Multi-level collective action in small-scale fisheries: An experimental approach (#191302)

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
This study investigates within-group and inter-group dynamics of harvesting behavior in a common pool resource setting, using an ecologically valid experiment with a sample of fishermen who face a similar problem in real life (i.e., the exploitation of benthic resources). Building on previous work that examined within-group behavior among fishermen affiliated with a union managing a TURF (Territorial Use Rights for Fisheries), we now explore inter-group dynamics in de facto shared open-access areas. These areas are tested under two scenarios: (1) the current scenario, in which fishermen are unaware of who shares the common pool resource with them, and (2) a hypothetical scenario where user rights are allocated to fishermen from multiple unions, creating a "meta-TURF."

We will investigate the following hypotheses:
i) Cooperation within a group's own TURF will be higher than in the shared open-access area under the current scenario, where fishermen are unaware of the group affiliation of their counterparts.
ii) Cooperation in the meta-TURF will be higher than in the shared open-access area under the current scenario.
iii) Previous positive (or negative) experiences with inter-group dynamics in real life will increase (or decrease) cooperation in the meta-TURF accordingly.

Complementary research questions include:
i) How does the distribution of strategies within a group affect the dynamics of cooperation in that group (Does it stabilize/erode?) under both intra and inter group contexts?
ii) Are intra-group and inter-group dynamics interconnected (eg, does intra-group cooperative behavior predict cooperative behavior in the inter-group scenario)?
iii) Do individual and group strategy profiles change based on whether the affiliation of interacting partners is known or unknown, and across different institutional regimes regulating access to fishing areas?
iv) Is over-extraction behavior linked to normative, instrumental, or legitimacy-based motivations?
v) Are factors, such as norms, beliefs, gender, education, or other socio-demographic characteristics, associated with extraction behavior or strategic choices?

3) Describe the key dependent variable(s) specifying how they will be measured.
Whether the person over-extracted (0-1) in each fishing area (TURF and open-access or limited- access areas). The total over-extraction rate at each area. The difference (or diff-in-diff) in over-extraction in the TURF vs. the Open-Access or meta-TURF.

4) How many and which conditions will participants be assigned to?
Decision 1: Participants will be assigned to a four-person TURF composed of only in-group members.
Decision 2: Participants will be assigned to groups of four and will experience two institutional regimes (treatments): an open-access area (in rounds 1-10) and a meta-TURF area (in rounds 11-20). These regimes vary the composition of the group interacting in Decision 2 in two aspects:
1.The composition of the group (0, 1, 2, or 3 out-group members) in each round.
2.The identity of individuals with whom participants are interacting (unknown vs known out-group members from 1 or 2 out-groups).

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Linear and maximum likelihood regressions will be performed, where the dependent variables will be those described above, and the independent variables for different models will be:
1.Group composition (number of in-group members/total)
2.Valence of the relationship with the in-group
3.Valence of the relationship with the out-groups
4.Institutional regime or Treatment (open-access/meta-TURF)
5.Over-extraction by others in the previous round (game dynamics)
6.Social norms regarding over-extraction

7.Prior beliefs about others' over-extraction
8.Perceptions of legitimacy and enforcement of the norm
9.Socio-demographic variables

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
Participants who do not complete all the tasks of the session

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
The sample will consist of fishers with experience extracting abalone in Chile. Each session is expected to include 12 fishers at 3 different locations, for a total of 36 people in each session. Sessions with 24, 28 and 32 participants are also possible. Funding constraints imply there are resources to conduct between 5-7 sessions for an estimated 180-252 participants.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
This research is conducted in collaboration with Stefan Gelcich (PUC), Ricardo Guzmán (UDD), Pablo Polo (UDD), JA Muñoz (UDD), Cristian Candia (UDD).
Pilot studies will be conducted prior to data collection to validate the protocols for instrument application.
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