TESTING THE GLOBAL REPLICABILITY OF TEMPORAL DISCOUNTING IN TIMES OF RISING INEQUALITY

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*Confidential simulated analyses, credit goes to Dr Eduardo García-Garzón, Universidad Camilo José Cela, Madrid, Spain. Do not circulate.

INTRODUCTION

Rising Inequality

The COVID-19 pandemic has expedited the rise of individual economic inequality globally, even as wealth in low-income countries increases. Poorer individuals may be more likely to partake in temporal discounting. However, it is unclear whether such patterns are reflective of decision-making ability or the absence of adequate resources to meet immediate needs.

Temporal Discounting

Temporal discounting is an irrational decision pattern in which individuals assess whether they value a lesser, imminent prospect more than a greater prospect in the future (preferring to receive $1,000 today over $2,000 in a year indicating that additional $1000 in the future has been weighted down to the point that it is valued as less than $1000 now).

Aim of Study

To understand consistency and robustness of temporal discounting globally through conducting a large-scale research collaboration that tests for the presence of temporal choice anomalies in over 90 countries.
Also focus on assessing if features of discounting vary significantly within and between populations (as opposed to simply the rates at which individuals and groups discount).

Hypothesis

We predict the construct will generalize globally, but with less extremes as shown for discount rates alone which will have significant implications for policies aimed at reducing economic inequality.

METHOD

Leverages methodological approaches used in a recent global studies replicating related psychological theories to adapt values to local currencies, relative incomes, and test all participants in native languages.

Participants

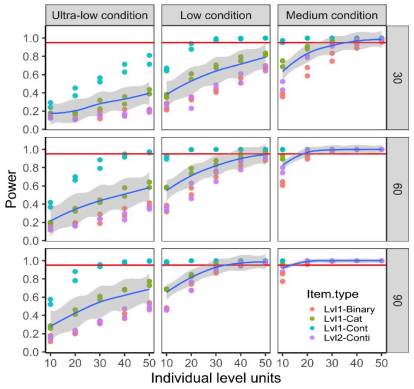
Adult participants (18 years and up) recruited from over 90 countries with at least 60 different working languages

Instruments

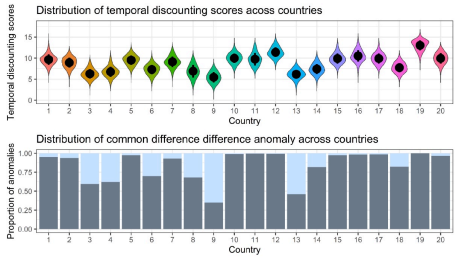
30 item measurement involving discrete choices between a payment or an immediate gain and a payment or delayed gain.
Participants see the same baseline items that are worth 100% or 10% of the average monthly household income for their country of residence.
All participants complete between six to nine randomly assigned baseline scenarios. Then participants will answer three additional randomly ordered scenarios related to choice anomalies. Participants will then answer four general circumstantial, risk and financial questions and ten demographic items.

GRAPHS / VISUALS

Power analyses for generalized hierarchical models are divided by individual-level units, country-level units, and effect size conditions.

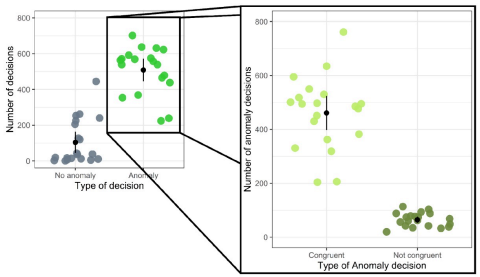


Note. Colors indicate the type of simulated variable. Loess function fitted to predict change across individual level units displayed in units, with 95% CI in grey.



Note. Increased temporal discount scores indicate a higher proportion of earlier gain choices. Scores for payment options are reversed. Mean and standard deviation are presented in black. Each country averages 665 responses (19 items x 35 individuals).

Average country-level common anomaly choices (no anomaly/anomaly) and whether average country-level anomaly is congruent with the theory or not.



ANALYSIS STRATEGY

Analysis focused on the presence, absence, and variability of six anomalies for temporal discounting largely derived from Loewenstein & Prelec (1992).

Absolute magnitude effects: Disproportionate discounting for larger values

Common difference effect: Delaying both the immediate and later gain can shift a preference, even with the time interval between both is held constant

Gain-loss asymmetry: Shifting from an immediate to a delayed choice when option becomes a loss (or payment) as opposed to a gain, though values and differences are constant

Delay-speedup asymmetry: A larger delayed gain may be preferred if substantially greater than the immediate gain, however, reducing the immediate gain by the equivalent distance may invert preference.

We will also assess subadditivity effects and if more advantageous inter-temporal choices are associated with better longer-term outcomes, particularly for those who come from the most deprived initial circumstances.

EXPECTED RESULTS

We predict the construct will generalize globally, but with less extremes as shown for discount rates alone
Our expected results will have significant implications for policies aimed at reducing economic inequality.

DISCUSSION

Implications

Given the prevailing view that low-income individuals have more extreme rates of temporal discounting and the global rise in economic inequality, testing whether individuals would choose differently if not for needing urgent resources would:

- Add strength to knowledge of the temporal discounting
- Provide meaningful information for economic policy aimed at reducing inequality.

Research lacking these implications results in negating what individuals experienced prior to making their decision, and assumes impatience as an underlying factor as opposed to a lack of immediate needs.