The influence of resource growth rates on cooperation in intergenerational dilemmas: A person-situation interaction

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Theoretical background

Intergenerational dilemma
Situation with conflict of interest between present generation and future generations, e.g., concerning the use of common resources^1
- Long-term consequences affect only future generations
- Future generations cannot influence present generation

Growth rate
- Key property of renewable resources, as some resources grow slower than others and are particularly vulnerable to overexploitation
- To which extent are people sensitive to the growth rate in situations where resource development only affects next generation?

Individual differences
- People vary in the degree they cooperate with others^2
- Variation explained by personality trait Honesty-Humility (HH)\(^3\): “tendency to be fair and genuine in dealing with others even one might exploit them without suffering retaliation”^4

Methods & hypotheses

Hypotheses
- H1: Individuals generally show some concern for the benefit of future generations and extract less from resources with slower growth rates
- H2: Individuals high in HH extract less from a resource across all conditions
- H3: Person-situation interaction
  People high in HH are more sensitive to the growth rate and show greater restraint for smaller growth rates

Paradigm
- Adapted from Kieslich and Hilbig (in prep.)^5
- Individuals extract sequentially from common resources (see Fig. 1)
- After each extraction remaining resource multiplied with growth rate
- Manipulation of size of growth rate: slow (1.25) vs. medium (2.00) vs. fast (5.00)
- Dependent variable: percent extracted

Web study
- N = 746 (71% female, 73% students)
- Incentivized (partly): for two randomly selected participants decision paid out
- Assessment of HH with HEXACO-60 questionnaire^6 (Cronbach’s α = .76)
- Random assignment to growth rate condition and generation sequence (between subjects)

Results

Linear model predicting extraction decision
- Main effect growth rate (see Fig. 2)
  \[ F(2,740) = 34.27, p < .001, F^2 = .093 \]
- Main effect of HH
  \[ F(1,740) = 74.31, p < .001, r = .29 \]
- Interaction HH x growth rate (see Fig. 3)
  \[ F(2,740) = 5.34, p = .005, F^2 = .014 \]

Separate correlations for HH and decision
- In slow condition: \( r = -.43, p < .001 \)
- In medium condition: \( r = -.20, p = .001 \)
- In fast condition: \( r = -.26, p < .001 \)

Discussion & implications

Summary
- People generally show some concern for future generations and resource growth rates
- Person-situation interaction: dispositional cooperators (people high in HH) are more sensitive to growth rates and reduce extraction for resources with small growth rates

Implications for policy making
- Many people do restrain their resource usage to some extent in situations where resources are slow to replenish themselves – especially if this property is explicitly communicated as in the current study
- Policy makers should develop interventions that target specific groups of individuals who generally display uncooperative behavior across situations – as especially this group of individuals is responsible for the decline of common resources over time

References

^5 Kieslich, P. J., & Hilbig, B. E. (in preparation). The more we are, the less we care: A new paradigm for intergenerational dilemma decision making, Manuscript in preparation.