**The Effect of Scarcity as a Resource Primer on Decision-Making**

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**Abstract**

The effects of resource priming and resource scarcity are well documented in their ability to induce a “scarcity mindset” in individuals, which has been previously shown to significantly impair decision making capabilities. Earlier studies indicates that a scarcity mindset can be induced in a research environment through perception of scarcity, allowing for the continued development of scarcity theory through resource priming. The current study aimed to address a gap in the literature whereby the full effect of resource scarcity as a manipulator on decision making is measured in relation to resource abundance. The findings of this study showed no significant difference in decision making between the resource scarcity and resource abundance group conditions, even though resource scarcity was measured to be a significant manipulator on decision making in the current study. These findings were seemingly incongruent with previous research. However, the current study did highlight various weaknesses within and outside of the current study when it came to researching for scarcity theory through resource priming. This includes the importance of distinguishing the effect of long-term resource scarcity and short-term resource priming, ensuring the sound nature of the stimulus used for research priming, and the need for a well-developed tool for measuring scarcity as a manipulator.

**The Effect of Scarcity as a Resource Primer on Decision-Making**

Priming refers to how exposure to certain stimulus unconsciously influences an individual’s responses and decision-making aptitudes (Reisberg, 2021). In the context of resource priming, this phenomenon often involves exposing individuals to different resource conditions – such as resource scarcity or abundance – in order to affect their decision making. This has been an ongoing area of research, with past studies suggesting that resource scarcity – that is, difficulty obtaining resources typically required for survival – impairs decision making capabilities in people (Bruijn & Antonides, 2022). This is referred to as scarcity theory, and the theory further supports the idea that resource scarcity induces an ingrained mindset in people which promotes poor decision making skills and behaviours (Mullainathan & Shafir, 2013). However, various studies have promoted the notion that the mere perception of resource scarcity proliferates enough motivation to incite a scarcity mindset in people (Reisberg, 2021), which in turn indicates that its effects can be measured in a research environment through resource priming.

Wider analysis of the impact resource scarcity has on people’s cognition generally indicates an adverse effect on the capacity to process information (Reisberg, 2021). However, this is somewhat incongruent with the theory that resource scarcity prompts an instinctual response in individuals, which evolutionarily was developed to maximise the chances of survival (Cannon et al., 2019). This instinctual cognitive response should thus, theoretically, promote any decision making regarding individual or group survival – instead, the literature surrounding resource scarcity indicates an impairment in individuals’ decision making capabilities (Bruijn & Antonides, 2022), even when the decision making measure is intended to be more directly related to survival (Haushofer & Fehr, 2014). It is worth noting, though, that this literature assumes resource scarcity to be a sound manipulator on decision making measures.

Decision making itself as a concept and the innumerable phenomenon that can influence it has also been a continuing area of research, as it is arguably one of the most important aspects of human psychology which permeates everyday life (Schmicker et al., 2017). Additionally, the research pillars of scarcity theory provide compelling evidence for the claim that a person’s mindset regarding decision making is shaped dramatically by resource access – even in the short-term through priming (Zhao & Tomm, 2018). However, little research appears to exist which statistically accounts for and measures the experimental manipulation of scarcity in a research environment, and compares that data to the theoretically contrasting effect of resource abundance (Bruijn & Antonides, 2022; Sachdeva & Zhao, 2021).

The current study thus aims to measure the extent to which resource specifically works as a manipulator on decision making. This is achieved by conducting resource priming with resource scarcity being demonstrated to one group of participants, and resource abundance being demonstrated to another group of participants via slideshow presentations. It is hypothesised that resource scarcity will be a significant manipulator in impairing participants’ decision making skills, subsequently revealing impaired decision-making skills in participants who were primed for resource scarcity when compared to individuals who have been primed towards abundance, as has similarly been tested in previous research (Sachdeva & Zhao, 2021).

**Method**

**Design**

The study was of true experimental between-subjects design. The stimulus delivered to participants via slideshows to represent resource scarcity or abundance based on their group condition constituted the independent variable of the design. The stimulus was presented in the same order for each participant within their respective groups. The dependent variable of the study was participant scores on Qualtrics surveys measuring decision making as well as a resource manipulation check.

**Participants**

Ninety-five undergraduate psychology students from Australian Catholic University (Male = 24; Female = 70; Other = 1) participated in the study. Of those ninety-five, 24 were male (25.3%), 70 were female (73.7%), and 1 identified as Other / Prefer not to say (1.1%). Fifty of the participants were placed in the “abundance” group condition, with the remaining forty-five being placed in the “scarcity” condition. The mean age of participants was 21.7, with participants’ ages ranging between 19 and 43 (*SD* = 2.9).

**Materials**

A different slideshow for each condition was made containing either the stimulus for the “abundance” group condition or the “scarcity” group condition. A Qualtrics survey was constructed containing 5 items formulated for this experiment, with each item being a statement regarding resource scarcity with a seven-point Likert scale ranging from “Strongly disagree” to “Strongly agree” to serve as a manipulation check. The Qualtrics survey also contained the Discrete Emotions Questionnaire (Harmon-Jones et al., 2016) and a shortened version of the Decision Making Competence tool (Finucane et al., 2010).

**Procedure**

Participants were informed that they would be undertaking a study if they chose to during their regular tutorial class. The participants were then presented with the slideshow constructed for their group condition – “abundance” or “scarcity”. They were instructed on those slides to read the grey boxes with information accompanied by a visual representing either resource scarcity or abundance.

At the conclusion of the slideshow, participants were instructed to follow a link to a Qualtrics survey. In Qualtrics, participants underwent the items which served as the resource scarcity manipulation check, as well as the Discrete Emotions Questionnaire (Harmon-Jones et al., 2016) and the shortened version of the Decision Making Competence tool (Finucane et al., 2010). Participant descriptive information was also collected through Qualtrics.

**Results**

Table 1 displays the means, standard deviations, and sizes of each sample in each condition. The abundance sample constituted 52.6% of the population, with the scarcity sample making up the remaining 47.4%.

**Table 1**

*Means, Standard Deviations, and sample sizes for the resources manipulation check (RMC) for abundance and scarcity, and the Decision Making Condition (DMC) for abundance and scarcity.*

|  |  |  |  |
| --- | --- | --- | --- |
| Group | *M* | *SD* | *n* |
| RMC Abundance | 23.4 | 3.5 | 50 |
| RMC Scarcity | 26.2 | 3.3 | 45 |
| DMC Abundance | 3.9 | 1.6 | 50 |
| DMC Scarcity | 3.6 | 1.5 | 45 |

An independent samples t-test was conducted between the abundance and scarcity conditions for the resource manipulation check and decision making scores. The assumption of equal variance was met as demonstrated using Levene’s for both the resource manipulation check, *p* = .529, and the decision making conditions, *p* = .748. The assumption of normality assumed given that the sample sizes were larger than 30. Assumptions of independence, and homogeneity of variance were also each met by the design of the study.

The results of the t-test revealed a significant difference in resource manipulation check scores between the abundance and scarcity conditions; *t*(93) = -4.04, *p* < .001. However, the results of the t-test revealed no significant difference in decision making scores between the abundance and scarcity conditions; *t*(93) = 1.12, *p* = .267.

**Discussion**

Reviewing the results of the independent samples t-test demonstrated no supporting evidence for the hypothesis that decision making would be impaired when primed for resource scarcity compared to resource abundance. This is in spite the results revealing resource scarcity to be a significant manipulator on participant decision making. These findings are seemingly incongruent with previous studies into the effect of resource scarcity through priming (Sachdeva & Zhao, 2021), as well as with relatively consistent analysis of the effects of resource scarcity on decision making (Bruijn & Antonides, 2022). Additionally, the non-significance of the results also puts it in a place of incompatibility with the theory that resource scarcity may enhance our decision making related to survival (Cannon et al., 2019).

However, this may in at least some part be due to some noteworthy limitations to this study. While scarcity theory dictates that the scarcity mindset results in poorer decision making, it is often implied to be over long-term conditioning, e.g. a lifetime of poverty (Bruijn & Antonides, 2022; Sheehy-Skeffington & Rea, 2017). This brings into question how long it takes for one to be influenced by resource priming, and indicates that the attempt at resource priming conducted in the current study was insufficient either in time or potency in order to properly induce a resource scarcity mindset. Furthermore, the current study’s attempt at scarcity manipulation may have been uniquely inadequate given the current economic or technological climate – a concern that has been brought up in other literature on resource scarcity (Goldsmith et al., 2020). Many individuals possess smartphones or televisions which would serve to regularly deliver negative information to participants, particularly on matters such as climate change and environmental neglect – both of which were touched upon in the scarcity resource priming stimulus slideshows. Thus, it is likely that there is already a pre-existing scarcity mindset in many of the current study’s participants that was induced under similar conditions to what was attempted in the current study – a constant stream of visual information about existing resource scarcity (Doppelt, 2021). Another possible explanation for the results of the current study is that, while our manipulation check indicated that scarcity was a significant manipulator, the actual manipulation check within the current study may not have been of sound design. Were this the case, it would explain why the manipulation check measured resource scarcity as being a statistically significant manipulator, yet there being no significant effect in the resource scarcity condition when compared to resource abundance.

Given these limitations, it is suggested that future research aims to explore the short-term impact of resource priming when compared to the long-term impact of continuously living in resource scarcity, as well as ensuring that the stimulus used for resource priming is effective for the participants’ demographic. While the long-term impact of living in resource scarcity has been previously measured, it has rarely been done so in comparison to short-term priming (Bruijn & Antonides, 2022; Haushofer & Fehr, 2014). Additionally, it may be worth revising and testing the manipulation check in order to ensure that it is a sound measure that is truly reflective of what it claims to report, with greater resilience against extraneous variables such as the participant’s economic or technological situation.

In conclusion, the initial hypothesis that resource scarcity would be an effective manipulator on decision making when measured in relation to resource abundance was not supported. However, resource scarcity was still measured to be a statistically significant manipulator on decision making. These findings seem relatively incongruent with much previous research, although this study still contains valuable insight which contributes to the ongoing scientific discourse regarding scarcity theory and has assisted in identifying potential weak points in research regarding scarcity theory.

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