

# Reproducing our Analysis w/ Gallup Cycle 1 Data

## Running our R Notebook with Experiment 1 Data

- Differences between pilot dataset and experiment 1 dataset:
  - Network updating condition variable doesn't match
    1. Pilot data: four conditions (Fluid, Random, Static, Viscous)
    2. exp1\_cooperation: two conditions (Fluid, Static)

*\* this is mentioned in Gallup's Experiment 1 R Notebook - they're still doing data collection*
  - Some re-naming (e.g. "decision..0.D.1.C" → "playeraction")
  - Need to create a sessionnum variable (integer; 1:max) from the session variable (factor; "e1.1\_2017-09-03",...)
  - "empanel\_id" added (for alters and players)
- Small coding error in bootstrapping by session - "40" instead of need to use "length(unique(cooperation\$sessionnum))"
- There are only 6 sessions (there were 40 sessions in the pilot data), so although all of our analyses will run, some of them make less sense than before (e.g. )

## Examining Gallup's R Notebook

- I had to install packages ahead of running it - some might not even be used in the notebook

- Dataset is missing two of the network updating conditions from pilot data: "We are not able to test the effect of slowly updating strategic networks or randomly updating networks, as no experimental sessions have been completed to date in either of those conditions."
- R notebook (NGS2\_WITNESS\_Cycle1\_Exp1\_Notebook.Rmd) first loads in and runs an R script (NGS2\_WITNESS\_Cycle1\_confirmatory\_exp1.R)
  - All analysis (model running) is contained in this separate R script
  - The R notebook contains set up code and plots
- The analyses are based on non-Bayesian logistic regression models - there is an R script with the Bayesian version in their NGS2 repo, but it is not used or mentioned in the R notebook or in their repo which looks like a submission to DARPA (9/28)
  - This Bayesian version of the analysis uses Stan models
- Pieces of their R notebook that match ours:
  - 2.1 Experimental design (text)
  - 2.2 Experimental conditions (text)
  - 2.4.1, 2.4.2 names and preview of datasets
  - Some plots in Section Four
    - Plot #2: barplot of "Cooperative players by round and condition"
    - Other plots are not exact replicas, but similar
  - Outputting time to run/knit notebook