Sharing for Survival: Cultural Strategies for Mitigating Risk

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The Human Generosity Project

Risk Transfer

Resource scarcity and unpredictability = risk

Exchange of resources: strategy for coping with risk

Example:

Sharing of livestock in Maasai *osotua* relationships

(e.g., Aktipis et al. 2011, Cronk 2007, Hao et al. 2015)

Osotua: important, sacred, enduring

Need-based transfer:

-Ask only when truly in need

-Give if able

Enables survival by pooling risk of livestock loss

Need-based transfer is not uncommon

How is need-based transfer invoked and maintained?

Simulating resource volatility: The Cattle Game

2-player computer game (anonymous)

Fluctuation in resources (cattle): births and deaths
Opportunity for resource exchange with partner

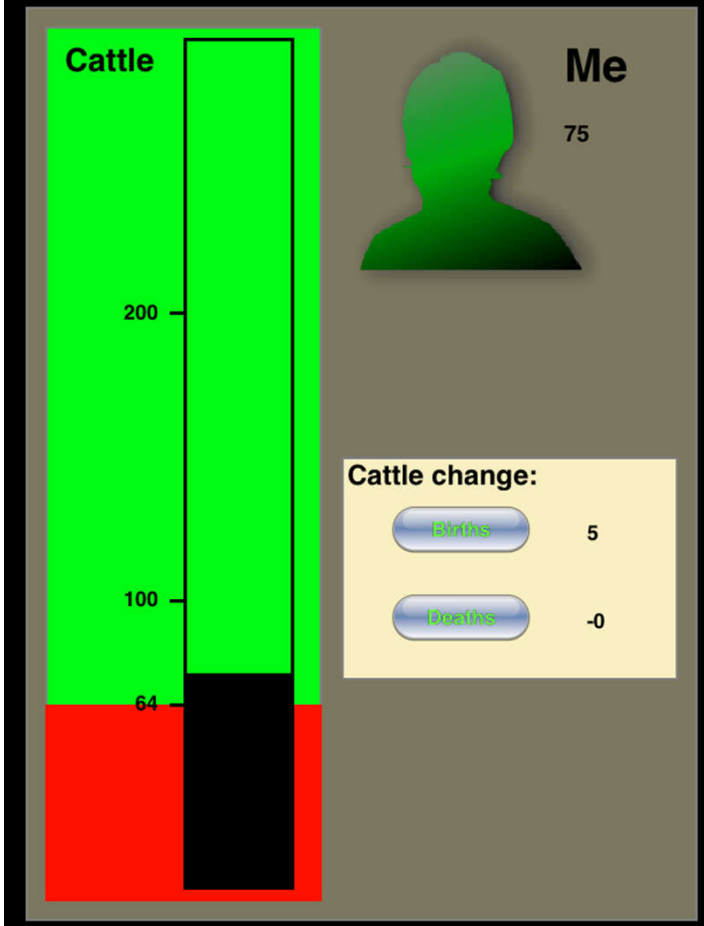
Survival: number of rounds (years)

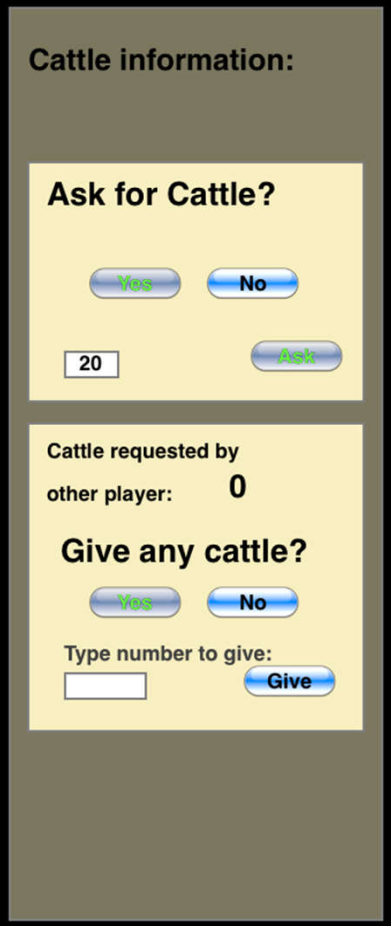
Cattle Game Interface:

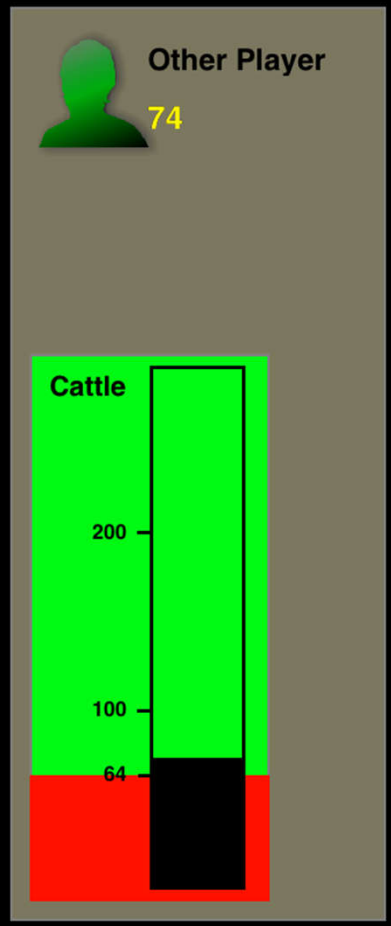
year
1

1 practice round (w/ computer)

3 total games of multiple years







Experimental Manipulation

Social relationship primes

Kinship, friendship, sacred, market, neutral (control)

Priming task: Sentence unscramble

stories told grandmother ~~cloth~~ them

= Grandmother told them stories.

Prime precedes game play

12 of 16 sentences contained priming word (in 4 test conditions)

Predictions:

Primes

Game play

1) Kinship **
2) Friendship*
3) Sacred **

Need-based transfer?
Higher response to requesting?
Increased survival?

4) Market
5) Neutral (control)

Results

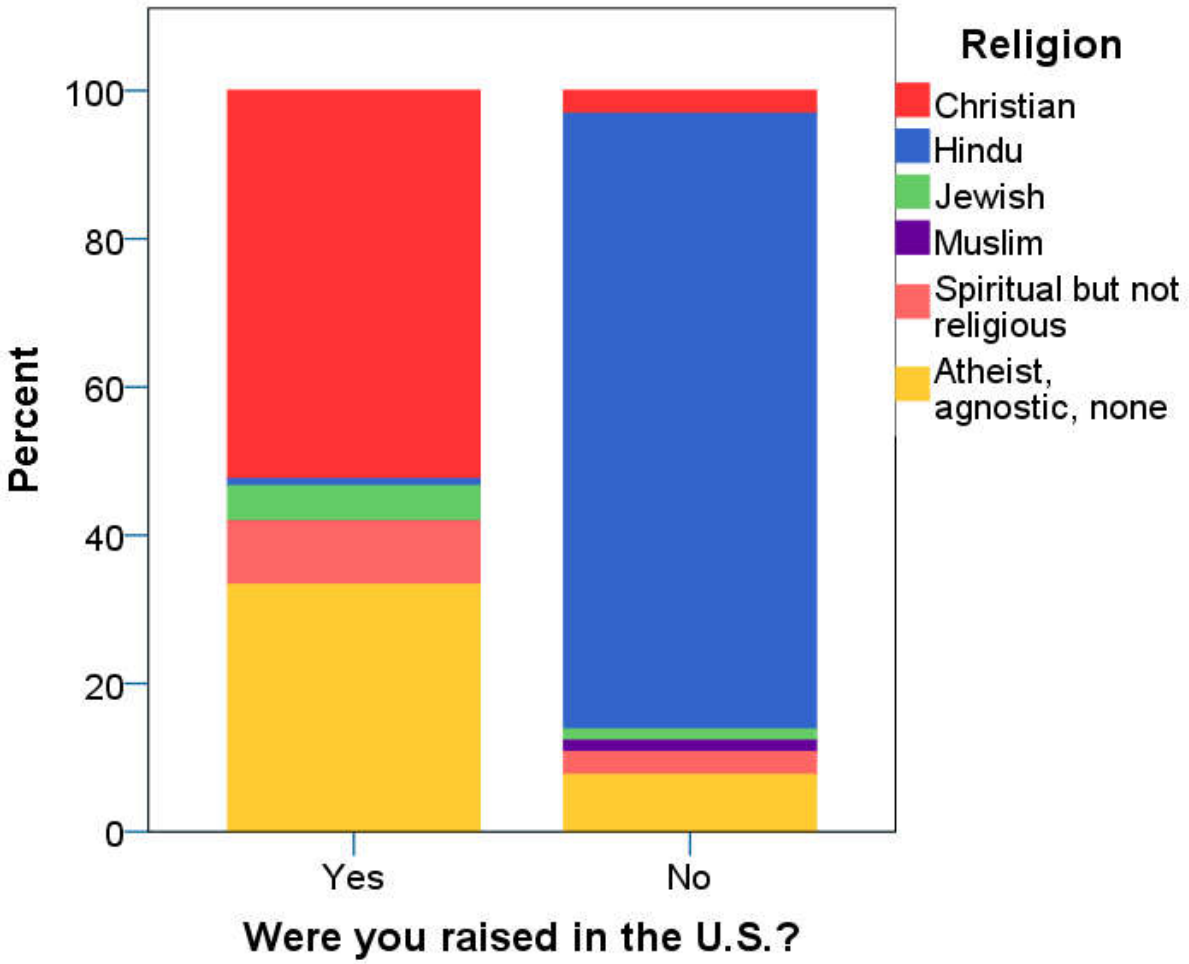
N = 253

Effective sample size = 214 (55% women); Mean age = 22

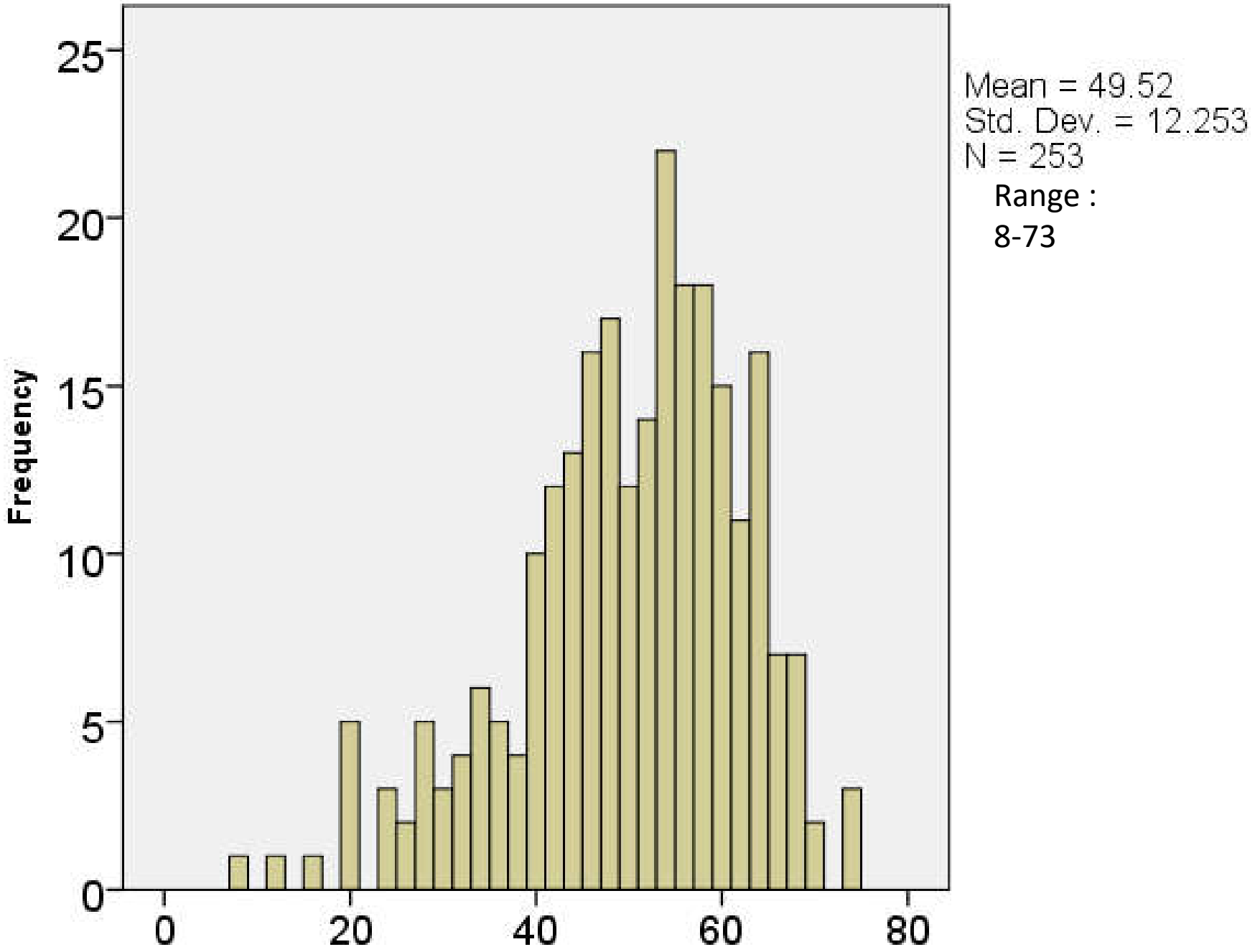
Raised in U.S. : 66%

Additional measures from survey:

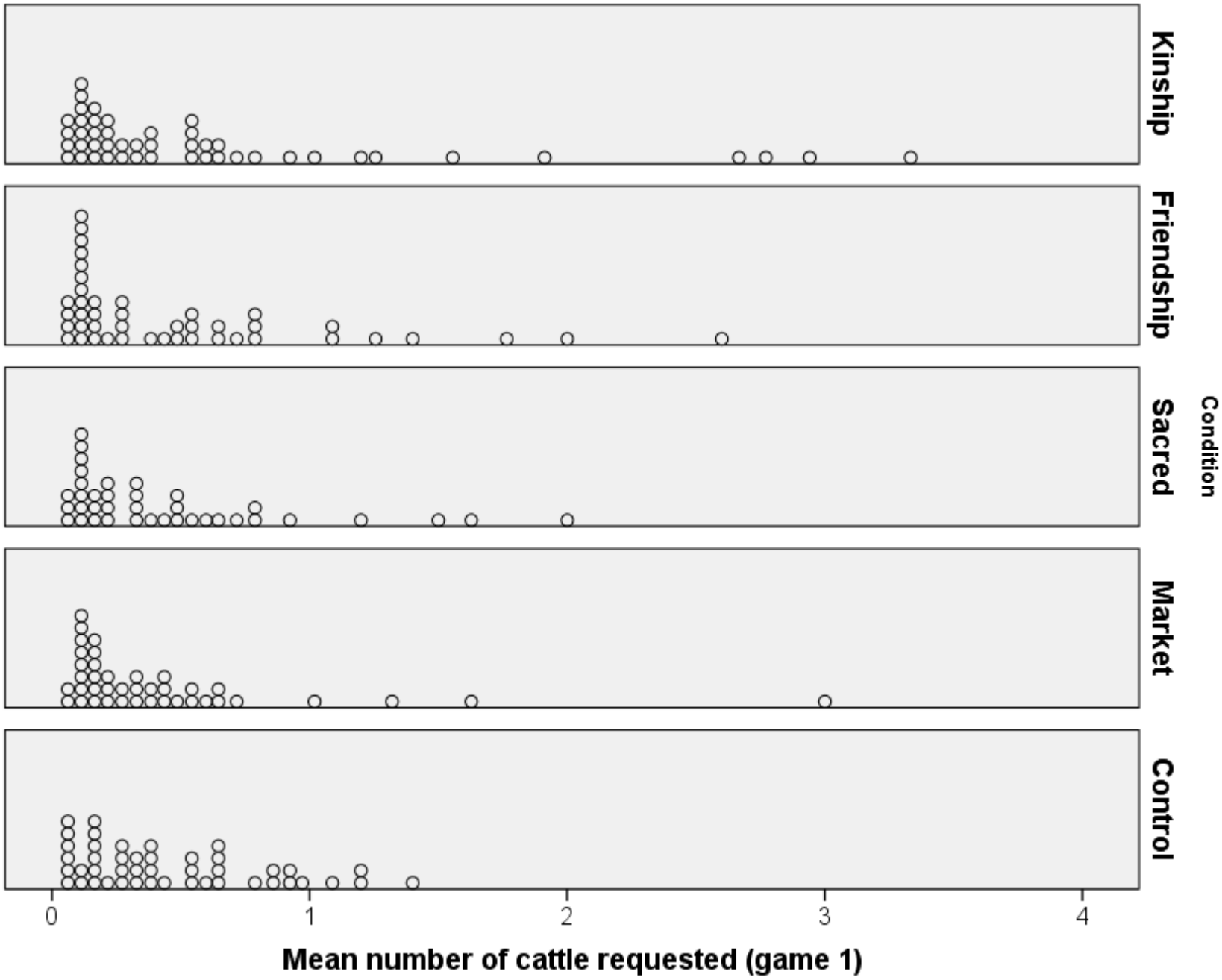
- **Empathy**
- **Religious affiliation**
- **Emotional support (family / friend)**
- **Instrumental support (family/ friend)**
- **Benevolence**
- **Sense of justice**



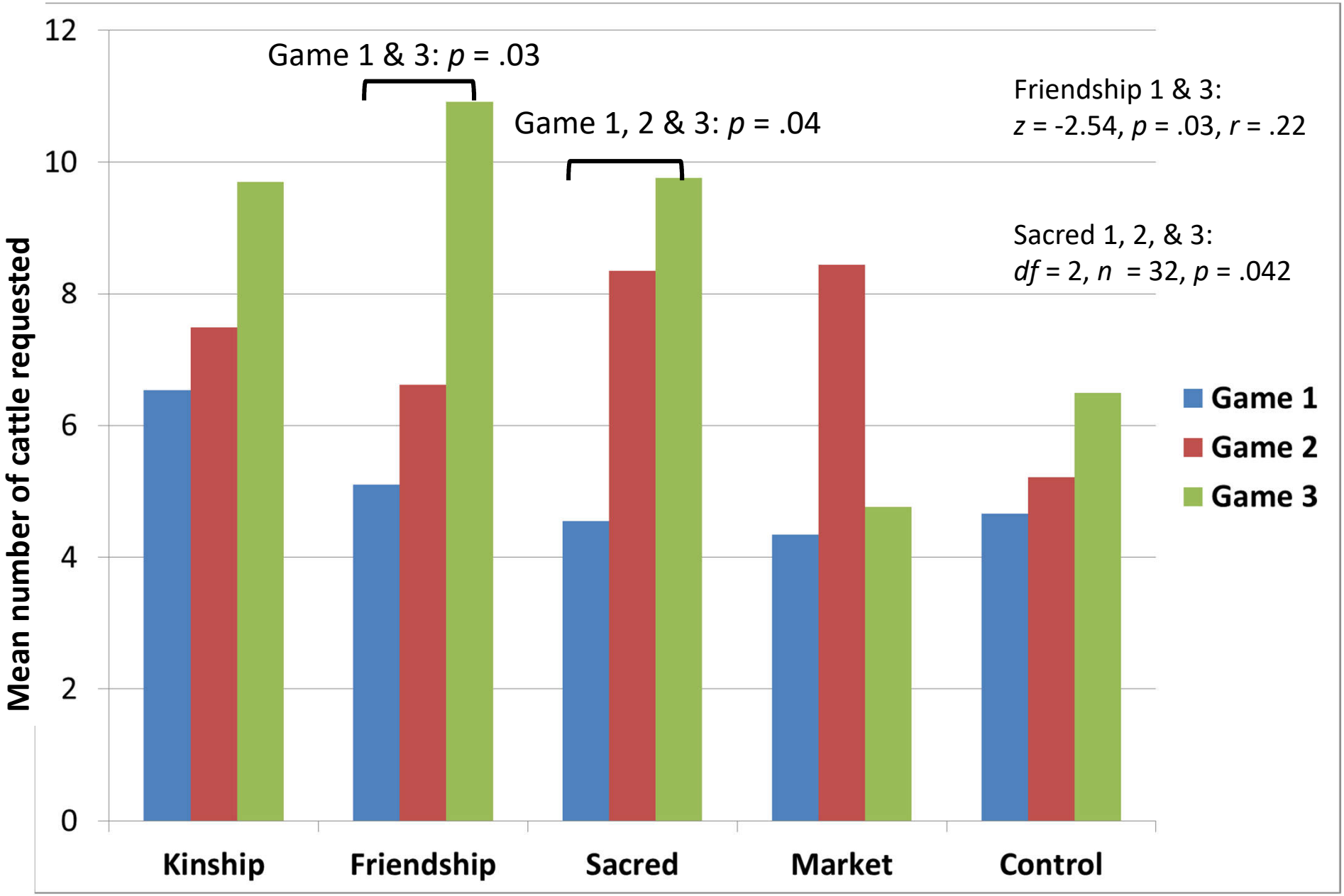
Number of rounds survived: (full dataset):



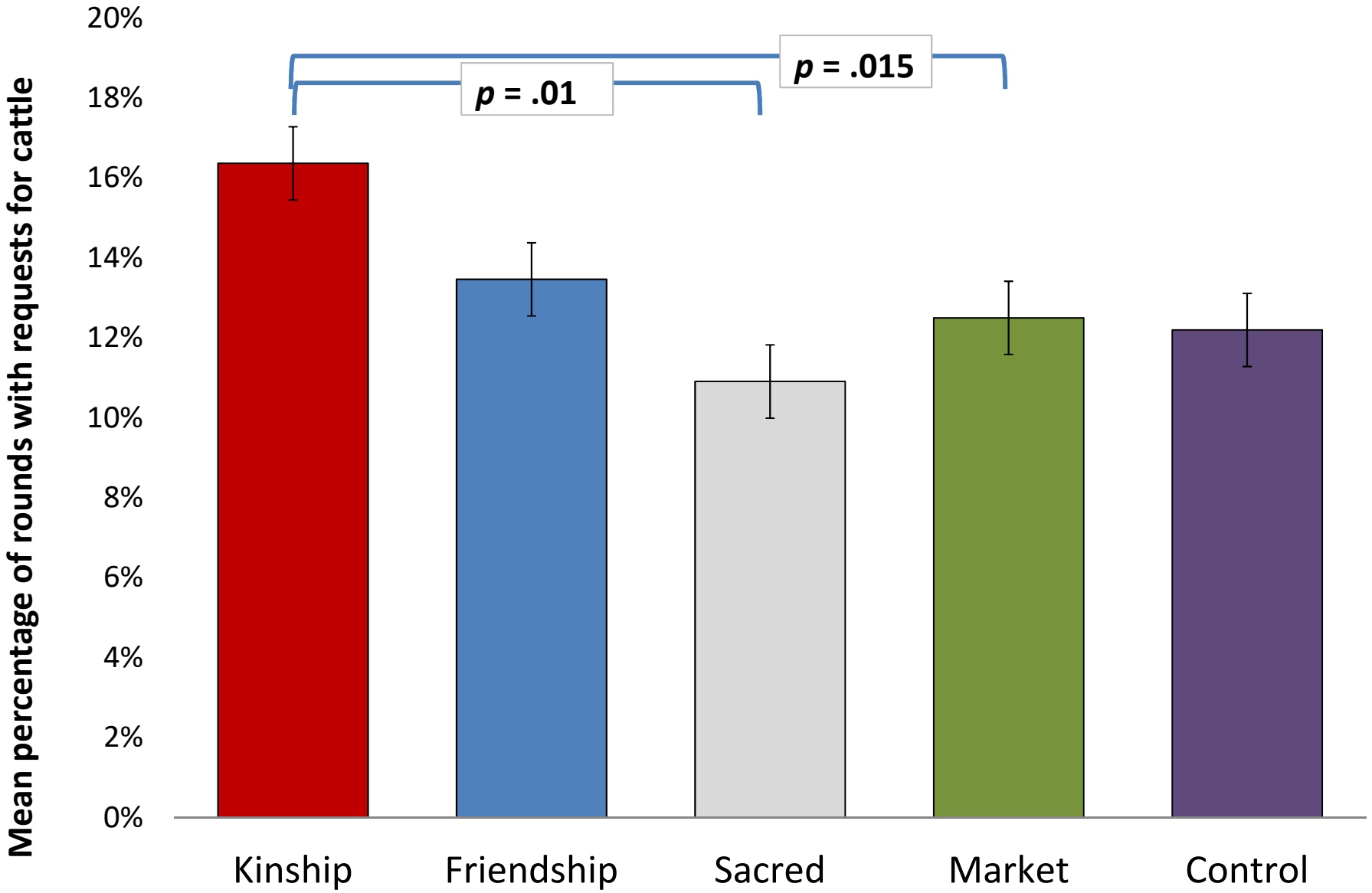
FIRST GAME: no (significant) difference in number of cattle requested



FIRST, SECOND, THIRD GAMES:
Number of cattle requested increases in social conditions across games



OVERALL RESULTS: For those raised in the U.S. only --
Higher frequency of requests in Kinship vs. Sacred or Market :

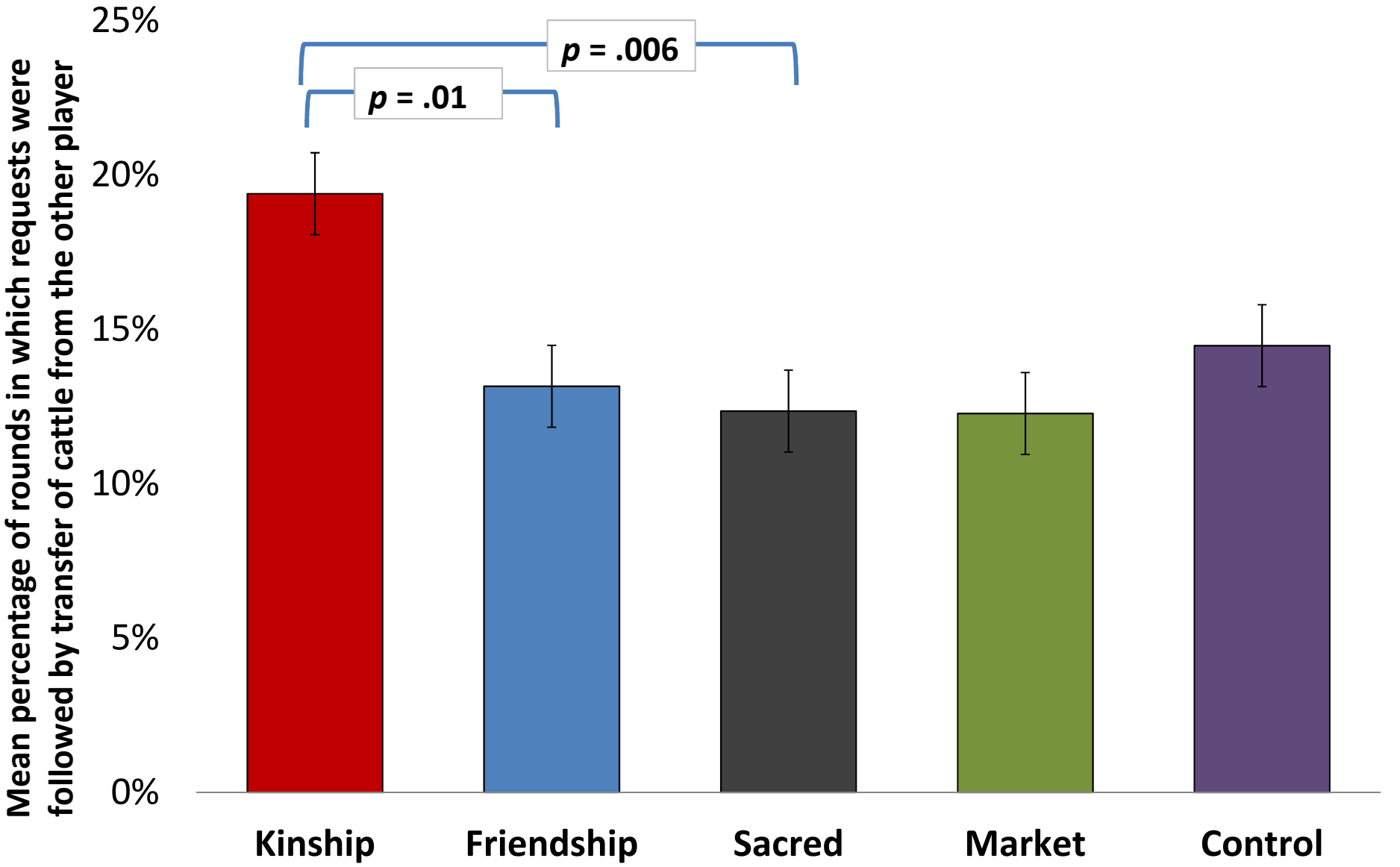


K & S: $U = 278.5$ $p = .01$ $r = .35$

K & M: $U = 253.5$ $p = .015$ $r = .32$

Error bars = S.E. of the mean

OVERALL RESULTS: For those raised in the U.S. only --
Higher frequency of transfers following requests in Kinship vs. Friendship or Sacred



K & F: $U = 238$ $p = .01$ $r = .37$

K & S: $U = 258$ $p = .006$ $r = .38$

Error bars = S.E. of the mean

Conclusions and Future Analyses

Next steps:

- Is it need-based? Quantifying degree of need and response to need between and within conditions
- Characterizing the effects of priming, measured behavior, and individual attributes on SURVIVAL
- Would differences (kinship requests / responses) be maintained over longer games?
- Validate risk-pooling hypothesis by comparing low-risk and high-risk ecologies

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Research participants

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