The Impact of Time Scarcity on Psychological Reactance: Shortage of Time Does Not Lead Individuals to be More Reactant

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Abstract

The aim of this study was to explore the eventual relationship between time scarcity and psychological reactance. We hypothesized that individuals subjected to time scarcity would misjudge potential threats to their freedom, possibly leading to increased state reactance. The study consisted of an online questionnaire with hypothetical scenario vignettes, and followed a 2x2 structure, with time scarcity as a between-subjects independent variable, and scenario as a within-subjects independent variable. The dependent variables studied were state reactance (measured using the Salzburger State Reactance Scale), perceived threat to freedom, and actual behavioral intention. Recruitment was carried out online and the final sample (n=151) was composed of 101 females and 46 males. The age range of the participants was 14-62, (M = 41.30, SD = 13.63). Statistical analysis of the data uncovered no significant effect of time scarcity on psychological reactance, and a significant effect of the scenario on psychological reactance. This is most likely due to the limitations in the design of the study reported in the discussion, and future research on the topic should aim at addressing these limitations.

Keywords: Time scarcity, psychological reactance, behavioral freedom, perception of threat, SRR scale.

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Psychological reactance theory (PRT) was first proposed around 60 years ago by American psychologist Jack Williams Brehm. The theory in principle states that, when an individual's behavioral freedom gets restricted, that individual will be motivated to restore the lost or hampered behavioral freedom (Brehm, 1966). Much research has measured, evaluated, and deepened the theory throughout the years, observing which factors influence and trigger psychological reactance, the core construct of PRT. Scarcity seems to be one of the many factors that can influence psychological reactance, increasing it in specific situations (see Clee & Wicklund, 1980; Fitzsimons, 2000). However, when dealing with scarcity, a crucial distinction must be made. The literature on the topic generally distinguishes two very different types of scarcity: product and resource scarcity. Product scarcity refers to a real or perceived lack of goods and services available to the consumer (Van Kerckhove et al., 2020). Resource scarcity instead, despite lacking a clear definition, involves experiencing a discrepancy between one's current level of resources (i.e. time, money, space, etc.) and a higher, more desirable reference point (Cannon, Roux & Goldsmith, 2018). Most of the available research investigating the relationship between scarcity and psychological reactance (like the three studies mentioned before) has focused solely on product scarcity, and whether the effects observed are applicable to various kinds of resource scarcity as well is not yet clear (Gong et al., 2020). Do individuals experiencing resource scarcity display greater psychological reactance, similarly to individuals experiencing product scarcity? The objective of this thesis is to answer this question and position itself in the aforementioned literature gap. To do so the plan is to explore the potential impact that a specific type of resource scarcity, namely time scarcity, might have on psychological reactance. This research, other than aiming at filling the

gap in literature, can be particularly relevant when we consider that resource scarcity has been proven to trigger its own mindset, changing the way people look at problems and make decisions, and thus reinforcing their condition of scarcity (Shah et al., 2012). This means that experiencing resource scarcity is rarely a one-time event, and it is probable that individuals experiencing it do so repeatedly. Uncovering the effect that time scarcity might have on psychological reactance can then help both policy makers and private companies' managers in understanding how to interact with individuals experiencing a scarcity mindset, allowing them to prevent potential displays of reactance.

Theoretical Background

According to PRT, individuals have certain freedoms with regard to their behavior, if these behavioral freedoms are reduced or threatened with reduction, the individual will be motivationally aroused to regain them (Brehm, 1966). The psychological state aroused by the loss of behavioral freedom is what researchers call 'Psychological Reactance'. To expand further, there are two main concepts on which the theory is based. The first one, the general pre-condition of the theory, is that individuals have so called 'free behaviors'. These are acts individuals have previously engaged in, are currently engaging in, or could engage in the future. The second main concept is that when these free behaviors are threatened or eliminated, individuals become motivated to restore their freedom. Most importantly, individuals do not desire freedom per se, but it is the loss that is motivationally arousing (Brehm, 1966). Starting from the two main concepts presented above, PRT can then be conceptualized into four different core components, here reported in order of appearance: (a) presence of freedom; (b) elimination or threat to freedom; (c) arousal of reactance; (d) restoration of freedom (Rosenberg & Siegel, 2018). The first component consists of the so-called free behaviors. It is important to point out that not all behaviors are freedoms, and to be so

two conditions needs to be met. Individuals must be aware of the freedom, and individuals might feel capable of enacting said freedom (Brehm & Brehm, 1981). This means that behaviors like unconscious responses and involuntary reactions, although technically classifying as behaviors, should not trigger reactance when restricted or eliminated, as individuals might not be aware of their existence, nor might feel capable of enacting them. The second core component consist of the elimination or threat to freedom. It is important to point out that elimination of the freedom in not the only potential cause of reactance. It has been demonstrated through the years that psychological reactance is indeed not just about an objective restriction of freedom, and just the perception that a freedom is threatened can trigger reactance (Krishnan & Carment, 1979; De Jonge, Zeelenberg & Verlegh, 2018). The third core component, direct consequence of the previous one, consists of arousal of reactance. According to Brehm (1966), the degree to which individuals will display reactance is influenced by two main factors: characteristics of the freedom, and characteristics of the threat. Finally, the fourth core component consists of the restoration of freedom. When individual freedom is restricted individuals tend to restore it, generally through engaging in the restricted behavior, reestablishing it by social implication, and/or showing resistance or derogating the source of the threat (Rosenberg & Siegel, 2018; Nezlek & Brehm, 1975; Rains, 2013).

For this study we are focusing mostly on the third core component of PRT, arousal of reactance, and specifically on the effects that the characteristics of the threat have on triggering reactance. Brehm originally postulated that there is a direct relationship between the severity of the threat and the amount of reactance, with greater threats eliciting greater reactance (Brehm, 1966). Subsequent research confirmed his assumption, by observing that the perception of the threat magnitude influences reactance, with threats that are perceived as being of higher magnitude arousing

greater reactance (Organ, 1974). As we briefly anticipated earlier, resource scarcity can create a specific and unique mindset in the individuals experiencing it, entrapping them into a perpetual condition of resource scarcity. One of the characteristics of this mindset is that it leads to greater focus on the task at hand, causing a decrease in cognitive resource and reduced attention, therefore reducing focus on subsequent tasks (Shah et al., 2012). The reduced attention that follows experiences of resource scarcity is at the core of the main idea of this study. We hypothesize that if individuals experience resource scarcity, they would be less attentive and end up misinterpreting the magnitude of eventual threats to their freedom.

Findings from two recent studies provide empirical backing for this hypothesis, by confirming that when experiencing scarcity people misjudge both the importance of their freedom, and the eventual threats to it. The first study (Van Kerckhove et al., 2020), enquired whether monetary scarcity leads to an increased desire for assortment in consumers. In one of the experiments, the authors observed that, when in a condition of monetary scarcity, participants preferred larger assortments because they placed more value on their freedom of choice. The second study (Gong et al., 2021), investigated the effect of resource scarcity on consumer preferences. In one of the experiments, the authors observed that participants in the scarcity condition declared perceiving a higher threat to freedom due to their scarcity condition. Both studies explore the impact of different types of resource scarcity, the first one focusing on monetary scarcity, and the second one focusing on general resource scarcity (as recalled through memory by the participants of the study), but not time scarcity specifically. We therefore introduce our second hypothesis. If it has been proven that certain types of resource scarcity trigger greater reactance, could this be true for time scarcity as well? Do individuals experiencing time scarcity display greater reactance as a result of misjudging the threat to their freedom?

Additionally, focusing specifically on time scarcity as the type of resource scarcity being studied allows us to deepen the understanding of the specific differences between different forms of resource scarcity. Cannon et al (2019) developed a self-regulatory model of resource scarcity, according to which individuals respond to resource scarcity in two distinct psychological pathways. The scarcity-reduction route aims at reducing the discrepancy in resources through planning and restoration, increased attention, and increased valuation of the scarce resource. The control-restoration route instead aims at reestablishing diminished personal control by increasing it in other, unrelated, domains (Cannon et al., 2019). As explained before, participants in the study conducted by Van Kerckhove et al, after being subject to monetary scarcity, preferred larger assortments of products, therefore engaging in planning, and increasing the valuation of the scarce resource, strategies common in the scarcity-reduction route. This study focuses instead on time scarcity. Uncovering an eventual increase in reactance due to experiences of time scarcity would suggest that individuals subject to it engage in the control-restoration route, as reactance can be conceptualized as a form of restoration of control (Brehm, 1993). Therefore, observing an effect of time scarcity on psychological reactance could deepen our understanding of the differences between time scarcity and other types of resource scarcity.

For the sake of clarity and closure we report below the two main hypotheses to be explored in this study:

H1: Time scarcity leads individuals to perceive higher threats to their freedom.

H2: Individuals experiencing time scarcity display greater reactance compared to individuals not experiencing it.

Method

Participants

Participants for the study were recruited online by disseminating the link to participate in the research via the researcher' social media platforms (LinkedIn, Instagram, and WhatsApp).

To determine the required sample size a conservative power analysis with G*Power 3.1.9.6 (Faul et al., 2009) was conducted. For a medium effect size (f = 0.5, α err = .05, 1-β err = .80) a sample of 128 participants was recommended.

Data collection took place between the 17th of March and the 24th of March. The total number of participants that took part in the online experiment was 282. Of the 282 participants, 37 refused to give consent for participation, and were therefore excluded from the study, reducing the number of data entries to 245. Data was then discarded if (a) one or more entries were missing (b) reports of technical problems were received, and (c) the total response time throughout the main task and questionnaire was deemed too short to be realistic. After cleaning of the dataset, 93 entries were excluded from the analysis due to one or more of the reasons explained above. The final dataset consisted of 152 complete responses. The age range of the participants was 14-62, (M = 41.30, SD = 13.63). Participants were recruited regardless of gender, and the final sample included 46 males, 101 females, 1 gender-fluid, and 3 participants that preferred not to disclose their gender. Participants were recruited from 13 different countries (In order of frequency: Italy, United Kingdom, Netherlands, Germany, USA, France, Switzerland, Greece, Romania, Spain, Malaysia, Mexico, and Turkey), but the vast majority declared identifying as Italian (126 out of 151). Unfortunately, no other nationality group was big enough (>20) to incorporate statistically significant additional demographic analysis based on nationality.

Design

For this study we carried out an online experiment on the effect of time scarcity on perceived threat to freedom and reactance (state and actual behavior). Two experimental conditions were created (time available: Scarcity vs. No Scarcity). Participants were randomly assigned to one of the two conditions. The main task consisted of a mini-game in which participants had to move a set of 10 sliders into the requested position. The difference in condition, or the scarcity mindset trigger, was achieved by altering the amount of time available to participants to move all the sliders into the correct position. Participants in the No Scarcity condition had 120 seconds to complete the task, while participants in the Scarcity condition had only 30 seconds to complete the task. The 30 second time limit was purposefully chosen to make completion of the task nearly impossible, inducing a scarcity mindset in the participants assigned to that condition. After the main task each participant had to go through two vignettes describing hypothetical reactance-arousing scenarios, and behavioral intention to react was measured for each one of them. A set of standardized questions followed each vignette, aimed at measuring reactance, and perceived threat to freedom. More detail on the scales and items used to measure perceived threat to freedom and reactance will follow in the 'Measures' section of this chapter.

Materials and Procedure

The online experiment was conducted using the Qualtrics software (Qualtrics, 2020). The vignettes with hypothetical reactance-arousing scenarios were drawn from literature (see Sittenthaler et al., 2015), and are reported in the appendix at the endo fo this document. Upon starting the experiment, participants were briefed about their participation in the study, that was presented as a study on decision making. Participants were randomly assigned to one of the two experimental conditions, and the main task (slider mini-game) started. Overall, 70 participants resulted being

assigned to the Scarcity condition, while 82 resulted being assigned to the No Scarcity condition. The slight imbalance in sample size is due to the data cleaning process, that led to more entries being discarded in one condition rather than the other. Immediately upon completion of the task, a manipulation check was performed by asking participants whether they believed they had enough time to complete the task. After the end of the main task, participants were asked to identify themselves in two different hypothetical, reactance-arousing scenarios. The first scenario consisted of a foreign student being denied a rental opportunity by a landlord. The second scenario consisted of a tourist being denied access to a nightclub by a bouncer, without apparent reason or proper explanation. After each scenario behavioral intention to react was assessed, and a questionnaire designed to measure perceived threat to freedom and reactance followed. Overall, the questionnaire consisted of 14 questions per vignette. Upon completion of the questionnaire, demographic data (age, gender, nationality) and additional comments were collected. All data was anonymized. Before leaving the online experiment, participants were briefed about the actual nature of the study, and the contact of the researchers was shared to allow eventual further clarifications.

Measures

State Reactance

State reactance was measured using the Salzburger State Reactance Scale (Sittenthaler et al., 2015), from here onwards referred to as the SRR Scale. It consists of 19 questions to be answered on a 5-point Likert-type scale ranging from 1 (*not at all*) to 5 (*very much*). Since satisfactory results can be achieved with just a portion of the items of the SRR Scale (Sittenthaler et al., 2015), and in order to reduce cognitive load, we used only the first 10 items. These are (a) freedom, (b) frustrated, (c) annoyed, (d) disturbed, (e) prejudices, (f) discriminate, (g) advantages, (h) internet, (i) complain,

(j) advise against. For more information see Sittenthaler et al. (2015). The items in the SRR Scale were adapted to each specific scenario used in the study.

Actual Behavior

The SRR Scale does a good job at measuring emotional experience, negative attitudes, and aggressive behavioral intentions in response to a threatening situation, but struggles at measuring actual behavior when reacting to a threatening situation (Rosenberg & Siegel, 2018). In order to capture this dimension as well, we decided to measure it by asking participants to self-report whether they were willing to comply, or motivated to 'fight back' to the hypothetical scenarios presented in the vignettes. This was measured with a single item question to be answered on a 1 to 5 Likert scale. Specifically, the item for the first vignette (landlord scenario) was 'Would you be willing to call again and convince the landlord to meet you in person?'. The item for the second vignette (bouncer scenario) was 'Would you be willing to address the bouncer and convince him to allow you in?'.

Perceived threat to freedom

Due to the centrality of the threat perception in this study, and due to the fact that the SRR Scale counts only one item focusing on perceived threat to freedom, we included 4 more items specifically designed to better capture threat perception. These are adapted from Dillard & Shen (2007), and were answered on a 5-point Likert-scale ranging from 1 (*not at all)* to 5 (*very much)*. Specifically, the items are: "the situation threatened my freedom to choose", "in the situation I felt not in control of my own decision", "in the situation I felt manipulated", and "in the situation I felt pressured".

Ethical Approval

In accordance with ethical guidelines for research, participants will receive a consent form to be signed/agreed with before the start of the questionnaire. Additionally, Dr. Christoph Kogler, supervisor of this thesis, has been granted ethical approval for

studies on reactance by the Ethics Review Board (ERB) of the Tilburg School of Social and Behavioral Sciences of Tilburg University.

Results

Three different two-way Analysis of Variances (ANOVAs) were performed to test whether the two independent variables (Condition: Scarcity vs No Scarcity, and Scenario: 1 vs 2) influenced the measures proposed (State Reactance, Actual Behavior, and Perceived Threat to Freedom). The significance level was set to $\alpha = .05$ throughout the analysis.

Three dependent variables were analyzed. The first dependent variable was Actual Behavior (AB), obtained by the single item question that followed immediately after each vignette. The second dependent variable was State Reactance (SRR), computed from the mean of all the answers given to the first ten items (for each vignette) of the questionnaire. This follows the procedure of the original research that used this scale (SRR Scale, see Sittenthaler et al., 2015). The third and final dependent variable was Perceived Threat to Freedom (PTF), computed from the mean of all the answers given to the last four items (for each vignette) of the questionnaire. This again follows the procedure of the original research that used this scale (see Dillard & Shen, 2017).

We performed a manipulation check to assess whether the treatment worked, and whether there is an actual difference in mindset due to being assigned to one condition or the other. An independent samples t-test was conducted to compare the mean scores of the No Scarcity group ($M = 4.78$, $SD = 0.648$) and the Scarcity group ($M = 2.49$, $SD = 1.21$) on the manipulation check item of the questionnaire. The t-test revealed a significant difference between the two groups, $t(149) = -14.83$, $p = <.001$. This means that our manipulation worked and there was a significant treatment effect.

Before starting the main analysis, we had to check several assumptions to ensure the validity of the results. First, we checked for normality through normal probability plots. Normality was detected using Q-Q Plots, and since all plots in the graphs followed approximately along the diagonal line, we can assume that our data is normally distributed. Second, we checked for absence of outliers, as they can have a significant effect on the results of an ANOVA. Outliers were detected using boxplots. One outlier was identified, and therefore excluded from the final analysis. Third, we checked for homogeneity of variance through a Levene's test. There was homogeneity of variances as assessed by Levene's test for equality of variances, as every variable included in the study reported a $p > 0.5$. Finally, we performed Mauchly's Test of Sphericity to test whether the variances of the differences between the related groups of the within-subject factor for all groups of the between-subjects factor were equal. Mauchly's Test of Sphericity indicated that the assumption of sphericity had not been violated, as every variable included in the study reported a $p > 0.5$. Having met all the necessary assumptions, we were able to continue with our main analysis.

Main Analysis

A two-way ANOVA was performed to evaluate the effect of Condition (Scarcity vs No Scarcity) and Scenario (1 vs 2) on Actual Behaviour (AB). The means and standard deviations for Actual Behaviour are presented in Table 1 below.

Table 1

Descriptive statistics for Actual Behaviour (AB)

Condition	Scenario	*M*	*SD*
Scarcity	1	2.46	1.42
	2	4.00	1.15
	1	2.50	1.50

No Scarcity	2	3.65	1.39

The results indicated no significant main effect for Condition $F(1,149) = .797$, $p = .373$; a significant main effect for Scenario $F(1,149) = 94.002$, $p < .001$; and no significant interaction between Condition and Scenario $F(1,149) = 1.986$, $p = .161$.

A second two-way ANOVA was performed to evaluate the effect of Condition (Scarcity vs No Scarcity) and Scenario (1 vs 2) on State Reactance (SRR). The means and standard deviations for State Reactance are presented in Table 2 below.

Table 2

Descriptive statistics for State Reactance (SRR)

Condition	Scenario	*M*	*SD*
Scarcity	1	3.23	0.75
	2	3.48	0.76
No Scarcity	1	3.26	0.81
	2	3.45	0.82

The results indicated no significant main effect for Condition $F(1,149) = .000$, $p = .998$; a significant main effect for Scenario $F(1,149) = 12.232$, $p < .001$; and no significant interaction between Condition and Scenario $F(1,149) = .282$, $p = .597$.

A third and final two-way ANOVA was performed to evaluate the effect of Condition (Scarcity vs No Scarcity) and Scenario (1 vs 2) on Perceived Threat to Freedom (PTF). The means and standard deviations for Perceived Threat to Freedom are presented in Table 3 below.

Table 3

Descriptive statistics for Perceived Threat to Freedom (PTF)

Condition	Scenario	*M*	*SD*
Scarcity	1	2.74	0.96
	2	3.28	0.88
No	1	2.90	1.06
Scarcity	2	3.21	0.97

The results indicated no significant main effect for Condition $F(1,149) = .082$, $p = .775$; a significant main effect for Scenario $F(1,149) = 29.920$, $p < .001$; and no significant interaction between Condition and Scenario $F(1,149) = 2.239$, $p = .137$.

Discussion

The primary goal of this study was to investigate whether time scarcity influences the arousal of psychological reactance. To do so two hypotheses were developed. First, we hypothesized that time scarcity leads individuals to perceive higher threats to their freedom, as previous research suggests that other types of resource scarcity (i.e. monetary scarcity) leads individuals to misinterpret threats to their behavioral freedoms. Second, as direct consequence of our first hypothesis, we hypothesized that individuals experiencing time scarcity would display greater reactance compared to individuals not experiencing it. The results of our study suggest that this is not the case for both our hypotheses, as across conditions, and through all the scales used, participants answers did not differ significantly enough to support either one of our assumptions. In fact, our analysis did not uncover any significant effect of Condition (Scarcity vs No Scarcity) on either Actual Behavior, State Reactance, and Perceived Threat to Freedom; additionally, we found no significant interaction between

Condition and Scenario (1 vs 2). This means that our general assumption that time scarcity leads individuals to misinterpret threats to their freedoms could be fundamentally wrong. However, as this finding drastically contrasts previous findings of relevant literature on the topic of resource scarcity and perceived threat to freedom (Van Kerckhove et al., 2020; Gong et al., 2021), it might be theoretically relevant to explore whether time scarcity is fundamentally different from other types of resource scarcity previously studied. As introduced in the theoretical background, different types of resource scarcity can lead individuals subject to them to seek one of two different psychological pathways in order to cope with their situation. These two pathways are the scarcity-reduction route and the control-restoration route (Cannon et al., 2019). The two main hypotheses of this study suggested that individuals subject to time scarcity would engage mostly in the control-restoration route, as control restoration is a dimension of psychological reactance (Brehm, 1993). However, the apparent absence of a significant effect of time scarcity on perceived threat to freedom and psychological reactance seem to suggest the opposite. Perhaps individual subject to it might be more prone to display behaviors associated with the scarcity-reduction route, such as higher self-regulation and increased attention, causing them to efficiently assess the threats to their behavioral freedoms, and subsequently lowering eventual arousals of reactance. The possible increased attention seems to be in line with another relevant piece of evidence in the academic literature on resource scarcity. A 2012 study observed that resource scarcity elicits greater engagement on imminent problems, and this automatically leads to the neglect of others subsequent ones (Shah et al., 2012). It could be argued that the lack of reactance observed in our study could be related to the fact that individuals subject to time scarcity would lack the energies to actively try to restore their lost behavioral freedom, due to the depletion of cognitive resources caused by the condition of scarcity. However, it is more plausible that due

to the quick nature of the online questionnaire (participants moved from the scarcity inducing task to the reactance arousing scenarios in only a few minutes), there was simply not enough time for them to experience cognitive fatigue and neglect future events, and the lack of a detectable arousal of reactance was instead caused by the increased attention resulting from their condition of scarcity.

Interestingly, the results of the study showed a significant effect of the type of scenario on all the dependent variables observed. The effect is more noticeable for Actual Behavior and Perceived Threat to Freedom, rather than for State Reactance. This is partially explained by the fact that the scenarios were adapted from Rosenberg & Siegel (2018), paper in which the authors proposed and tested the reliability and validity of the constructs used to measure state reactance (the Salzburger Reactance Scale, SRR). This result is again not consistent with the literature on resource scarcity, as the 2012 study conducted by Shah, Shafir & Mullainathan mentioned earlier also demonstrated that participants experiencing various forms of scarcity (including monetary, caloric, and experimentally induced time scarcity) are less susceptible to different context or framing effects (Shah, Shafir & Mullainathan, 2012).

The lack of consistency between our findings and the existing literature on resource scarcity and reactance is probably attributable to some limitations in the design of the study. Concerning the scales and measures used, we can safely assume that the lack of significant results is not due to their reliability and accuracy, as both the SRR scale and the PTF scale have already been used in the literature, and are deemed to be accurate and reliable. The only item used in this research that was created ad-hoc to fit the study was the Actual Behavior single-item question that followed each scenario. Perhaps a better developed method for assessing reactant behavioral intentions would have produced different results, and subsequent research on the topic of reactance should focus on developing accurate ways to pick up actual behavioral intentions. This

is an issue often reported in the literature, as most scales to measure state reactance developed to date struggle at measuring behavioral intentions (Rosenberg & Siegel, 2018). The most evident limitation of the study relies most likely in the scarcity inducing task (the slider mini-game). Although the manipulation check confirmed that the participants in the scarcity condition did indeed experience scarcity, there are several additional concepts and dimensions potentially involved with the design of the task that might have influenced the results of the study. Participants might have experienced, alongside scarcity, feelings of anger, excessive time pressure, increased perception of task difficulty and subsequent frustration. Each one of these concepts might have triggered emotions and behaviors that might have altered the pure time scarcity priming. Finally, one of the key characteristics of the scarcity mindset, is its self-reinforcing capacity, by which individuals that experience scarcity get stuck in a continuous loop of scarcity and struggle to escape the mindset (Shae et al., 2012). Perhaps, in order to notice significant differences in behavior for complex mechanisms like psychological reactance, one single task is not enough to induce a mindset strong enough to noticeably alter behavior.

In conclusion, the results of the study did not suggest any effect of time scarcity on state reactance, perceived threat to freedom, and actual behavioral intention to react. These results do not seem to be consistent with the previous literature on the topic of resource scarcity, and its eventual links to reactance. This is most likely due to some limitations in the design of the study. Future research on the topic should try to overcome these shortcomings. This could be done by developing a more accurate item to measure actual behavioral intention to react, designing a more precise scarcity inducing task, and ensure that participants in the study are subjected to a scarcity mindset for a prolonged time.

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Appendix

Scenario 1: Imagine you are going abroad to begin your studies at Tilburg University this coming semester and are therefore seeking an apartment near the university. Through an online ad you find a suitable studio apartment in the lovely neighborhood of Goirke. You want to make an appointment to see the apartment by phone and call the landlord. When the landlord asks you about your job, you reply that you are beginning your studies in Tilburg next month. Before you can continue, the landlord interrupts to say: ‘‘No, you’re a student; you won’t get this apartment’’ and hangs up.

Scenario 2: Imagine you and your friends are on a holiday trip abroad. You haven’t seen each other in a while prior to the trip so this evening you’re all going downtown to catch up and celebrate. You have a flyer inviting you to the opening of a club in town: It’s got your kind of music, specials such as ‘‘2-for-1 drinks,’’ ‘‘no cover charge,’’ and ‘‘free pizza,’’ and guarantees a great time. You talked to your friends and you all agree: This is where you’ll go tonight! Looking forward to the evening, you make your way to the club where your friends are waiting for you on the dance floor. When you get there you can see the crowds. You get in line and wait 20 min before you reach the bouncer. He looks at you critically; then, after a moment, pushes you to the side and says: ‘‘No, not you,’’ as he waves others through the door.