## Ethics Submission: Punishment & Immunity: are punishers altruistic cooperators? (PIN)

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Study Title:
Punishment & Immunity: are punishers altruistic cooperators?
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Research question(s) to be answered by the study:

To investigate if in social dilemmas people that are immune from punishment but can punish 1) learn to not cooperate; 2) punish others even though they are not retaliating nor launching a 'pre-emptive' strike; 3) to see if conditional cooperators or free-riders (as measured with the strategy method) are more likely to use punishment.

## Study design and procedure:

Groups of 4 players will play the same public-goods game, in a perfect stranger matching mechanism, for 6 rounds, but the players will vary in two traits: (1) the ability, or complete lack thereof, to punish others (to pay a cost to reduce the earnings of others); and (2) their immunity to punishment from others (players will either be susceptible to punishment or entirely immune).

In the seminal study of Fehr & Gachter (2002, Altruistic Punishment in Humans, Nature), players could punish each other at a cost 'benefit' ratio of 1 monetary unit to deduct 3 monetary units. Crucially, the players were matched in a perfect stranger design whereby no two players ever interacted twice and this was common knowledge. In this setting, cooperation increased across rounds and was significantly higher than in the control condition (no punishment possible, i.e. a standard voluntary contribution mechanism design for the public good game).

Around 80% of players punished at some point, and punishment was more likely to be directed towards low contributors, which suggests that punishment. However, with so much punishment occuring, it is not clear if players that punish will also cooperate at high levels if they do not face the threat of punishment.

Therefor in this study we will provide an experiment that allows punishment and altruistic contributions to become 'decoupled'. In each group of four players, one player will be made immune to punishment, but will retain the ability to punish others (a 'Tyrant'). The other three players will all be able to punish each other and be punished by all four players ('warriors'). Will the immune player learn from experience to stop contributing to the public good even though the rest of the group is likely to maintain high levels of cooperation due to the threat of punishment? Or will the use of punishment by an individual correlate with their degree of cooperation (contributions)? This will provide information on the altruistic disposition of punishers.

Other treatments will create a single player that is immune but also cannot punish (a 'Diplomat'), or will pair a Tyrant with three players that can neither punish nor be immune ('serfs').

All parameters and player abilities will be common knowledge.

Prior to the repeated game, players will complete a strategy method (SM) version of the game, whereby they make a binding commitment to a specific contribution contingent on what the rest of their group contributes on average. They will do this two times, once as normal with human groupmates, and once with computerized groupmates (the order will be reversed between alternating sessions). This will allow us to measure the distribution of social preferences and the degree of imperfect play ('confusion') when playing with computers. The results of the SM can then be used to test if conditional cooperators are more likely to use punishment than free-riders.

After the main game, the SM section will be repeated.

Full experimental procedure will be: Participant arrival Participants read and sign consent forms Instructions Comprehension test Game stage 1a - Strategy method Game stage 1b - Strategy method (with computerized groupmates) Game stage 2 - 6 rounds of the modified punishment game Game stage 3a,b - strategy method again to investigate any changes in preferences / understanding Questionnaire Payment =

Type of compensation offered to the participants (monetary, other, none):

Monetary, around 20-25 CHF

Does the experimental procedure involve deception of participants?

No

If yes, why is deception necessary?

Are there any reasonably foreseeable risks or discomforts to participants and or groups/ communities?

Yes

If yes, indicate probability, magnitude, and duration of each (note that risks may be physical, psychological, social, legal and/or economic) and outline provision to minimize risk

Some individuals may get upset, even though they are guaranteed to make a profit, because they could have made more theoretically, depending on both their decisions and the decisions of others. Players may also get upset when they are punished or that there are different roles in the experiment. All individuals will sign a consent form that outlines the expected earnings, on average, and will be given full instructions, with no deception, outlining the economic consequences of their decisions. Individuals will be endowed with money from the experimenter, they will never risk or play with their own money. Nobody will leave with less money than they entered with.

Describe the types of research data to be collected, treated and analyzed and their origin(s)?

anonymous decisions in the experiment, and a post game questionnaire on gender and age range and a brief personality questionnaire, no answers are compulsory.

## During the experiment, how will subject-subject anonymity be assured?

The experiment is anonymous.

## Will the anonymity of the participants be reasonably guaranteed in the final dataset?

Yes

If the anonymity of the participants will not be guaranteed, please explain why

Briefly describe how (where and on what media) the data will be stored, backed-up, managed and curated in the short to medium term (during the lifetime of the

project). It is highly recommended to use SWITCHDrive. If you plan NOT to use SWITCHDrive, explain why and include a description of the protection mechanisms that will be put in place (e.g., cryptography, access control).

Switch-drive

For how long will the data kept after the end of the project?

immediately anonymised, then made publicly available upon publication.

If the data-set is intended to be shared with other institutions, under which conditions will it be shared and what data protection mechanisms do you intend to further apply (if any).

no

If yes, briefly state why it is suitable and under what conditions:

How many participants will you (roughly) need for the study?

300

Do you need a minimum number of participants per session in order to be able to run a session?

Yes

If your minimal session size is larger than 13 participants, please explain why it is not possible to run smaller sessions:

24 are needed for a perfect stranger design of 6 rounds to replicate the original Fehr & Gachter 2002 study.

When do you plan to run the study?

Exact dates are: 21,22, 23 october, 31st october and 1st November (note I put these dates down for another study by mistake)

Do you plan to use the ORSEE subject-pool for the recruitment of participants?

Yes

If no, how do you plan to recruit the participants?

For SNSF application: Do you need an approval letter from the HEC Ethics Committee?

N/A

Do you have any further questions or comments? Please note them here or contact us via hec-labex@unil.ch

The previous ethical submission (CURL) will now be run in the 13 lab at the end of november. The design is optimal with 20 but can be done with 12 participants and more sessions, so I switched things around with this.

**Accepted by Ethics Committee**