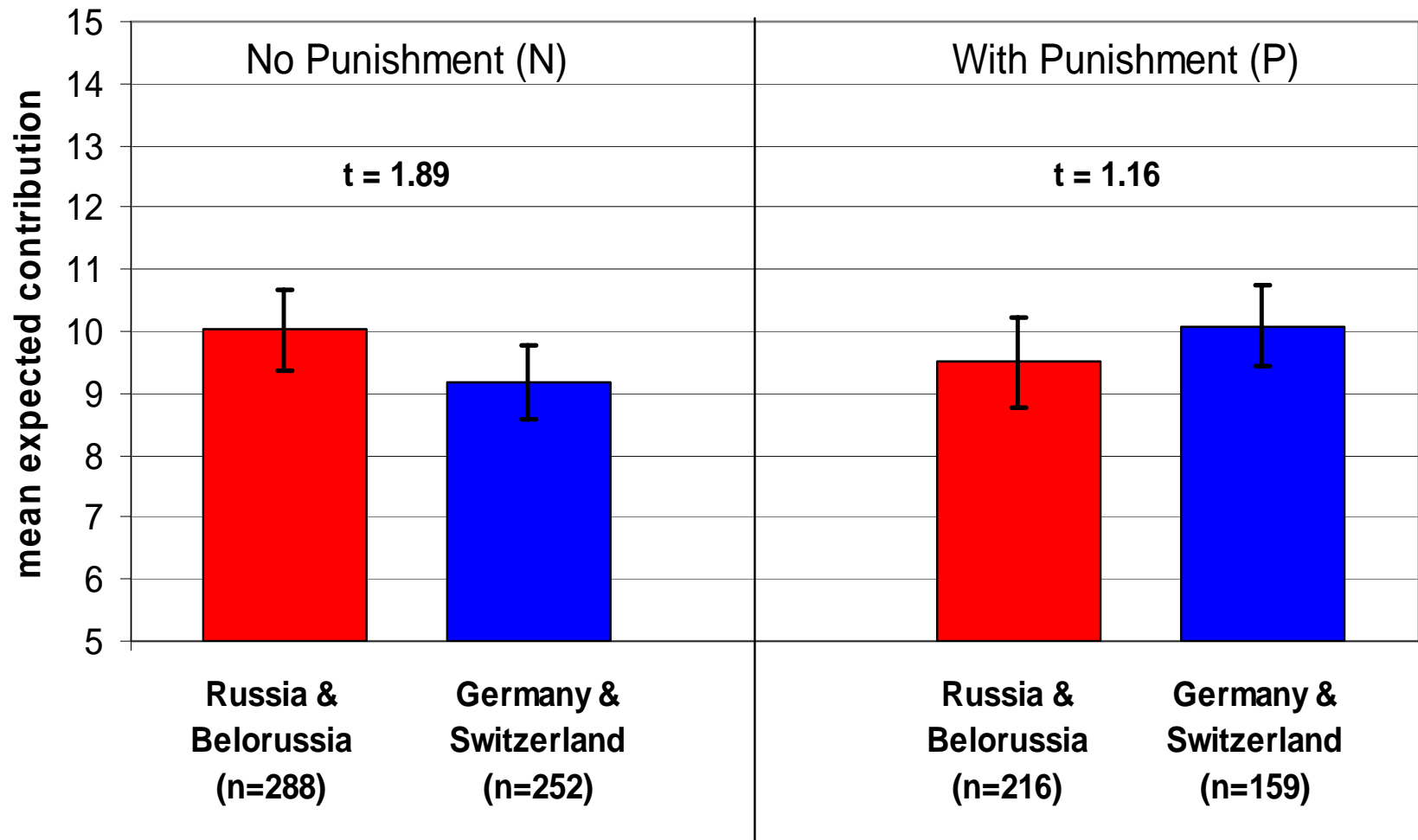
Characteristics of the subject pools

	Russians and Belorussians	Swiss and Germans
Average share of females:	31.09%	35.04%
Average age in years:	20.08	21.25
Average number of known participants:	1.63	1.33
Percentage of economists:	21.94%	31.39%
Average income in experiment:	3.68 €	23.87 €
Average monthly budget:	75.72 €	398.38 €
Percentage of monthly budget earned in the experiment:	4.9%	5.3%

Results

1. **Expectations** concerning cooperation
 - a.in N in the N-P experiments
 - b.in P in the P-N experiments
 - ➔ measure the first guess people have about cooperation of others
2. **Actual contributions**
 - a.in N in the N-P experiments
 - b.in P in the P-N experiments
 - ➔ measure actual cooperation
3. Measure **confidence in expectations**
4. Look at the **change in incentives** in an N-P or P-N experiment respectively.

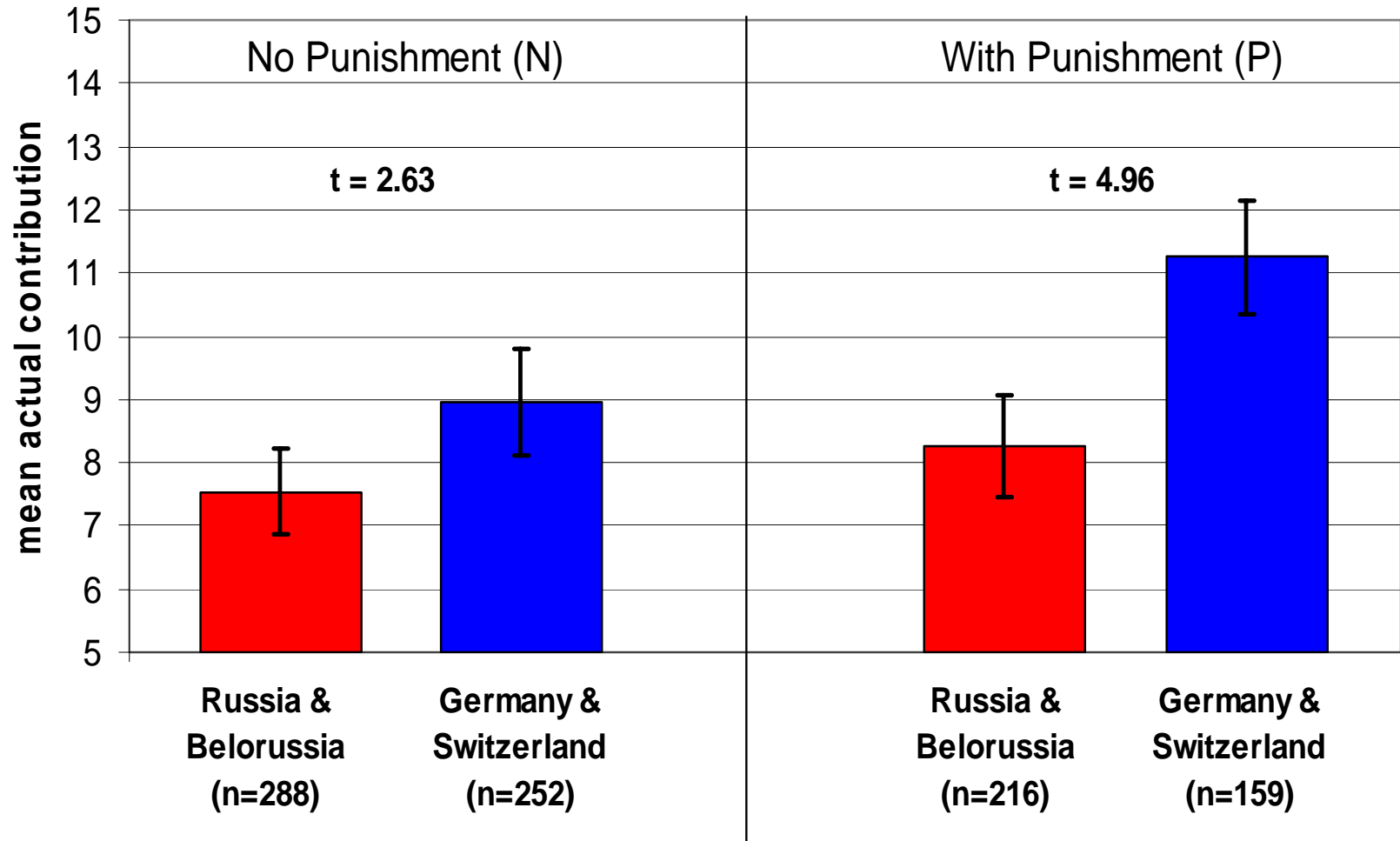
1. Expected cooperation



Russia & Belorussia – N vs. P: $t=1.05$

Germany & Switzerland – N vs. P: $t=2.02$

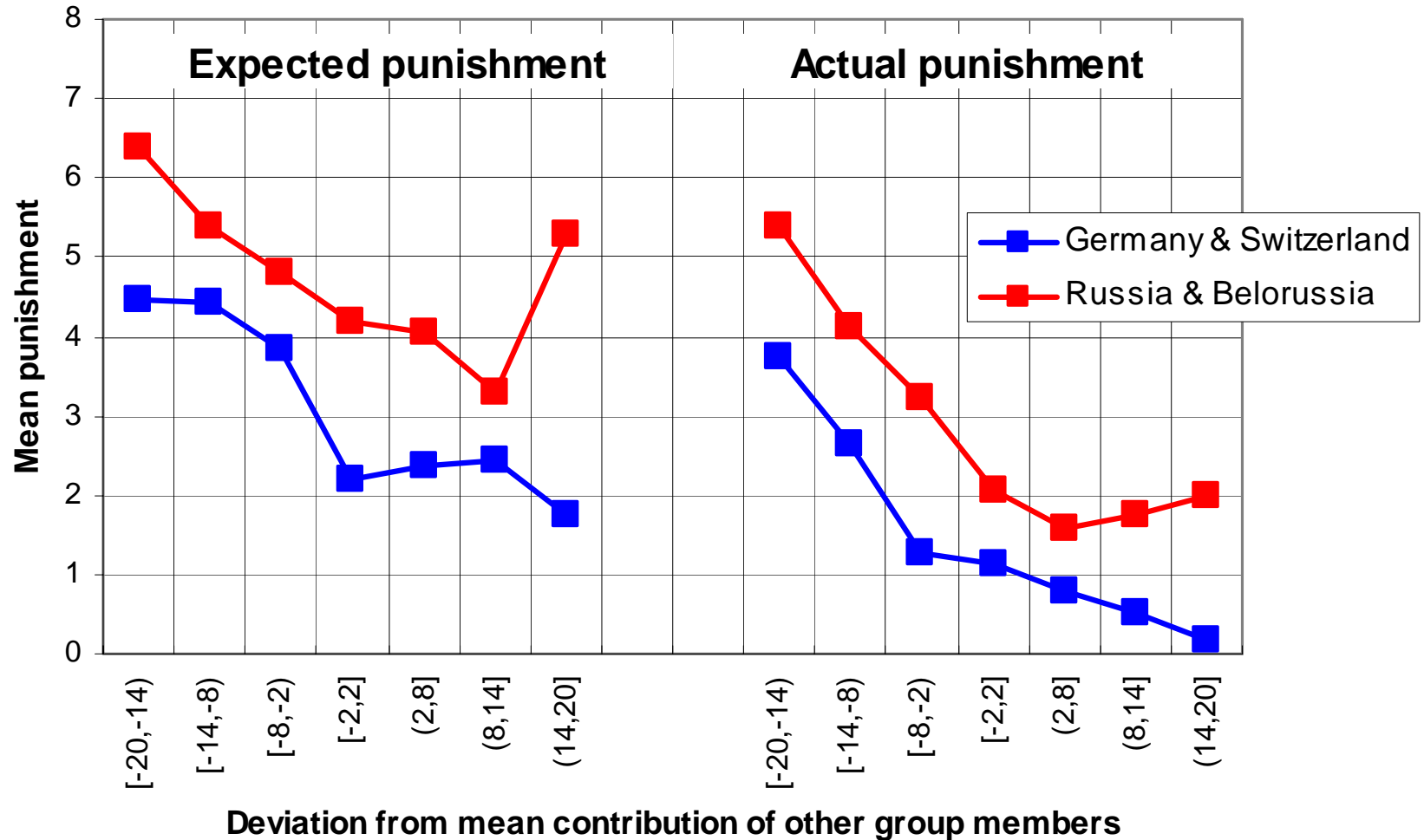
2. Actual cooperation



Russia & Belorussia – N vs. P: $t = 1.27$

Germany & Switzerland – N vs. P: $t = 3.61$

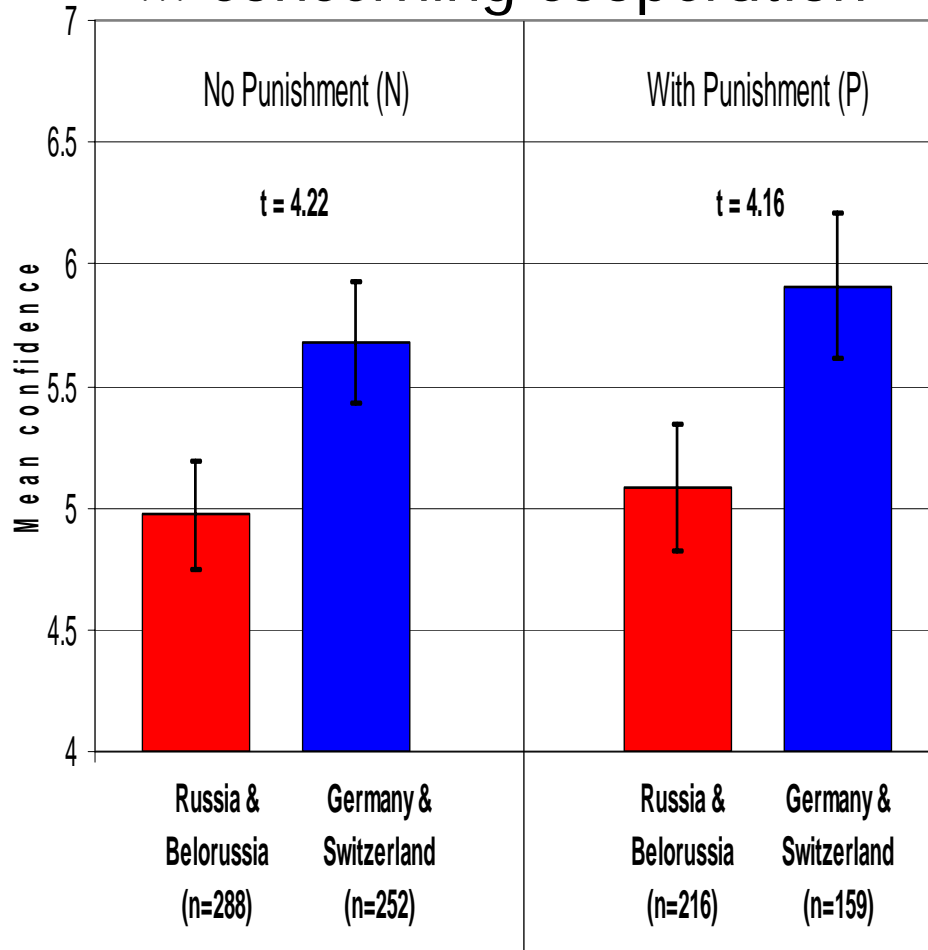
3. Expected and actual received punishment



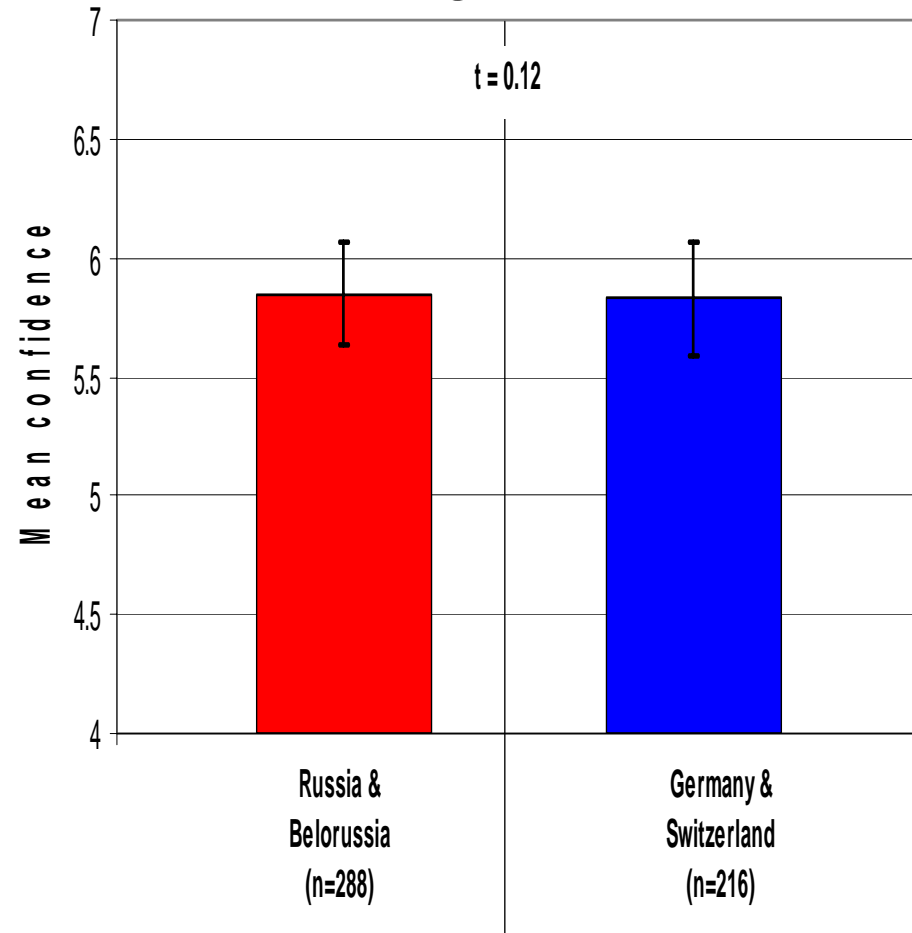
4. Confidence in one's expectation ...

(1=no confidence; 10=full confidence)

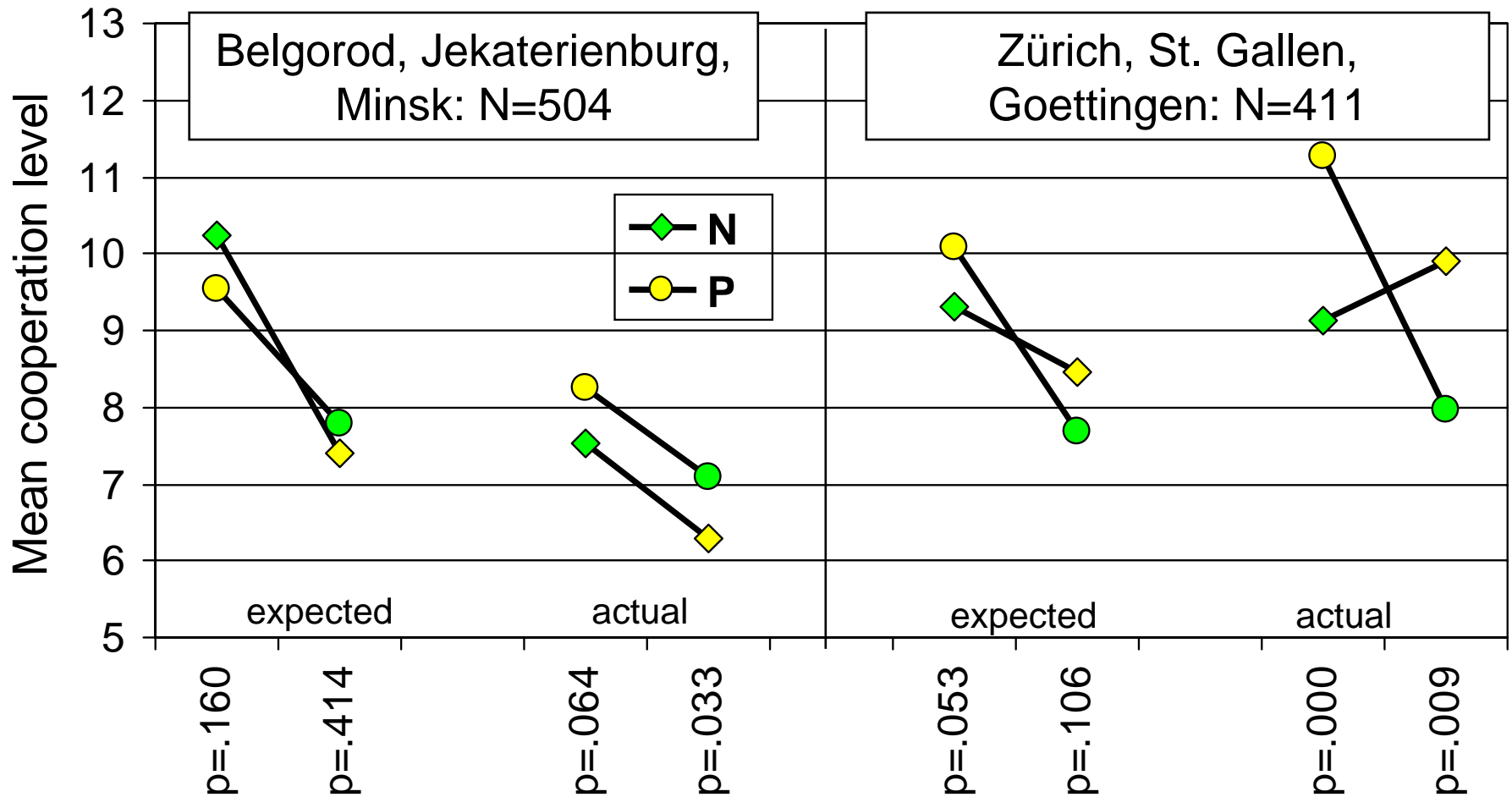
... concerning cooperation



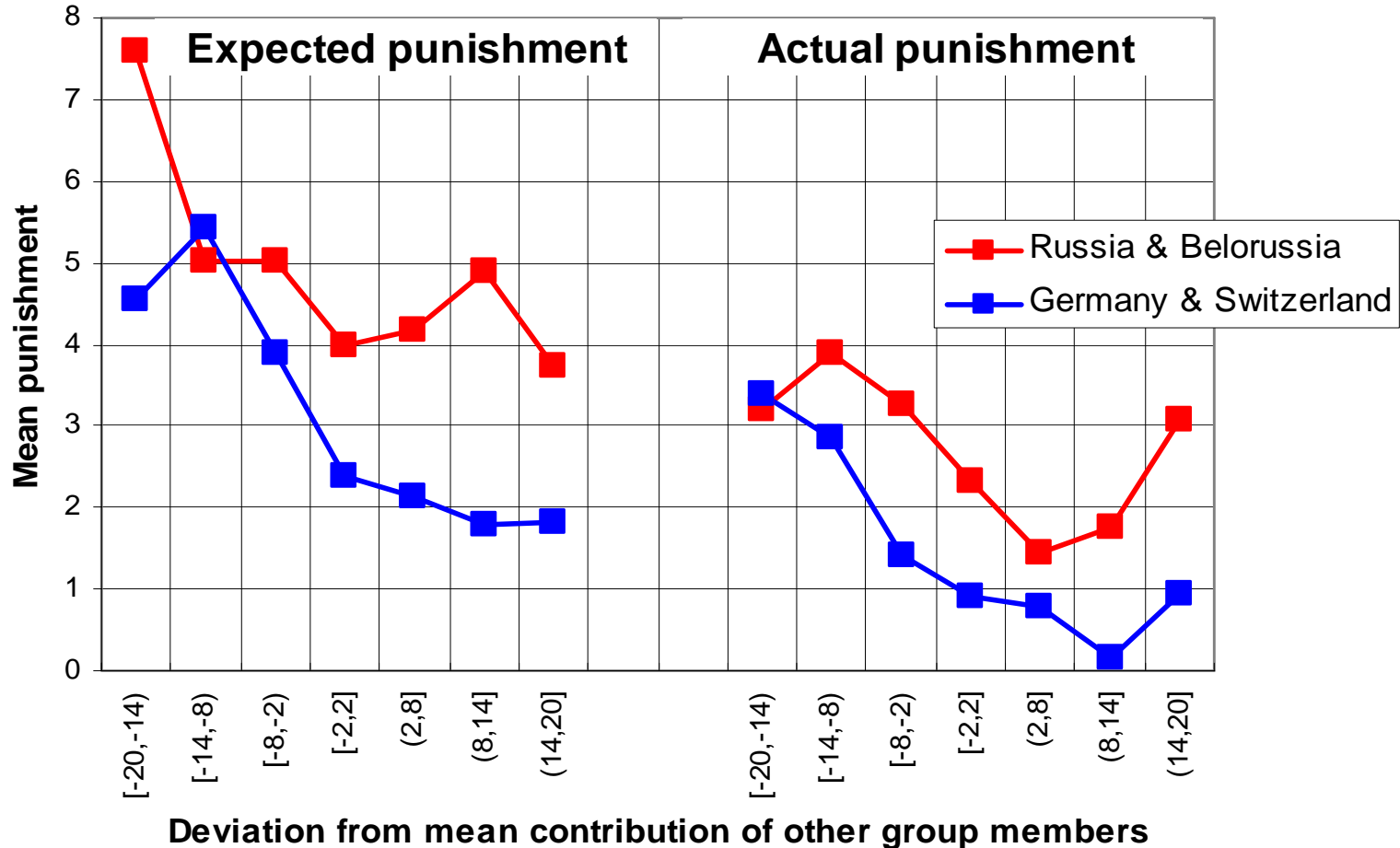
... concerning punishment



5. Expected and actual reactions to changed incentives



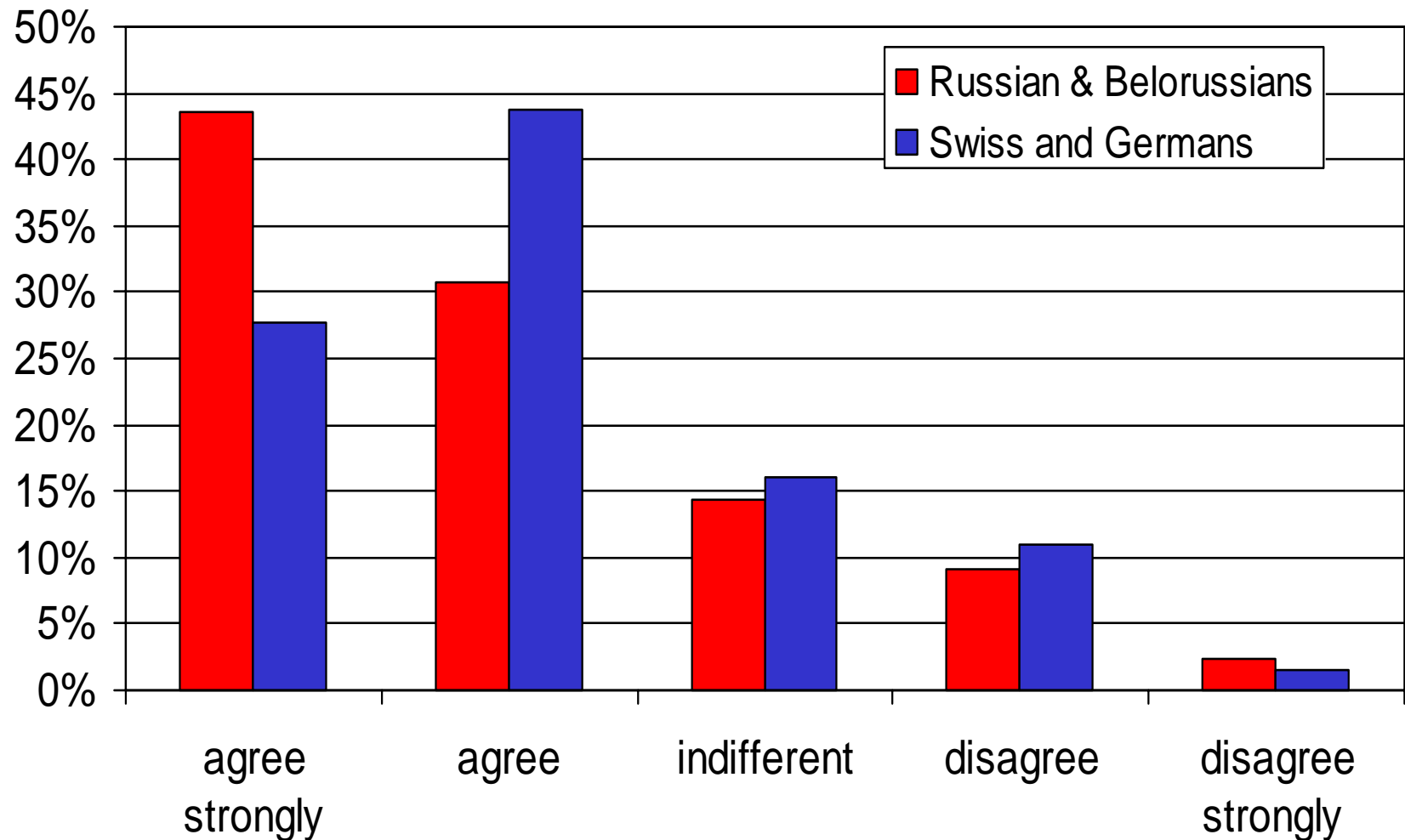
6. Expected and actual punishment in the N-P experiments (2nd sequence)



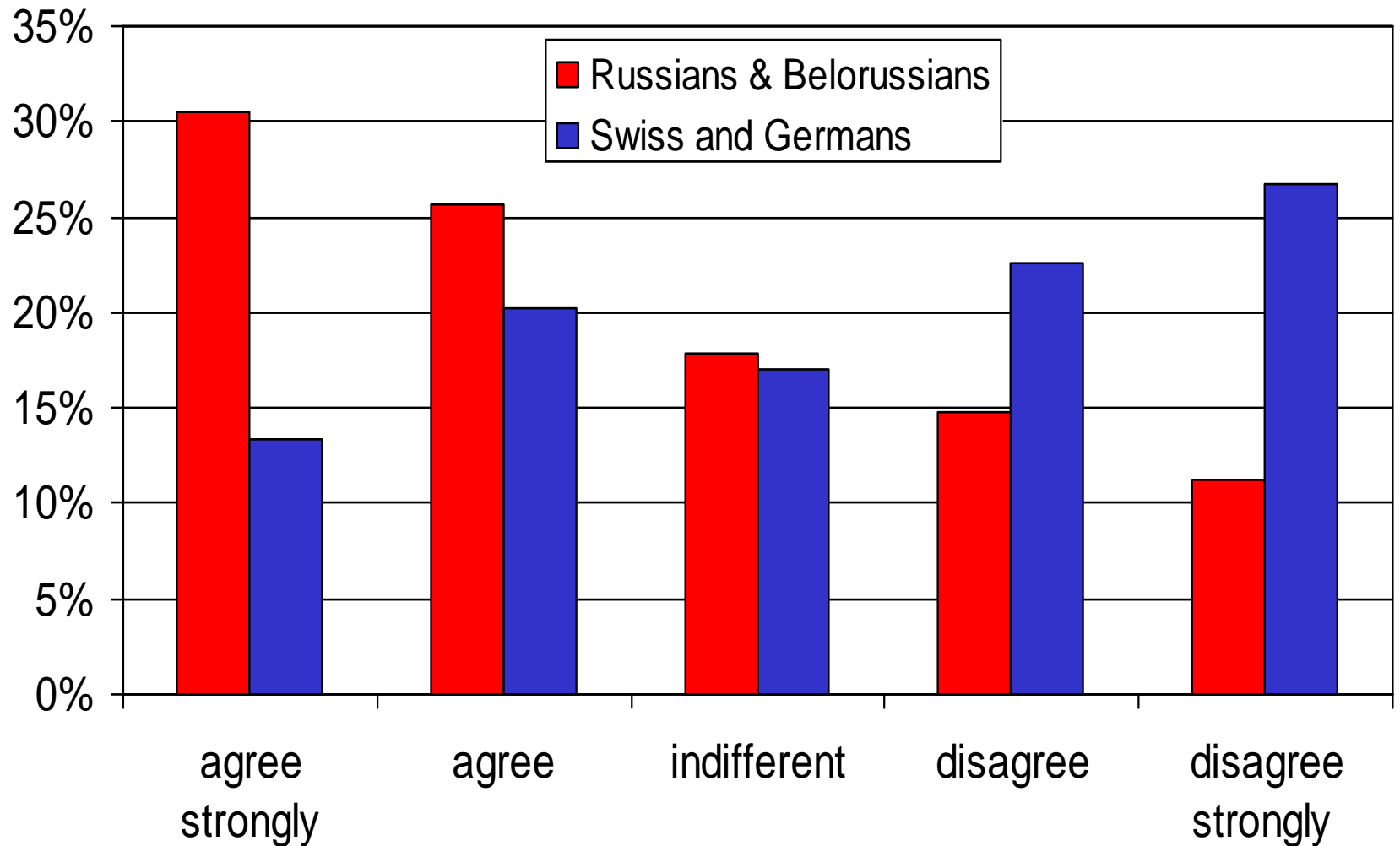
Tapping motivations and emotions

- Questionnaires on motives in the N-experiments:
 - "I believe, the other group members are mainly interested in maximizing their own income."
 - "If someone has invested a lot in the one-stage experiment, it is his own fault if he is exploited."
- Questionnaires on motives in the P-experiments:
 - *"I believe that I will receive deduction points from the other group members, if I contribute less than they do. To avoid this, I decided to contribute the amount I thought the others would spend."*
 - *"I suppose that the deduction points will be used arbitrarily so I can't influence their distribution. That's why the deduction points had no impact on my contribution decision."*
- Emotions

“I believe, the other group members are mainly interested in maximizing their own income”



“If someone has invested a lot in the one-stage experiment, it is his own fault if he is exploited”



Motives for the contribution in the P-experiments I

Statement I: *"I believe that I will receive deductions points from the other group members, if I contribute less than they do. To avoid this, I decided to contribute the amount I thought the others would spend."*

Percentage of agreement:

- Russians and Belorussians: 8.97%
- Swiss and Germans: 26.57%

Motives for the contribution in the P-experiments II

Statement II: *"I suppose that the deduction points will be used arbitrarily so I can't influence their distribution. That's why the deduction points had no impact on my contribution decision."*

Percentage of agreement:

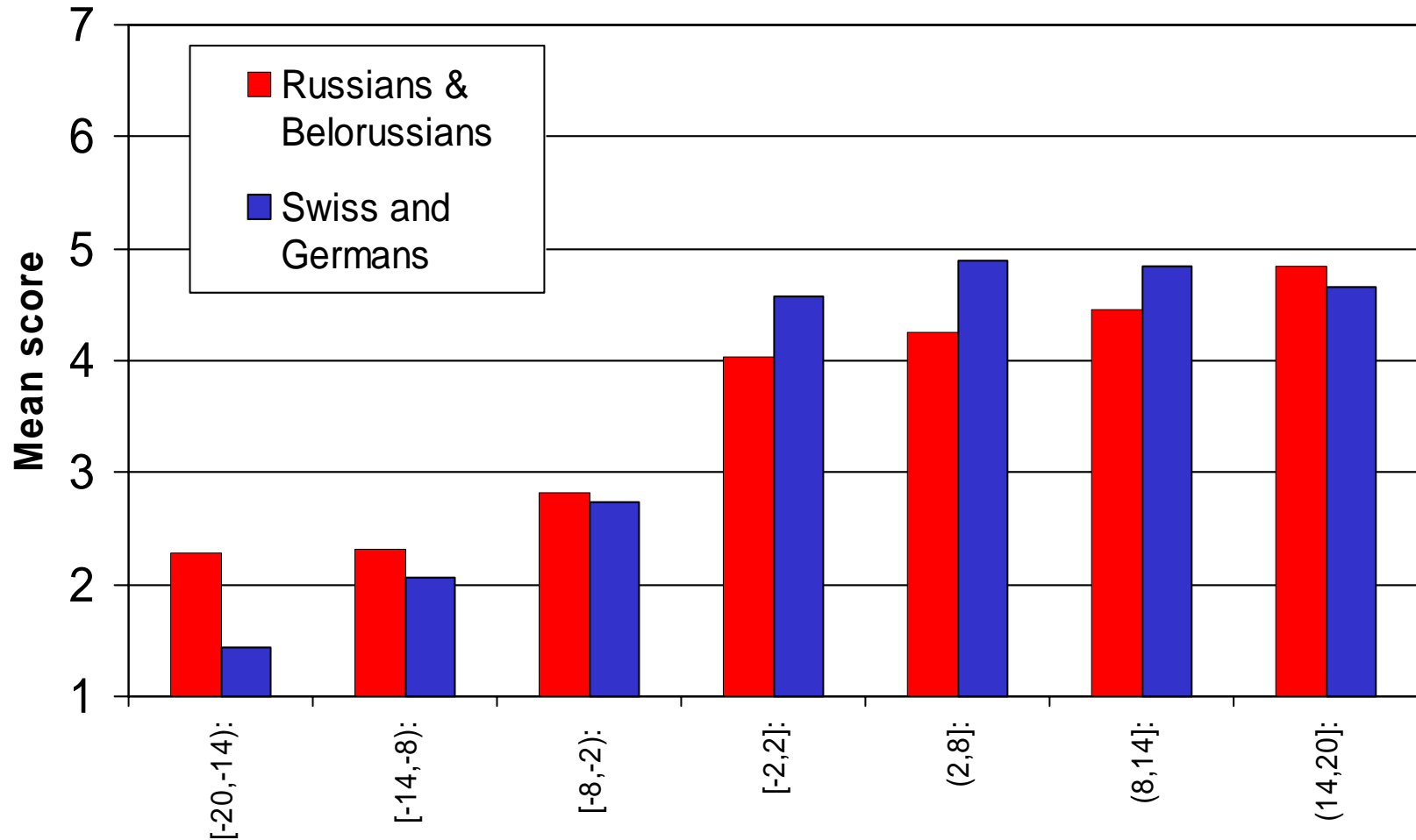
- Russians and Belorussians: 19.31%
- Swiss and Germans: 5.16%

Emotions

- Self-reported emotions.
- Bosman & van Winden 2002.
- Emotions questionnaire used in psychology.

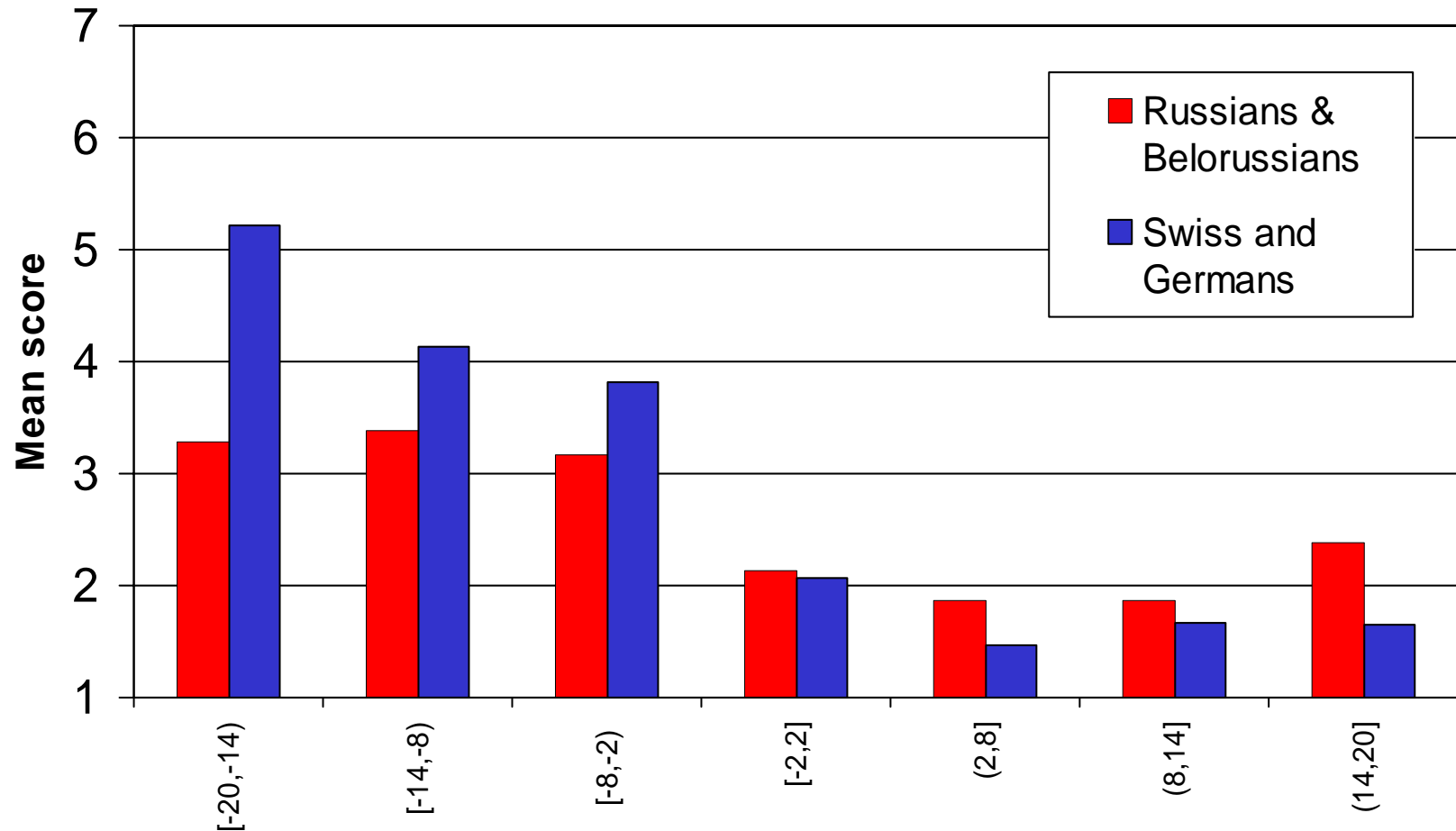
	Contribution group member 1 X points	Contribution group member 2 Y points
Sympathy	None o o o o o o very much	None o o o o o o very much
Anger	None o o o o o o very much	None o o o o o o very much
Contempt	None o o o o o o very much	None o o o o o o very much

Emotions - Sympathy



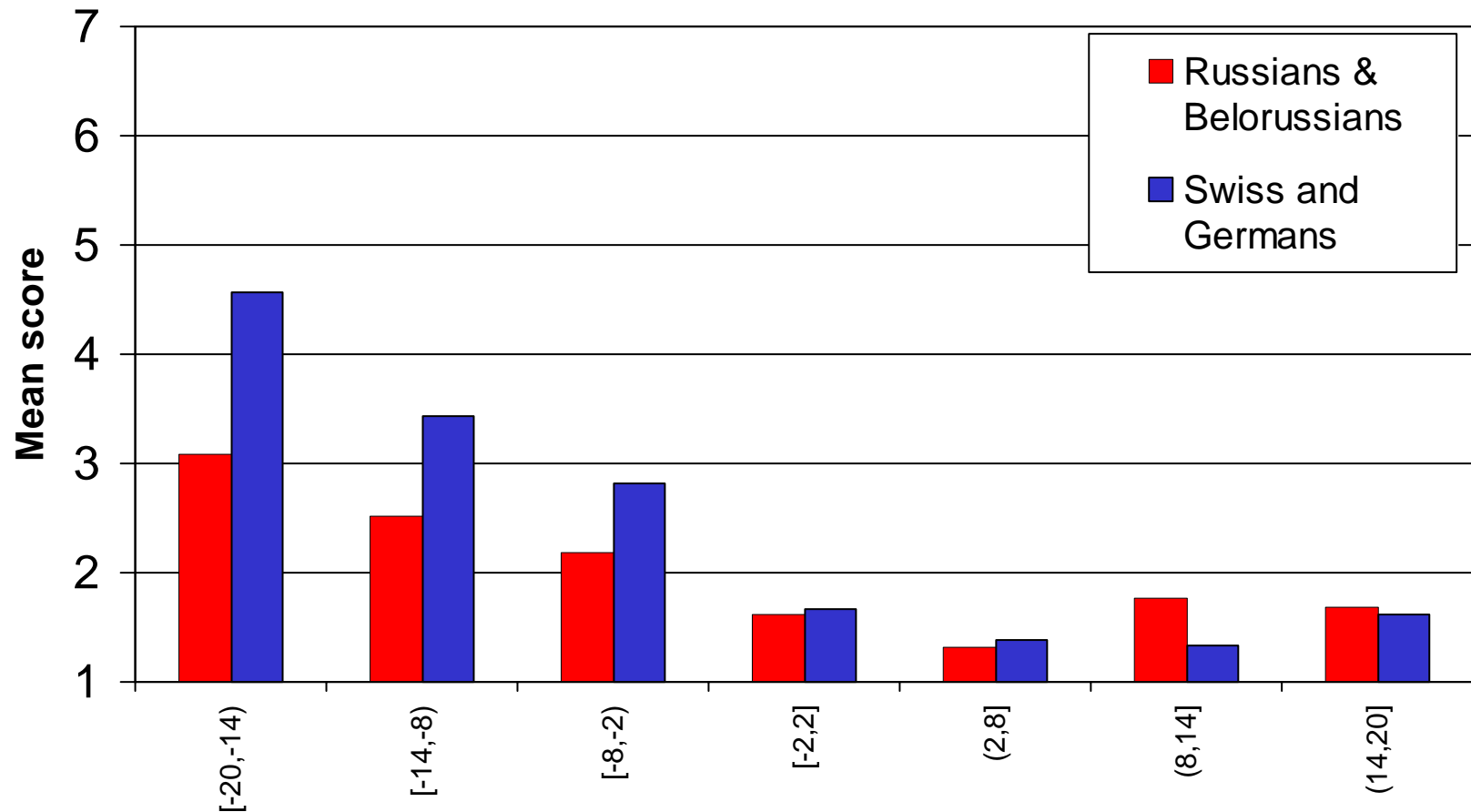
The subject who is the target of emotion deviates from own contribution by ...

Emotions - Anger



The subject who is the target of emotion deviates from own contribution by ...

Emotions - Contempt



The subject who is the target of emotion deviates from own contribution by ...

Summary of the cross-societal comparison

1. The students subject pools in East and West show different expectations concerning the impact of a punishment opportunity on cooperation behavior.
2. Russian and Belorussian students respond in a different way to the presence of the punishment option than the Swiss and German subjects.
3. Eastern and Western students have different moral judgments towards cooperation.
4. The measured emotions reveal similar positive feelings in both subject pools, but reduced intensities of negative feelings in the Eastern subject pool.

Are there intergenerational differences? Norms of cooperation among urban and rural dwellers

Gächter & Herrmann 2003b

Can we find differences in the cooperation behavior between

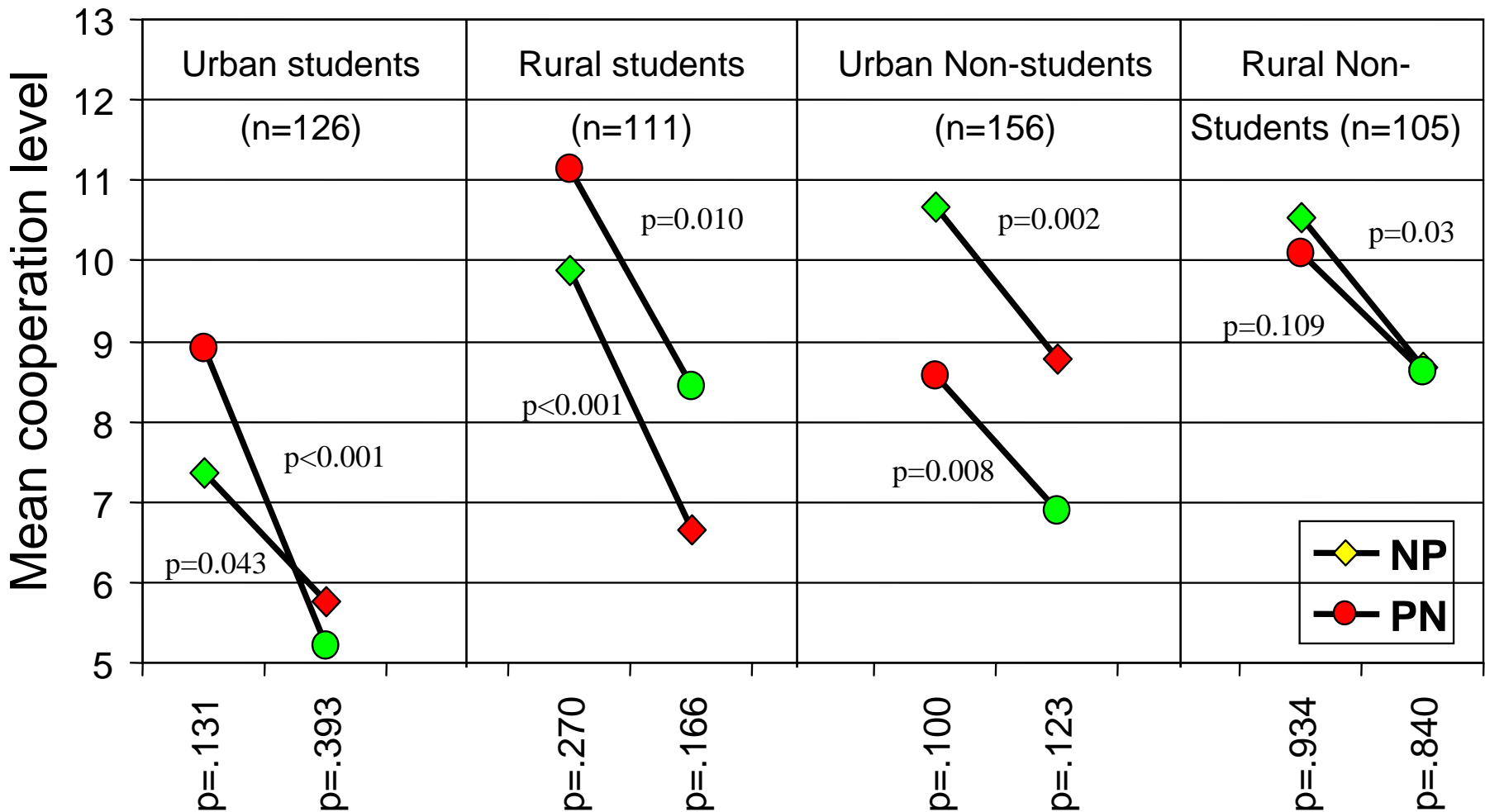
a.) non-students who lived the most part of their life in a collectivist society and students who were socialized in the post-socialist era?

b) people from areas that are still more characterized by a "Soviet life style" like the rural areas and dwellers of urban centers?

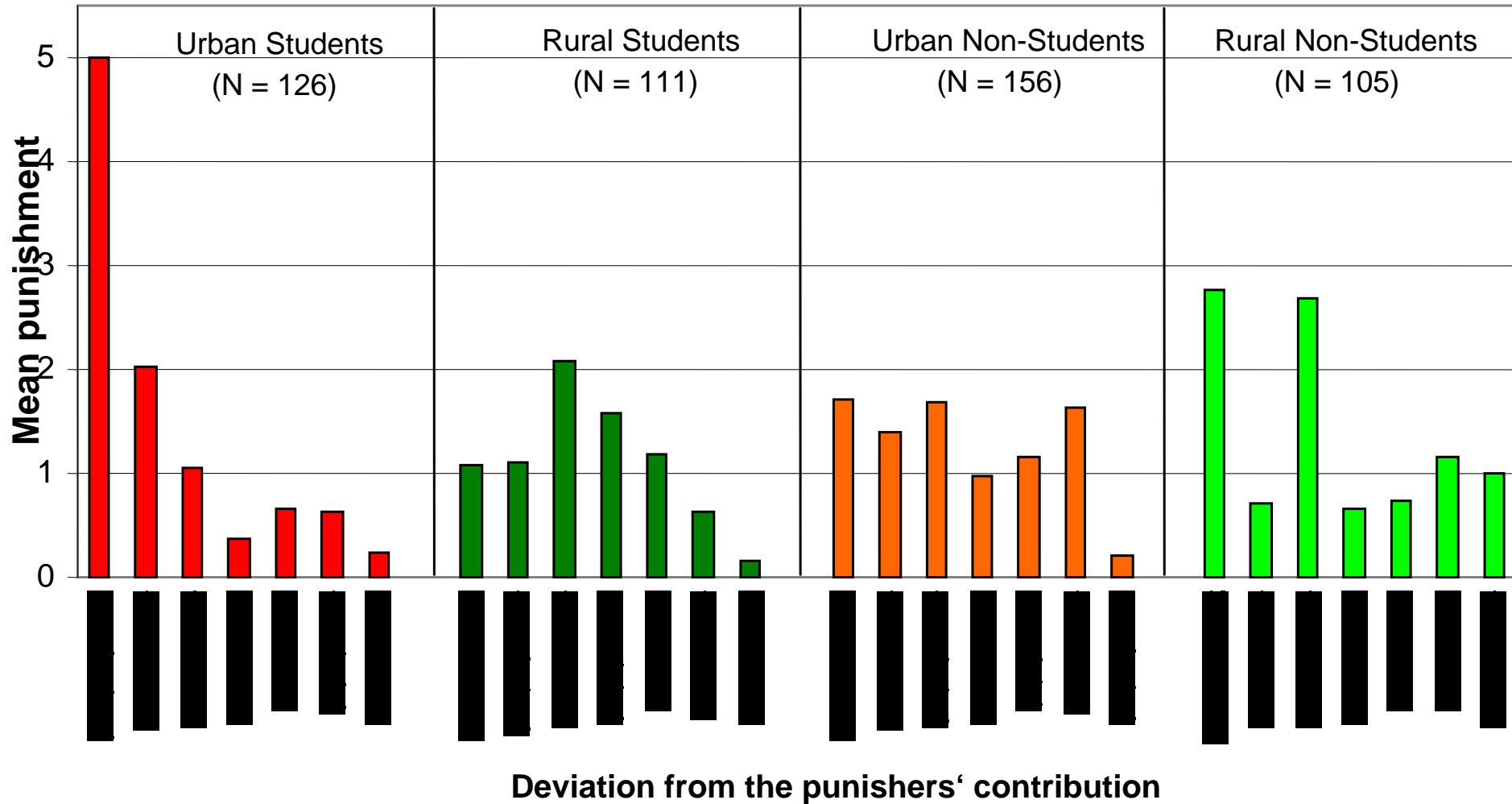
Characteristics of our subject pools

Subject pool:	Number of Subjects (n=498)	Age in years (means)	Gender (% Female)	Income (mean/month)	
				In Rubles	In Dollars
Urban Students	126	20.1	18.3	915	30.5
Rural Students	111	20.4	28	667	22.23
Urban non-students	156	42.8	54	1775	59.16
Rural non-students	105	38.3	50.5	1330	44.33

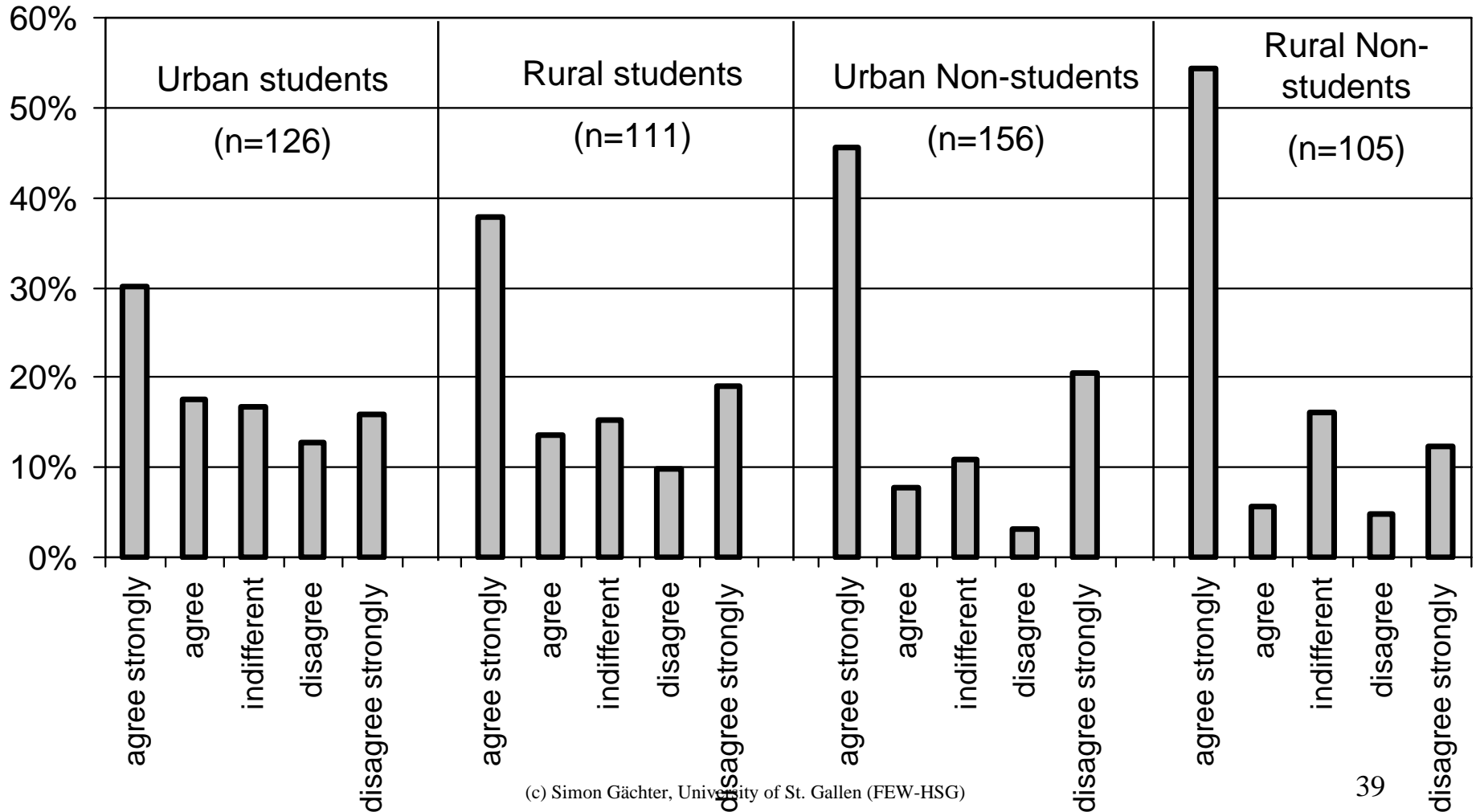
Contribution rates in NP and PN one-shot experiments



Punishment behavior



„ If someone has invested a lot in the one-stage experiment, it is his own fault if he is exploited“



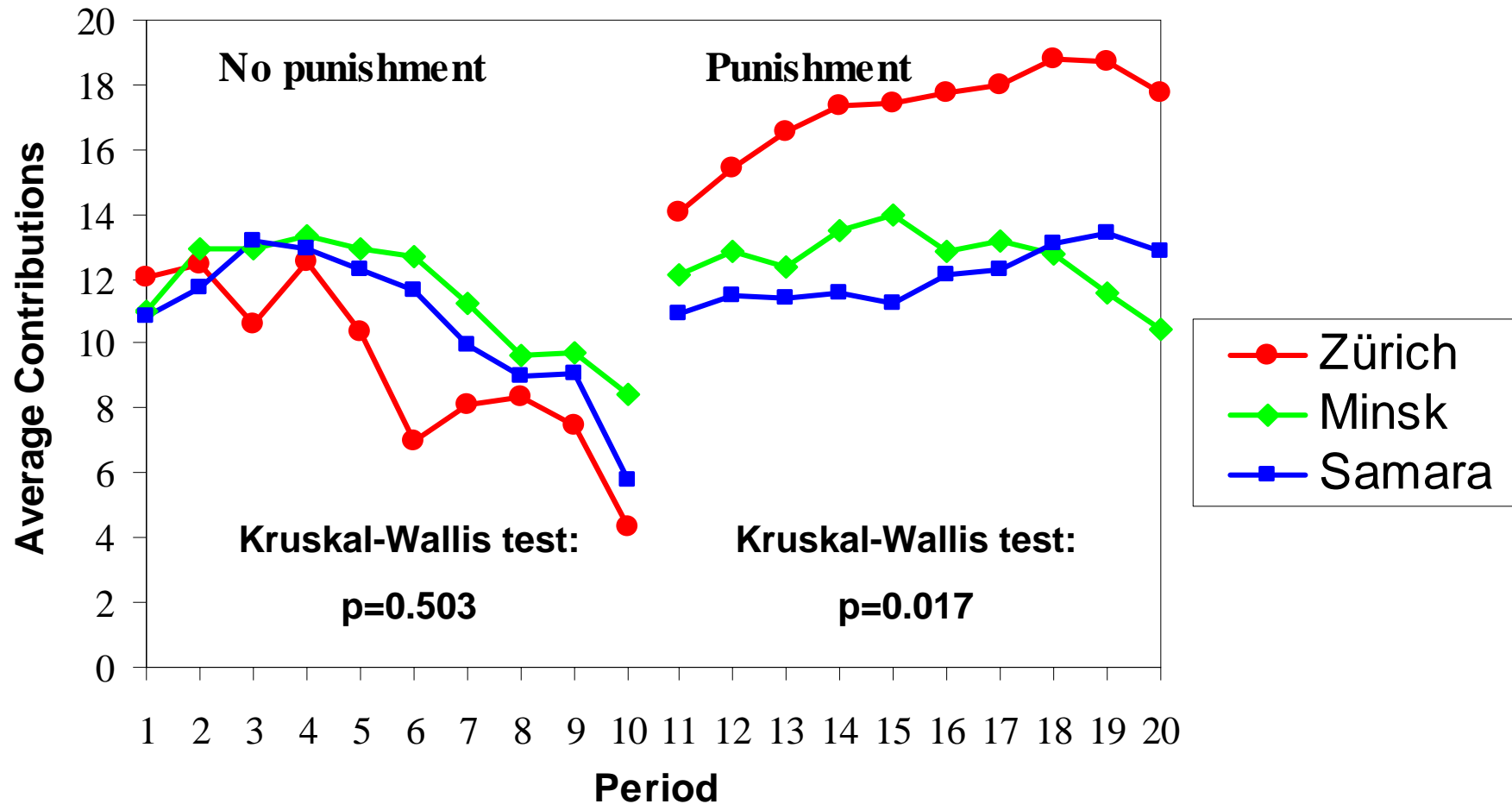
Conclusion

- The non-student subject pools show higher contribution rates than the urban students.
- The students have at least in the P-sequence of PN a higher contribution rate than in the N-sequence of NP revealing a (insignificant) sensibility against the punishment option.
- The punishment pattern of both the non-student subject pool and the rural students differs strongly from students in Western Europe.

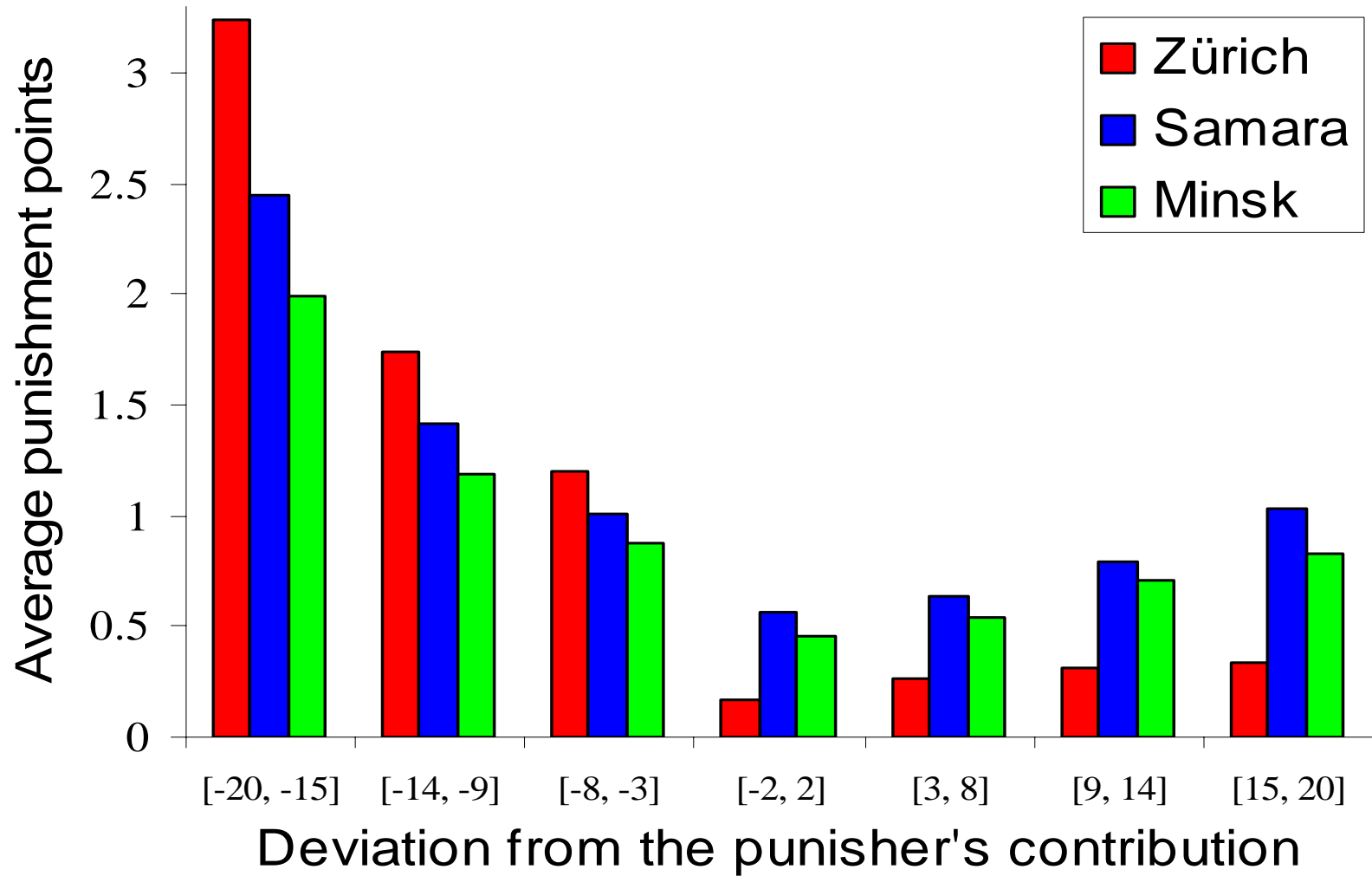
=> It looks like the experiences of the Soviet past have shaped the norms of cooperation and attitudes towards free riders and cooperators.

The dynamics of cooperation in the presence and absence of punishment opportunities

Gächter, Herrmann & Thöni 2003



Punishment behavior



Concluding discussion

- Are there cultural differences in psychological functionings?
 - No change in cooperation in Russia, despite higher levels of expected punishment. Opposite result in the West.
 - Different attitudes and expressed emotions toward cooperators and free riders.
- What is the role of institutions and life experiences in shaping norms of cooperation?
- Experiments, in combination with standard empirical methods seem to be good tools.
 - People react to the same incentive structure.
 - Very high degree of control.