The Effect of Perceived Scarcity: Experiencing Scarcity Increases Risk Taking

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What we did?

One laboratory experiment and two field experiments were conducted to explore the effect of perceived scarcity on risk-taking behavior. Perceived scarcity was manipulated by dealing with problems in scenarios of resource scarcity.

- In Experiment 1, participants in perceived scarcity condition showed greater risk-seeking, greater likelihood of engaging risky behaviors, greater risk perception and greater expected benefits in social, recreational, financial, health/safety and ethical domains than participants in control group.
- In Experiment 2, participants in perceived money scarcity condition showed more ethical risk-taking behaviors in real-world than they in the condition that perceived scarcity was not induced.
- In Experiment 3, the effect of perceived money scarcity and the effect of perceived time scarcity were similar.

Experiments in this research provide evidence that perceived scarcity increases risk taking.

Why we did this?

Theoretical Basis

- Perceived scarcity refers to individual subjective feeling of certain tangible resources or intangible resources scarcity.
- Needs Theory
- Risk-Sensitivity Theory
- poverty-related concerns consume individual's attention, leaving fewer cognitive resources available to make rational choices and actions(Mani et al. 2013).

Practical Basis

- When people feel they have less than they need, perceived scarcity occurs(Mullainathan & Shafir 2014). Perceived scarcity(e.g., money scarcity and time scarcity) could happen to anyone.
- The poor are not the only one who encounter scarcity, if perceived scarcity is the reason for the increase of risk taking, it would affect individual risk-taking behaviors on a larger scale more than the poor.

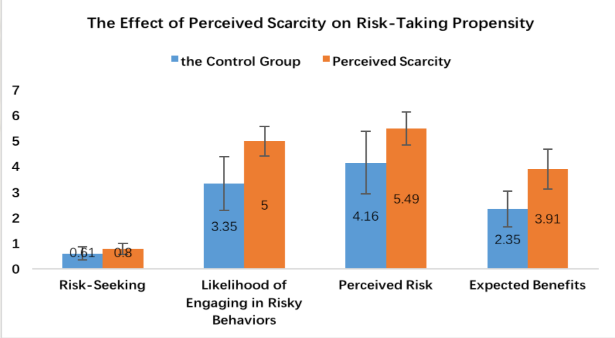
How we did this?

Experiment 1: The Effect of Perceived Scarcity on Risk-Taking Propensity

Between-Subject Design

- part-time MBA students(N=44, M_{age}=31.95)
- Participants in the experimental group were asked to answer a series of poverty-related questions that triggered perceived scarcity, and participants in the control group were asked to fill questionnaire without poverty-related questions.
- Recognize Social Norms(RSN) tasks (Bruine de Bruin et al., 2007)
- Domain-Specific Risk Taking Scale(DOSPERT, Blais & Weber, 2006)
- Poverty-Related Questions(Mani et al., 2013)

Result



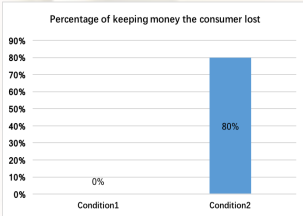
$F_{risk\text{-}seeking}(1,41)=7.56, p=0.009, \eta^2=0.16$ $F_{likelihood}(1,42)=41.63, p<0.001, \eta^2=0.50$
$F_{perceivedrisk}(1,42)=20.23, p<0.001, \eta^2=0.33$ $F_{expectedbenefits}(1,42)=47.53, p<0.001, \eta^2=0.53$

Experiment 2: The Effect of Perceived Money Scarcity on Ethical Risk-Taking

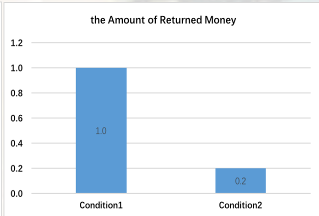
Within-Subject Design(Field Experiment)

- greengrocers (N=15)
- Participant experienced condition 1 without any manipulation and experienced condition 2 that the perceived money scarcity was triggered.
- The participant was judged as an ethical risk taker if he/she kept the consumer's money.

Result



$\chi^2(1, n=30)=20.00, p<0.001$



$t(28)=7.48, p<0.001, r^2=0.67$

Experiment 3: The Effect of Perceived Money/Time Scarcity on Ethical Risk-Taking

Between-Subject Design(Field Experiment)

- undergraduates (N=55, M_{age}=19.67)
- participants in money(time) condition were asked to answer a series of money-related(time-related) questions to elicit the money scarcity perception
- The participant was judged as taking risk if he/she changed original answers and reported a dishonest score

Results

The percentage of cheating between the Money group and the Time group was similar, $\chi^2(1, n=45)=1.93, p=0.17$.
The number of modified answers was similar in both the Money group and the Time group, $F(1,43)=0.006, p=0.94$.

Conclusions

Results from Experiment 1 and Experiment 2 supported the hypothesis that the perceived scarcity increases risk taking. In Experiment 1, with similar emotional state and ability to recognize social norms, perceived scarcity induced greater risk-seeking, greater likelihood of engaging risky activities, greater risk perception and greater expected benefits. In Experiment 2, perceived money scarcity induced ethical risk-taking in the real-world. Economic state had no relationship with risk-taking propensity in both experiments. Moreover, results of Experiment 3 reveal that perceived scarcity from different resource has the same effect on risk-taking behavior.

References

Bruine de Bruin W, Parker A M, & Fischhoff B. (2007). Individual Differences in Adult Decision-making Competence. *Journal of personality and social psychology*, 92(5), 938-956.
Blais, A. E., & Weber, E. U. (2006). A Domain-Specific Risk-Taking (DOSPERT) Scale for Adult Populations. *Judgment and Decision Making*, 1(1), 33-47.
Li, G., Zhou, H., & Ding R.Y. (2013). The Effects of Moral Self-Regulation on Prosocial Behavior and Rule Infraction. *Acta Psychologica Sinica*, 45(6), 672-679.
Mani, A., Mullainathan, S., Shafir, E., & Zhao, J.Y. (2013). Poverty impedes cognitive function. *Science*, 341(6149): 976-980.
Mullainathan, S., & Shafir, E. (2014). *Scarcity: Why having too little means so much.* Hangzhou, China: Zhejiang People's Publishing House.
Yang, Q., Wu, X., Zhou, X., Mead, N. L., Vohs, K. D., & Baumeister, R. F. (2013). Diverging Effects of Clean Versus Dirty Money on Attitudes, Values, and Interpersonal Behavior. *Journal of Personality and Social Psychology*, 104(3), 473-489.

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